



THE AVICULTURAL MAGAZINE

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THE STUDY OF BRITISH AND
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AND IN CAPTIVITY

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PHYLLIS BARCLAY-SMITH, F.Z.S.

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- 1923 *GOSSE, LADY ; Aldgate, South Australia.
 1949 GOUGH, L. ; 101 Claypit Lane, West Bromwich, Staffs.
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- 1926 GREEN, ROLAND, M.B.O.U. ; The Studio, Hickling Broad, Norfolk.
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 1908 GULBENKIAN, C. S. ; 214 Oxford Street, Oxford Circus, London, W. 1.
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 1942 GUY, CHARLES P. ; Tithe Barn Cottage, Grafton Manor, Bromsgrove, Worcs.
- 1932 HACHISUKA, THE MARQUESS, F.Z.S., M.B.O.U. ; Atami, Shizuoka-ken Japan.
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- 1947 JACKSON, Capt. PETER, M.C., M.A., B.Sc., F.Z.S. ; Bourne Farm, Upper
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 1947 LUMSDEN, Lt.-Col. WILLIAM V. ; Sluie, Nr. Banchory, Aberdeenshire, Scotland.
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- 1948 MACK, H. G. ; c/o Gibson Manufacturing Co., Ltd., Guelph, Ontario, Canada.
 1948 MACKENSEN, RICHARD S. ; Yardley, Pa., U.S.A.
 1948 MACKERN, P. G. ; Estancia "La Tomasa", Miramonte, F.C.S., Argentine, Republic.
 1947 MAITLAND, Miss M. C. ; North Lodge, Goring-by-Sea, Sussex.
 1948 MALISOUX, Madame YVAN ; Beez, Namur, Belgium.
 1946 MARSHALL, D. A. ; 2 Fullarton Crescent, Troon, Ayrshire.
 1941 MARSHALL, E. ; c/o The Devon General Omnibus Co.'s Depot, Woolbrook, Sidmouth, Devon.
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- 1929 MAXWELL, P. H., F.Z.S., M.B.O.U. ; c/o Zoological Society of London, Whipsnade Park, Nr. Dunstable, Beds.
- 1913 *MAXWELL-JACKSON, Miss M., F.Z.S. ; Percy House, Scotton, Knaresborough, Yorks.
- 1922 MAYER, F. W. SHAW ; c/o Commonwealth Bank of Australia, Lae, New Guinea, via Australia.
- 1948 MEEREN, MICHEL BRAUN DE TER. ; L'Hesidelle, Archennes, par Grez-Doiceau, Belgium.
- 1938 MEYER, JOHN D. ; Berol Lodge, Chappaqua, N.Y., U.S.A.
- 1948 MIFSUD, HENRY J., M.B.R.C., F.Z.S. ; 29 Luke Briffa Street, Gzira, Malta.
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- 1929 MILNES-COATES, Sir CLIVE, Bart., F.Z.S. ; 13 Hyde Park Gate, London, S.W. 7.
- 1937 MILTON, Capt. STANLEY ; 75 Portland Avenue, Gravesend, Kent.
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- 1949 MOODY, H. ; 91 Barbom Avenue, Uppingham Road, Leicester.
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- 1928 MOORE, ROBERT T. ; 582 Meadow Grove Place, Flintridge, Pasadena 2 Calif., U.S.A.
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- 1931 MORRISON, A., F.Z.S., M.B.O.U. ; Sarikei, Sarawak.
- 1948 MORSE, Mrs. GRACE B. ; 901 W. Main, Puyallup, Washington, U.S.A.
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- 1927 MOTT, B. ; 11 Wheeley's Road, Edgbaston, Birmingham 15.
- 1929 MOTTERSHEAD, G. S. ; Zoological Gardens, Chester.
- 1923 MOUNTAIN, Capt. WALTON ; Groombridge Place, Groombridge, Kent.
- 1949 MUNDEN, N. J. ; Wilmer Lodge, Epsom Road, Guildford, Surrey.
- 1947 MURRAY, H. ; Bracken, Cornsland, Brentwood, Essex.
- 1945 MURRAY, JAMES G., M.R.C.V.S. ; Bank House, Ledbury, Herefordshire.
- 1939 MURRAY, RAY ; 12 High Road, Camberwell, E. 6, Victoria, Australia.
- 1949 MURRAY, SAMUEL, F.Z.S. ; 18 Somerset Gardens, Lewisham, S.E. 13.
- 1946 MYERS, GORDON W. ; 3824 31st Street, Mt. Rainier, Maryland, U.S.A.
- 1927 McCORMICK-GOODHART, L., O.B.E., V.D., F.Z.S. ; Bellapais, Box 186, R.F.D.I., Alexandria, Virginia, U.S.A.
- 1926 McCULLAGH, Sir J. CRAWFORD, Bart. ; Lismara, Whiteabbey, Belfast, N. Ireland.
- 1927 McLINTOCK, Miss M. H. ; The Grove, Catton Grove Road, Norwich.
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- 1925 NICOL, HAMISH, F.R.C.S., F.Z.S. ; 18 Christchurch Hill, Hampstead, N.W. 3.
- 1947 NICOULLAUD, J. G. ; 48 Rue Descartes, Chinon, France.
- 1933 NIGHTINGALE, Capt. F. B., F.R.I.B.A. ; c/o Ministry of Town and Country Planning, Government Buildings, Kenton Bar, Newcastle-upon-Tyne 3.
- 1947 NOBLE, R. A. W. ; Little Grange, Canterbury Road, Margate, Kent.
- 1948 NOORDZIJ, J. H. ; Lumeystraat 15, Rotterdam, Holland.
- 1930 NORCROSS, HERBERT ; Normanhurst, 22 Mount Road, Middleton, Lancs.

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- 1945 OLSON, LEO B. ; 835 South First Street, De Kalb, Illinois, U.S.A.
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 1947 OVEREND, Miss EUNICE ; 49 Alexandra Road, Frome, Somerset.
- 1944 PALMELLA, His Excellency, The Duke of, F.Z.S. ; c/o 103 Sloane Street, London, S.W. 1.
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- 1950 PAREN, RONALD J. ; Lindon House, South Brink, Wisbech, Cambs.
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- 1903 PICKFORD, RANDOLPH J. ; c/o The Manager, Midland Bank Ltd., 629 Attercliffe Road, Sheffield 9.
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- 1948 QUENBY, H. F. ; Standard House, High Street, Baldock, Herts.
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- 1947 REAY, J. H. ; Cranmore, The Close, Court Drive, Hillingdon, Middx.
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 SEWELL, H. S. ; 14 Stannington Avenue, Toorak East, Adelaide, S. Australia.

Rules of the Avicultural Society

As amended, November, 1948.

1.—The name of the Society shall be THE AVICULTURAL SOCIETY, and its object shall be the study of Foreign and British Birds in freedom and in captivity. Poultry, Pigeons, and Canaries shall be outside the scope of the Society. The year of the Society, with that of each volume of the Society's Magazine, which shall be known as the AVICULTURAL MAGAZINE, shall commence with the month of January and end on the 31st December following.

2.—The Avicultural Society shall consist of Ordinary, Life, and Honorary Members, and the last shall be restricted in number to ten, and be elected by the Council.

3.—The Officers of the Society shall be elected, annually if necessary, by members of the Council in the manner hereinafter provided, and shall consist of a President, one or more Vice-Presidents, a Secretary, an Editor, a Treasurer, and a Council of fifteen members. The President, Vice-Presidents, Secretary, Editor, and Treasurer shall be *ex officio* Members of the Council.

4.—New Members shall be proposed in writing, and the name and address of every person thus proposed, with the name of the Member proposing him shall be published in the next issue of the Magazine. Unless the candidate shall within two weeks after the publication of his name in the Magazine, be objected to by at least two Members, he shall be deemed to be duly elected. If five members shall lodge with the Secretary objections to any candidate he shall not be elected, but the signatures to the signed objections must be verified by the Scrutineer. If two or more Members shall object to any candidate the name of such candidate shall be brought before the Council at their next meeting, and the Council shall have power to elect or to disqualify him from election.

5.—Each Member shall pay an annual subscription of £1, to be due and payable in advance on the 1st of January in each year; and, on payment of the subscription shall be entitled to receive all the numbers of the Society's Magazine for the current year. Life member's fee, £15.

6.—Members intending to resign their membership at the end of the current year of the Society are expected to give notice to the Secretary before the 1st of December, so that their names may not be included in the "List of Members", which shall be published annually in the January number of the Magazine.

7.—The Magazine of the Society shall be issued on or about the first day of every month, and forwarded, post free, to all the Members who shall have paid their subscriptions for the year ; but no Magazine shall be sent or delivered to any Member until the annual subscription shall have reached the hands of the Secretary or Treasurer. Members whose subscriptions shall not have been paid as above by the first day in November in any year shall cease to be Members of the Society, but may be readmitted, at the discretion of the Council, on payment of the annual subscription.

8.—The Secretary, Editor, and Treasurer shall be elected for a term of five years, and, should a vacancy occur, it may be temporarily filled by the Executive Committee (see Rule 10). At the expiration of the term of five years in every case it shall be competent for the Council to nominate the same officer, or another Member, for a further term of five years, unless a second candidate be proposed by not less than twenty-five Members of at least two years' standing, as set forth below.

In the November number of the Magazine preceding the retirement from office of the Secretary, Editor, or Treasurer, the Council shall publish the names of those members whom they have nominated to fill the vacancies thus created ; and these members shall be deemed duly elected unless another candidate or candidates be proposed by not less than fifteen Members of at least two years' standing. Such proposal, duly seconded and containing the written consent of the nominee to serve, if elected, in the capacity for which he is proposed, must reach the Secretary on or before the 15th of November.

9.—The Members of the Council shall retire by rotation, three at the end of each year of the Society (unless a vacancy or vacancies shall occur otherwise) and three other Members of the Society shall be recommended by the Council to take the place of those retiring. The names of the three Members recommended shall be printed in the November number of the AVICULTURAL MAGAZINE. Should the Council's selection be objected to by fifteen or more Members, these shall have power to put forward three other candidates, whose names, together with the signatures of not less than fifteen Members proposing them, must reach the Hon. Secretary by the 15th of November. The names of the six candidates will then be printed on a voting paper and sent to each Member with the December number of the Magazine, and the result of the voting published in the January issue. Should no alternative candidates be put forward, in the manner and by the date above specified, the three candidates recommended by the Council shall be deemed to have been duly elected. In the event of an equality of votes the President shall have a casting vote.

If any Member of the Council does not attend a meeting for two years in succession the Council shall have power to elect another member in his place.

10.—Immediately after the election of the Council that body shall proceed to elect three from its Members. These three, together with the Secretary, Treasurer, and Editor, shall form a Committee known as the Executive Committee.

The duties of the Executive Committee shall be as follows :—

(i) In the event of the resignation of any of the officers during the Society's year, to fill temporarily the vacancy until the end of the year. In the case of the office being one which is held for more than one year (e.g. Secretary, Editor, or Treasurer) the appointment shall be confirmed by the Council at its next meeting.

(ii) To act for the Council in the decision of any other matter that may arise in connection with the business of the Society.

The decision of any matter by the Executive to be settled by a simple majority (three to form a quorum). In the event of a tie on any question, such question shall be forthwith submitted by letter to the Council for their decision.

The Executive shall not have power

- (i) To add to or alter the Rules ;
- (ii) To expel any Member ;
- (iii) To re-elect the Secretary, Editor, or Treasurer for a second term of office.

It shall not be lawful for the Treasurer to pay any account exceeding £10 unless such account be duly sanctioned by another Member of the Executive.

It shall be lawful for the Secretary or Editor to pledge the Society's credit for a sum not exceeding £100.

Should a Member wish any matter to be brought before the *Council* direct such matter should be sent to the Secretary with a letter stating that it is to be brought before the Council at their next meeting, otherwise communications will in the first place be brought before the Executive.

A decision of a majority of the Council, or a majority of the Executive endorsed by the Council, shall be final and conclusive in all matters.

11.—The Editor shall have an absolute discretion as to what matter shall be published in the Magazine (subject to the control of the Executive Committee). The Secretary and Editor shall respectively refer all matters of doubt and difficulty to the Executive Committee.

12.—The Council (but not a committee of the Council) shall have power to alter and add to the Rules, from time to time, in any manner they may think fit. Five to form a quorum at any meeting of the Council.

13.—The Council shall have power to expel any Member from the Society at any time without assigning any reason.

The Society's Medal

RULES

The Medal may be awarded at the discretion of the Committee to any Member who shall succeed in breeding, in the United Kingdom, any species of bird which shall not be known to have been previously bred in captivity in Great Britain or Northern Ireland. Any Member wishing to obtain the Medal must send a detailed account for publication in the Magazine within about eight weeks from the date of hatching of the young, and furnish such evidence of the facts as the Executive Committee may require. The Medal will be awarded only in cases where the young shall live to be old enough to feed themselves, and to be wholly independent of their parents. No medal can be given for the breeding of hybrids, or of local races or sub-species of species that have already been bred.

The account of the breeding must be reasonably full so as to afford instruction to our Members, and must appear in the AVICULTURAL MAGAZINE before it is published or notified elsewhere. It should describe the plumage of the young, and *be of value as a permanent record of the nesting and general habits of the species*. These points will have great weight when the question of awarding the Medal is under consideration.

In every case the decision of the Committee shall be final.

The Medal will be forwarded to each Member as soon after it shall have been awarded as possible.

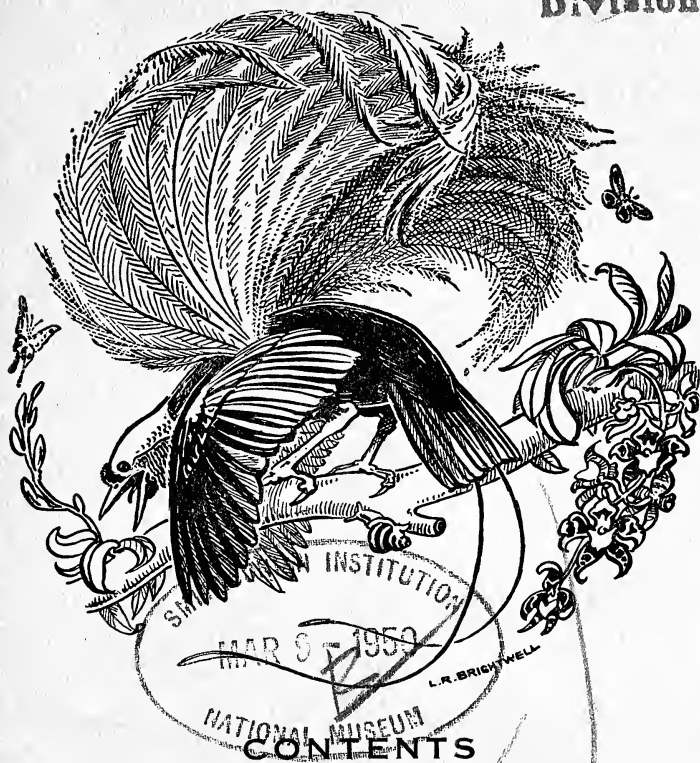
The Medal is struck in bronze (but the Committee reserve the right to issue it in *silver* in very special cases) and measures $2\frac{1}{2}$ inches in diameter. It bears on the obverse a representation of two birds with a nest containing eggs, and the words "The Avicultural Society—founded 1894". On the reverse is the following inscription: "Awarded to [*name of recipient*] for rearing the young of [*name of species*], a species not previously bred in captivity in the United Kingdom."

The Council may grant a special medal to any member who shall succeed in breeding any species of bird that has not previously been bred in captivity in Europe.

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AVICULTURAL MAGAZINE

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THE AVICULTURAL SOCIETY

Founded 1894

PRESIDENT : A. EZRA, EsQ., O.B.E.

MEMBERSHIP SUBSCRIPTION is £1 per annum, due on 1st January each year, and payable in advance. Life Membership, £15.

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POST-MORTEM EXAMINATIONS

- RULE 1.** A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. W. Lawrence, The Zoological Society of London, Regent's Park, London, N.W. 8.
- RULE 2.** A fee of 10s. and a stamped addressed envelope must be enclosed with the bird.
- RULE 3.** No body or skin of any bird will be returned under any circumstances whatever.



TERRACE AVIARIES AT KESTON



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FIELD AVIARIES AT KESTON

[E. Boosey

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
AVICULTURAL SOCIETY

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JANUARY—FEBRUARY, 1950

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY

Nowadays, if we are to contribute to the magazine at all, most of us have perforce to emulate the aged and live in the past. This, while it makes one feel distressingly like a doddering old gentleman poring over his memories in the twilight, is nevertheless a pleasanter occupation than contemplating the bleak present and no less bleak future outlook for aviculture in this country.

It therefore seemed to me that, as the Keston Foreign Bird Farm has recently come of age, now would be the most appropriate time to record its history from its very modest beginning—four weather-beaten aviaries surviving from my boyhood days—right up to the present time.

My partner, Alec Brooksbank, and I started the farm in the year 1927 at a time when no other venture of its kind existed, at any rate in the British Isles.

The site chosen proved to be an ideal one for the keeping and breeding of foreign birds, and consisted of a long strip of rough meadowland, of about one acre in extent, on a southern slope. The two ends of the strip faced respectively east and west, so that the whole site lay, as it were, broadside to the sun, with a thick laurel hedge along the bottom and a thicket of blackthorn along its eastern boundary. The top, facing north, was admirably protected by the continued upward slope of the land, reinforced by a dense belt of large wild cherry trees.

This site was gradually made into separate terraces, each terrace being stepped down about 18 inches from the one above, so that ample light and sun could penetrate to all the aviaries.

In 1932 the rapid expansion of the farm necessitated the acquisition of more land, and we were able to purchase an adjoining 8-acre meadow. The aspect of this, however, was very much more exposed than the terraces, and the aviaries had to be specially designed to ensure maximum protection from the prevailing winds. Although the

breeding results on this field have, on the whole, been very satisfactory, nearly all our most notable successes in the breeding of the rarer Finches and Parrakeets took place on our original piece of land, the Finches, particularly, appreciating its warm and sheltered situation.

Unfortunately, at the time of the Battle of Britain, the terrace aviaries were blitzed, and so badly damaged that since then we have kept all our birds on the field, where we endeavour to keep the aviaries in reasonably good condition by using the wood from the blitzed terrace aviaries for repair work.

Our next door neighbours are Cook's chicken farm and only 3 miles away is the famous Biggin Hill fighter aerodrome, and it was really the combination of these two factors which caused the destruction of our terrace aviaries. What actually happened on that memorable and particularly lovely September day in 1941 was that the Luftwaffe dive-bombed Biggin Hill aerodrome in daylight, and when we eventually emerged from our slit trench on the field we found that the German planes had also dropped a stick of bombs on our next door neighbour's extensive range of "battery" chicken houses, which were only about 50 feet from our terrace aviaries, having possibly mistaken the former for part of the aerodrome.

Now, however, to return to the early years of the farm.

The year 1929 was our first "selling" season. Of the Parrakeets we then possessed, Manycolours, Barrabands, and Brown's successfully reared young and a number of Budgerigars were bred, including Blues, Cobalts, Mauves, and what we then called Grey-washed Whites, which were doubtless what are now known as White Mauves. In those days, of course, true Greys had yet to be produced, the nearest thing to them being young Mauves when they first fledged, which, if one was breeding them for the first time, gave one the impression that one had bred a real Grey at last. The only Parrakeets which failed to breed were Malabars.

I should like to say here that nearly all the rarer pairs of Parrakeets with which we started the farm had been most kindly and generously given to me by the present Duke of Bedford, who was at that time Marquess of Tavistock, and to place on record the deep debt of gratitude we owe him for this and many subsequent acts of kindness and encouragement. I first met Lord Tavistock about the year 1923, and even in those early days frequently discussed with him the possibility of starting a Foreign Bird Farm, and when, four years later, the Keston Foreign Bird Farm actually came into being, he immediately took—as indeed he still does take to this day—the keenest personal interest in the farm's progress.

When we first started the farm my partner and I decided to each confine ourselves to separate branches of bird breeding and, while we both took a hand at the Gouldians, generally speaking he was entirely

responsible for the excellent breeding results with the Budgerigars, Diamond Doves, and Finches, as well as the acclimatizing of imported birds for sale and the general business management of the farm, while I concentrated on the breeding of the Parrots and Parrakeets and also various odd pairs of miscellaneous species we had at different times, such as Occipital Blue Pies, Hunting Cissas, Rufous-bellied Niltavas, Dhyal Birds and Shamas, and also Bartlett's Bleeding-heart Pigeons and Jamaican Ruddy Quail Doves.

The 1929 breeding season proved an excellent one for Finches, four pairs of Red-headed Gouldians successfully rearing twenty-three young ones, while about thirty pairs of Zebra Finches reared an average of nearly ten young per pair. I have no actual record of the number of breeding pairs of Diamond Doves we then possessed, but fifty young birds were reared so our breeding stock must have been considerable as so many—I would even say the majority—of Diamond Doves are such rotten parents. It is true some of the pairs we have had have been perfect paragons, successfully rearing every young one they hatched, but only too many pairs either forget altogether that they have young ones to feed and when they eventually remember a few days later, find to their astonishment that the two small cold corpses in the nest have no further use for food ; or else continue to feed the first to fledge, leaving the younger one still in the nest to perish from starvation.

By 1930 our stock had grown considerably. We had quite a number of the rarer Parrakeets and Finches, and the following is a record of the largest number of young reared by any one pair during the season :—

Parrakeets.—Brown's, seven (first nest four, second three) ; Manycolours (which did far better in subsequent years), three ; Barrabands, four ; Turquoisines, four ; Elegants, four ; Budgerigars, sixteen (first nest three, second five, third eight).

Finches.—Ruficaudas, eleven (first nest five, second six) ; Long-tailed Grass Finches, ten (two nests of five) ; Gouldians, six (they had, at the time of writing, a further brood of four in the nest which, if I remember rightly, were all reared) ; Java Sparrows, seven (first nest three, second four) ; Diamond Doves, fourteen (seven nests of two).

The following did not breed : Malabar and Hooded Parrakeets and Pectoralis Finches.

During 1931, young of the following species were bred : Parrakeets : Bourkes, Turquoisines, Blue-winged Grass Parrakeets, Manycolours, Brown's, and Barrabands. Finches : Ruficauda, Gouldian, Long-tailed and Hecks Grass Finches, Masked, Cherry, Zebra, White Zebra, and Bengalese. Doves : Diamond, Jamaican Ruddy Quail. Also Budgerigars and Cockatiels. Hybrids : Turquosine \times Blue-winged Grass Parrakeets.

Among the Parrakeets one outstanding success was the rearing of eleven young ones by two pairs of Manycolour Parrakeets, six young being reared by a fifteen-year-old pair and five by one of their sons mated to an imported hen of particularly good colour. There are clearly two races of Manycolour, one a rather dark green and the other the beautiful emerald green race in which all the other colours are correspondingly more vivid and, incidentally, rather more extensive in area.

The hen of the old pair belonged to the brightly coloured race, the cock to the other darker green one, and fortunately this young male took after his mother and was about the loveliest cock Manycolour I have ever seen, though we have one here as I write given to us by the Duke of Bedford since the war which certainly runs him very close in the brilliance of his emerald green body colour, though the scarlet patches on the flanks are rather smaller.

Brown's Parrakeets again did very well indeed, in fact, the performance of the old pair was certainly the outstanding achievement of this or any other season, for they reared no less than nine remarkably fine youngsters, five in their first nest and four in the second. Altogether this pair fully reared quite thirty young ones during the time they were at the farm, which constitutes a truly remarkable record in view of the fact that Brown's is not only the rarest but also the most difficult of all the Broadtails to breed, the main reason for this difficulty being that they alone of their family—like the Hooded Parrakeet among the Psephoti—in practically every case refuse to adapt themselves to our seasons, insisting instead on going to nest in late autumn, which is always quite hopeless, as even if any young ones are reared in a heated shelter they are usually rickety degenerate specimens.

Before our pair bred so successfully at Keston, Brown's had only ever been bred on two previous occasions: once right at the beginning of the present century and again between the wars by Lord Tavistock.

Elegant Grass Parrakeets which had bred successfully the previous season failed to rear young in 1931, but pairs of newly-acquired Blue-wings and Bourkes were successful. Incidentally, the breeding of the latter was still something of an event in those days when Bourkes, having only just started—after a hiatus of many years—to reappear as aviary birds, were still considered great rarities. Later on, of course, in the halcyon years just before the war, they were to become the most widely-bred of all the Grass Parrakeets, even successfully rearing broods at Zoos!

Turquoisines, to my sorrow, as I have always thought them particularly lovely little Parrakeets, never for some reason did particularly well here, though small broods of young were reared during this and one or two subsequent seasons. Not only were the broods

disappointingly small, but the parent birds themselves never seemed to flourish for any length of time. It may, of course, be that we were unlucky in the particular pairs that happened to come into our possession, but personally I think it was more probably just “one of those things”, the most likely explanation being that this particular locality just did not happen to suit them. I should very much like, however, to try one day some from a different strain, as it seems difficult to believe that Keston—where all the other Grass Parrakeets do so well—should not also suit Turquoisines.

I noted this year that we possessed and had bred four of the seven known species of Grass Parrakeet, and that it seemed extremely unlikely that the remaining three, namely the Rock Grass, the Orange-bellied, and the Splendid, would ever again come into the hands of aviculturists. This, however, proved not to be the case, for we heard shortly after that Mr. Harvey, of Adelaide, Australia, had obtained about six Splendids, and later on Lord Tavistock was to send us a pair of Splendids from which we bred the first young ever to be bred in Europe.

He also lent us some Rock Grass Parrakeets. These, however, got no further than the laying and incubating of infertile eggs owing mainly, I think, to the fact that Rock Grass seem always for some unexplained reason to become so grossly over-fat in aviaries. While we were naturally sorry not to breed them, I am bound to confess I always think them quite the dullest of all the Grass Parrakeets both as to temperament and colour.

Splendids, on the other hand, while equally rare, present a complete contrast, for not only is there no lovelier Grass Parrakeet but there is surely no more exquisite little bird of any kind in the world. To possess, and even one day perhaps to breed Splendids, was always my chief boyhood's dream, and that I was eventually permitted to achieve both is something for which I shall always be grateful.

The only Grass Parrakeet we never possessed at Keston was the Orange-bellied, and as far as I know it has never been imported into Europe, though I believe specimens are, or were, living in Australian aviaries. That this Grass Parrakeet is beautiful and quite distinct in colour was evident from a skin which the well-known Australian aviculturist, Alan Lendon, brought down for us to see during a visit to the farm. As far as I can remember it was of a remarkably rich though considerably darker green than the rest of the family, and this made an admirable foil for the brilliant orange patch on the lower belly.

Now to turn to the Finches: these were delayed by the cold wet spring; nevertheless, the final results proved more satisfactory than we originally anticipated. By now we had further increased our breeding stock of Zebra Finches and a large number of young ones

were reared. All our *Ruficaudas* nested, but only once, not being, as was usually the case, double-brooded. Some were successfully reared under Bengalese foster parents. We found with *Ruficaudas* that while most parents require live food when breeding, a minority will rear their young on dry seed and flowering Rye grass alone.

Another Finch, and one which was very seldom bred, and in many ways a most difficult subject, namely the Australian Cherry Finch, was successfully bred during the season. My partner's most spectacular breeding results, however, were undoubtedly with the Longtailed Grass Finches, all of which did remarkably well, one pair alone fully rearing sixteen young ones during the season, both the parents having been bred here in 1931, while an ordinary hen mated to a Heck's cock reared ten youngsters.

It was during the late spring of 1931 that we had a whole aviary of breeding Gouldians stolen as well as all their nests and eggs. This was a bad setback just when we had managed to get together a really good breeding stock of these lovely Finches and, moreover, was particularly galling as all the pairs stolen had been imported in perfect condition the same spring and instead of dropping into a moult had surprised and delighted us by going to nest straight away. Fortunately, however, we still had some breeding pairs left, and in the end quite a fair number of young were reared.

The remaining breeding success to record was with Jamaican Ruddy Quail Doves, a species at one time not uncommon but which had become very rare owing to the depredations of the introduced mongoose on its native island of Jamaica.

These are rather attractive and extremely terrestrial little Doves, and I well remember our consternation when their first two young ones were missing from the nest (a rudimentary affair in a flat earthenware flower pot saucer) only a few days after they were hatched. We need not have worried, however, for they were found running about on the ground quite happily with their parents, and though only about a week old, were even capable of perching on low branches.

As far as I can remember the young Bartlett's Bleeding-heart Doves we bred a year or two later also left the nest at a very tender age and were equally agile and capable of fending for themselves at an age when most young Pigeons and Doves are still helpless squabs sitting pressed tightly together side by side on the nest and entirely dependent on their parents.

It was towards the end of this year that we acquired the 8-acre meadow to which I have referred earlier in this article, and which gave us the extra space we so badly needed for the rapidly expanding farm.

By this time we had acquired pairs of Pennants, and Stanley

Parrakeets, African Grey Parrots, Leadbeaters' Cockatoos, and Swainsons, Red-collared, and Varied Lorikeets, also Bartlett's Bleeding-heart and Blue-eyed Peaceful Doves.

(To be continued)

* * *

THE BIRD COLLECTION AT THE CHESTER ZOO

By G. S. MOTTERSHEAD, Director-Secretary

During the last year I am pleased to say we have at last been able to make a start on the avicultural side of the zoological collection, and I thought it might be of interest to members of the Avicultural Society to know what we have done, and hope to do in the future.

During the war our bird population fell considerably from a variety of causes, from bombing to the shortage of suitable food, and it was not until 1948 that we were able to give any serious attention to building new aviaries.

The Chester Zoo has altered considerably and is now nothing like it was at the outbreak of war in 1939. In those days the Zoo covered less than ten acres, to-day it covers nearly forty acres and several more acres remain to be developed. Our object is to give as much room as possible to all the exhibits, and this includes the birds as well as the other animals.

In the spring of 1949 we erected a range of seventeen aviaries, designed mainly for the breeding of Parrakeets. They are long and narrow so as to allow the birds to retire well back from the public. Sixteen of these aviaries are 4 feet wide and 40 feet long, and between 8 feet and 9 feet high.

A flower border runs the whole length of these aviaries to keep the public from getting too close to them, for, as I have just stated, these are essentially breeding quarters. The birds were introduced too late in the season to give many results during 1949, but we did succeed in breeding Leadbeaters ; Cockatoos, Lutino Ring-necks, Red-rumps, and several others laid but were not properly settled.

The seventeenth aviary is 40 feet deep, 9 feet high, and 12 feet wide, and it was in this aviary that the Leadbeaters reared their young. We have moved these birds now to the new Parrot House on account of their destructive habits, and in their place I propose trying out an experiment of keeping three or four pairs of Princess of Wales Parrakeets together.

I have just said that we have moved our Leadbeaters to the Parrot House. This is a new building and does not by any means resemble the old fashioned Parrot House, which is still in existence in so many

zoos to-day. Nothing makes me feel so miserable as to see some of the world's loveliest birds confined in a cage wherein they cannot even stretch their wings, let alone fly, or fastened by a chain to some perch, which they are compelled to sit on for the rest of their lives.

I do appreciate the need of room in many zoos, but very often so much space is wasted above, below, and between the cages when with a little thought and planning each bird could have at least three times as much room in the same sized house. However, it is sometimes very difficult to rearrange existing buildings because of the light factor, and this to me is a very important point. So many of our birds must miss the clear light of their native lands very much, and I feel we ought to try and give them as much brightness as we possibly can, at the same time providing them with ample shelter from the rays of the sun if the birds do not require them.

This new Parrot House at Chester Zoo is an experiment, and we may find that we will have to modify some of our ideas as time goes on, but I have been keeping Parrots and Parrakeets now for a good many years, and have incorporated many things which I have found these birds require.

The main building is 64 feet long and 28 feet wide with aviaries on either side. On the left are eight strongly built aviaries each approximately 8 feet square and 11 feet high, and each aviary is covered almost entirely by corrugated "Perspex" so as to admit as much light as possible. Each of these cages has an outside flight 8 feet by 16 feet and 9 feet high.

On the opposite side are the same number of cages, not quite as high but a foot deeper, that is, 8 feet by 9 feet. These are also roofed with "Perspex", but are not yet completed; when they are, which we hope will be about February, each cage will have an outside flight the dimension of which we have not yet decided on, as one or two other factors have to be taken into consideration, but they will certainly not be less than 20 feet in length, possibly 30 feet or more.

The building is constructed of aluminium alloy staunchions filled in with breeze blocks, and the public passage is roofed with corrugated asbestos. The wire is all "Weld-mesh" and should stand the hard wear that some of the Parrot species give to their cages. The house is heated with hot water pipes, and some are fixed in the roof to reduce the risk of condensation. The building is well ventilated and although our main object has been to meet the requirements of the birds, the public have room and space to view the exhibits, and I am hoping that some of the birds will find their quarters congenial enough to breed in. We have also introduced fluorescent lighting, which is used on dark days and when the days are short.

We have several other aviaries placed in different parts of the Zoo, but a range of four built about four years ago have been very successful

as breeding aviaries. In these, Rock Peplars, Rosellas, Red-rumps, Cockatiels, and Ring-necks have bred and reared numerous young, despite the fact that they were very exposed and had no closed-in shelter.

The following is a list of Parrot-like birds in the Chester Zoo at the time this contribution was written :—

African Grey Parrot, Blue-fronted Amazon, Green-cheeked Amazon, Orange-winged Amazon, Yellow-fronted Amazon, Blue-winged Parakeet, Stanley Parakeet, Red-rumped Parakeet, Rosella Parakeet, Golden-mantled Rosella Parakeet, Mealy Rosella Parakeet, Rock Peplar Parakeet, Pennant's Parakeet, Barnard's Parakeet, Crimson-winged Parakeet, Barraband's Parakeet, Princess of Wales's Parakeet, Indian Ringneck Parakeet, Lutino Ringnecked Parakeet, Quaker Parakeet, Roseate Cockatoo, Greater Sulphur-crested Cockatoo, Leadbeater's Cockatoo, Red and Blue Macaw, Red and Yellow Macaw, Budgerigar, Masked Lovebird.

The majority of these species are in pairs ; in some cases we have two or three pairs.

A Waders' aviary is about to be built and we shall have to provide a range of Bird of Prey aviaries before the spring as our Vultures, etc., are occupying a site which is required for Leopards, Pumas, and such like cats.

Although the Zoo grounds contain several natural ponds, we have added a lake and other pools so that we can get, as time goes on, a collection of Waterfowl. So far we have only the following species :—

Ducks.—Carolina, Mandarin, Eider, Mallard (Common), Mallard (Black Variety), Common Sheld-duck.

Geese.—Egyptian (Full-winged), White-fronted (Full-winged), Chinese (domestic variety), Mute Swan.

There are a large number of Ducks and Geese which are not pure bred, and these we are weeding out as our stock of pure bred specimens increase.

Although our present collection apart from the Waterfowl is mainly birds of the Parrot family we hope during the next few months to build aviaries for many other species of the feathered world, and one of the Society's ambitions is to build a large tropical house where delicate tropical birds can be kept amongst their own tropical vegetation. But Chester Zoo is only still in its infancy, and accommodation has to be provided for many of the larger animals, and here again we are trying to give them all the best possible accommodation in pleasant surroundings.

NOBLE MACAWS

(Ara nobilis cumanensis)

By E. N. T. VANE

Comparatively little appears to have been written to date about Macaws either in captivity or freedom. The breeding of Noble Macaws in captivity for the first time in this country sounds a very grand achievement, because all Macaws are noble and most striking birds.

Whenever Macaws are mentioned one naturally envisages magnificent large birds, such as the Blue and Yellow, Red and Blue, or Hyacinthine, whereas the Noble Macaw, although so exalted in title is only a little larger than the Rosella. Nevertheless, he is a very interesting bird and an excellent aviary subject.

The only illustration I have been able to discover is in Selby's *Parrots*, in the Naturalists' Library Series. In spite of its age, this engraving by Lear is quite good. There is absolutely no difference in the sexes, not even in the eye or wing patches or other plumage can any difference be noticed in the specimens I have had. Neither is there the least variation in size or shape of head or bill. The pelvic bone test was not of any assistance with young birds. I have not tried it since breeding results.

The general body colour is a rich dark bottle green, the underside of its tail being dull yellowish green. The crown and front of the head are a deep azure blue which merges imperceptibly with the green of the nape and head. The eye is dark brown and surrounded by a characteristic bare skin patch of greyish white which extends right up to the bill. The upper mandible is partly horny white with black edges and tip, the lower is black. The only other relieving colour is on the bend of the wing, which is red. Several red feathers are also present on the underwing. The feet and legs are black, and the size of the bird as previously mentioned is a little larger than a Rosella and smaller than a Pennant, about 14 inches overall.

From skins examined at the Museum the size of the bird appears to vary considerably. It is possible that these represented both Hahns and the Noble as they were stored under the duplicate denomination *Ara noblis*. Some specimens had the sex recorded but in no case could any distinction in plumage be detected. All appeared to have been obtained from Brazil (Matto grosso, Para, Miranda, Chapada) and were collected between 1875 and 1914.

Immature birds are very similar to their parents, but on leaving the nest the skin patch is duller and smaller; there is no blue on the head, and no red on the bend of the wing. The red is present,

however, on the underwing, only being noticeable in flight. The bill is whiter with less black on the upper mandible.

When the first four birds came into my possession they were evidently in immature plumage and were originally believed to be Green Conure (*Aratinga leucophthalma*), but these skins have also been inspected, and although similar and of the same size (both varying considerably) the Conure is easily distinguished as it has a whiter bill, the upper mandible being almost clear white. The skin patch is only a small circle round the eye with feathers between the eye and bill. They are nearly all flecked with red on the nape and mantle, and the red on the wing is much duller, they also lack the lovely blue on the head. Nevertheless, immature birds could easily have been mistaken with only a written description as guide. One bird is characteristically a Macaw, and living specimens would never be likely to be confused by one familiar with both birds.

They are most attractive aviary birds, and on account of their rarity, in this country at least, their habits are quite a change from the Australian Parrot-like birds to which we are more accustomed. They are active and fly about a good deal, although their flight is powerful and rapid it is not so hawk-like as the Rosellas. They sit together in pairs preening each other in an affectionate manner, and although they appear to like the sun they seldom sit in direct sunlight for long.

In April, 1948, they were turned out into an aviary which had housed a pair of Leadbeater's Cockatoos for some time. The wooden framework had therefore suffered considerably, and the wire netting which was pre-war heavy gauge (19 $\frac{1}{2}$ in. mesh) was very patched. Trouble was therefore anticipated from these South Americans, but they have lived there for nearly two years and have never attempted to damage their quarters. Although they like new perches, they are not so destructive to them as one would expect.

The aviary is 21 feet long, 4 feet wide, and 6 ft. 6 in. high—the shelter is 4 feet square, of asbestos sheet with cement floor, and from the start the birds have been trained to sleep inside as the aviary has a northern aspect. They were shut in every night, mainly because they are early risers, and greet the dawn with their rather harsh cry, which is not so terrible as a Cockatoo's but was too penetrating to risk disturbing neighbours at an unreasonable hour. After all, four birds with voices like theirs can create a lot of noise. They have always been kept together in the one flight and have always been perfectly behaved with no quarrelling. No nest boxes were provided for their first season. This may have been a mistake as they like to sleep in a box, but results were not anticipated as it was assumed by observation that they were young birds and in no condition to attempt breeding as yet. Anyway, they improved immensely in condition. They appear to enjoy young grass shoots but spent very little time on the floor of

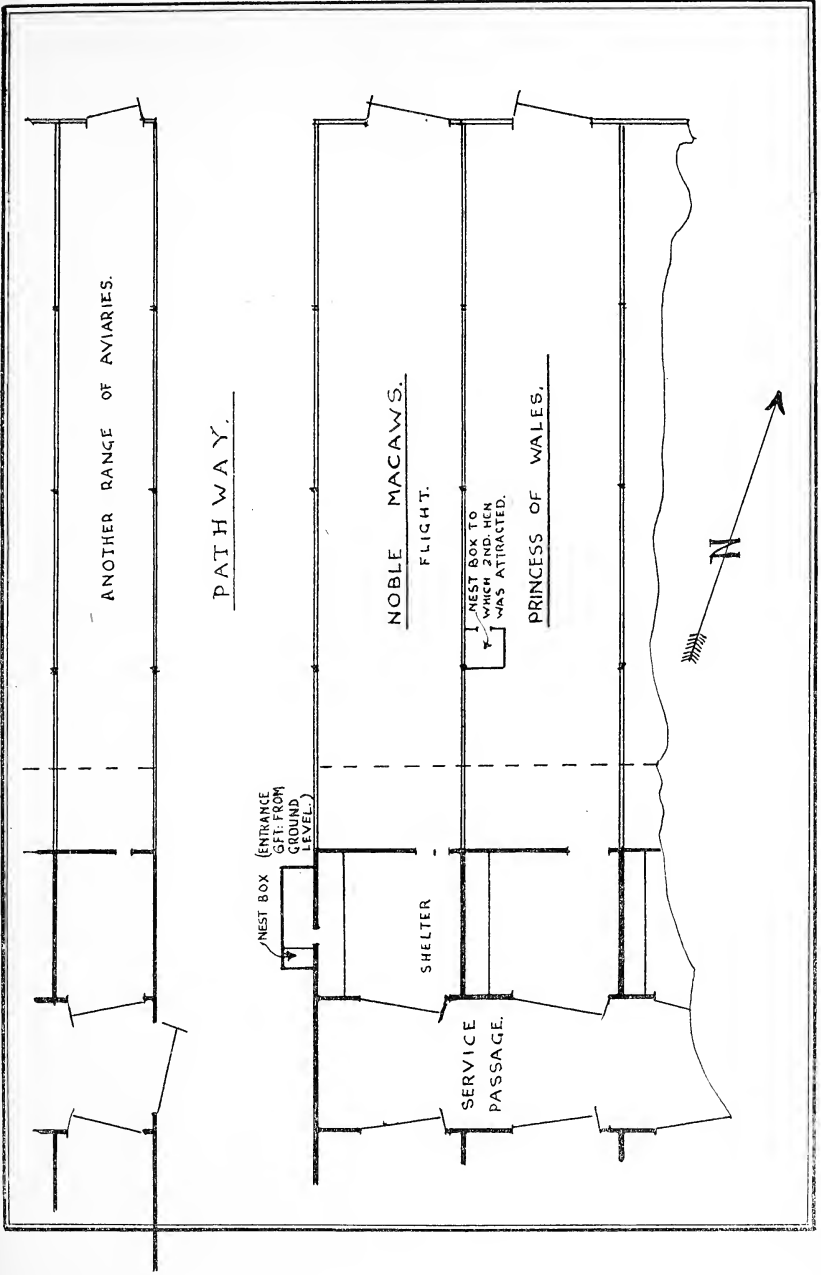
their flight. Neither did they bathe much, in fact not at all in the first place, preferring to hang on the wire during heavy showers with their wings open. But since breeding they have bathed quite regularly and made a very thorough job of it, being scarcely capable of flight in the soaked state into which they got themselves.

They remained outdoors without heat all last winter, but at Christmas time one succumbed to pneumonia, to which they appear very susceptible. The progress of this illness is always very rapid and sudden, but particularly so with these birds. In the morning the birds all looked quite well, at midday one looked a little off colour, so it was brought in in the afternoon and placed in heat. By the evening it had recovered, and I quite thought it was a case of over anxiety, but it did not eat yet drank a lot. About 10 o'clock at night it suddenly started gasping for breath, although the eye seemed quite bright, but by midnight it was dead. Two others have behaved in the same distressing manner.

This is a digression from "breeding Noble Macaws", so let us return to the spring of 1949. There were then three birds which still gave no clue as to their sex. In April a nest was provided. The site was unusual as it was considered desirable to close the birds in at night, yet to put a nest box inside the shelter was not conducive to raising healthy progeny. A box was accordingly fixed to the outside of the shelter, a hole cut through the shelter wall to provide access for the birds, who could thus still be shut in without disturbance, and subsequently this arrangement proved most convenient as the progress of nesting was easily observed without interfering with the birds at all—a thing quite contrary to usual procedure. (See Fig.)

The box itself was exactly similar to that described (*AVICULTURAL MAGAZINE*, 47, p. 64) : a sloping box 8 inches square, 2 ft. 6 in. long, with 6 inches of peat in the bottom. The top slid open and being situated outside both the shelter and flight could easily be opened to inspect when both birds were out in the flight. Within a few days of the box being placed in position it was evident that the birds were using it. It also now became apparent that these were probably two hens and one cock, and although these three remained together throughout all nesting operations there was never any friction or disagreement even after the young flew.

It soon became the habit of two of the birds to sleep together in the box whilst the third was left out in the shelter on its own. It was not until 10th June that the first egg appeared. It was a little larger than a Pennant's, but no measurements were taken as all inspections were made on the supposition that the birds did not know they were observed. The eggs are rounder at the ends than most Australian Parrakeets' eggs, pinkish and glossy white. The second egg was laid on the 12th. On the 13th one bird stayed in the box all day. There



were still only two eggs on the 14th, after which I could not look until the 17th, when they had increased to three. The fourth and last was laid on the 18th. After this the birds sat closely until the 27th, when both were off for a few minutes, and for the first time I saw them after having had a bath. The eggs then appeared fertile and had taken on a leaden hue. I believe the hen did all the sitting, and was mostly fed inside the box by the cock, but they are so absolutely alike that they could not be distinguished apart. (Rings are easily removed without delay by their powerful bills, and after one closed one up tightly their use was discontinued.)

The first young one hatched on 5th July and was distinctly heard about midday, the noise being quite considerable for a youngster less than a day old.

By now I had become certain that there were two hens and one cock, as whilst the hen was incubating the cock passed his days sitting with the odd bird; they preened each other and were observed mating. This hen made efforts to get at a nest box in the adjoining flight occupied by Princess of Wales, and I believe both hens might have raised families if given the opportunity, but I did not wish to take any unnecessary risk. I felt that I was doing quite enough in that direction by letting the odd bird remain, but there never was the least sign of trouble. At night the cock always roosted inside the box with the incubating hen and the odd hen remained just outside, about 18 inches from the hole. She was never allowed inside, but again without any malice or disturbance.

On the 7th July I was able to look fairly closely while the birds were exercising in the flight. There were two youngsters of a slaty pink colour with traces of down and still two more heavy looking eggs. The young made quite a lot of noise when being fed. On the 9th there were three young, now quite pink and covered with white down. The weather was hot and the parents bathed every day very thoroughly. The last egg hatched on the 12th July when the oldest was one week old, thus the time of incubation was twenty-four days.

The parents soon began to come off a good deal, but in view of the hot weather and the oldest bird being ten days, this did not cause any undue concern as, judging by the noise now coming from the brood, everything was now going well. Incidentally, in view of the hot dry weather and the way in which the parents bathed so frequently, I had taken the precaution of injecting about 50 c.c. of water daily into a small hole in the bottom of the nest, and this may or may not have helped.

On 16th July there was a violent thunderstorm and the rain fell down in torrents, with the result that the lid of the nest became swollen so that it could not be slid open. At this period the quill feathers were just showing in the two oldest birds, and on the 22nd when I was next

able to inspect, the green coloured tufts were showing and their eyes were well open. Matters now proceeded somewhat leisurely and uneventfully. The parents were off nearly all the time but could be heard feeding their noisy family at all hours. The cock still made advances to the odd hen whenever he was left alone with her. I expected the young to fly towards the end of August. Sometimes, on going in the shelter to feed, a cautious inquisitive little eye could be seen looking out from the nest hole. The great event happened on 3rd September when the shelter door was opened as usual early in the morning; instead of the usual three birds flying out, four came out of the hole, and the youngster could fly and perch almost as well as the adults—the differences in plumage have already been recorded, but he certainly was a fine healthy bird, perfect in every respect. He returned to the box later in the day and did not venture out again until the 9th, when all four came out together, and I had seven Noble Macaws making a wonderful show in one flight.

Every youngster was perfect and able to fly with absolute confidence. They all returned to the box and continued to sleep there for several weeks. The nest had been kept very clean, the fæces having been removed regularly by the parents, although they were not actually observed while doing so.

One youngster caught a chill, and after a spell in the hospital cage and a week's recuperation he was treated as a stranger when returned to his parents, and although there was not any vicious fighting, as in the case of Broadtails, he was cold shouldered and looked unhappy, so he was removed. At present the parents still use the nest box as sleeping quarters (December); the two young still remaining in the flight behave like a pair and sleep just outside. They are all in perfect harmony and do not interfere with each other, but definitely keep in pairs and spend all their time preening their companions.

The winter 1948-49 was not severe, and the original birds never had any heat; one died of pneumonia but the other three never looked anything but perfectly fit under these conditions. In view of their suspected susceptibility to pneumonia very slight heat has been provided for this coming winter, but it only takes the form of a Putnam paraffin heater in the shelter, which is only lit at night and will be left on during very cold days.

Their normal diet consists of buckwheat, sunflower, oat screenings, peanut, and canary, with a little hemp every other day. They are very fond of pears and apples to a lesser degree. I think it inadvisable to give fruit in very cold weather. They are also inclined to eat the green grass in their flight, and this again causes some concern when covered with frost. They are very fond of chickweed and consumed a lot when rearing. They also had groundsel, shepherd's purse, sow-thistle, and spinnach as available, and these are, in fact, given

whenever conditions permit. The consumption of food whilst rearing was colossal.

It is obvious that considerable strain must be put on the parents in semi-digesting all this for their family. I therefore do my best to help them by supplying sprouted seed liberally—wheat, sunflower, and canary—and also soaked bread—in giving the latter it is most important not to supply a stodgy wet mess. Roast the bread crusts thoroughly, crush them up small, and then just before use add sufficient boiling water to make the rusks swell to a crumbly consistency. This mixture saves the parents a lot of work, and by the way they devour it at once it is clearly appreciated. It is also a wonderful means of feeding tonics, vitamins, etc., to the birds.

When I first had these birds there used to be one who said “Hallo”, and they all appeared to chatter in some foreign dialect. Another cried just like a baby—a universal language, but since they have been out in an aviary they appear to have forgotten these talents. The young bird who came in with a chill, although only indoors for a fortnight or so, soon settled down in a cage and learned to say “Hallo”. There is every indication that these birds are very intelligent and would make excellent companions in a cage. No doubt if we are able to produce a few more the experiment can be attempted. I have been able to find out practically nothing about their life, habits, and territory in a natural state.

For my own part, I am delighted with them as aviary birds as they make a most welcome and interesting change from the Australian species, to which we are so much more accustomed. You will gather that I like them very much. Quite rightly.

* * *

LONGEVITY IN BIRDS

By V. M. BURN

The Duke of Bedford has suggested to me that you might care to publish the enclosed records of longevity of my cage-birds—Waxbills and allied Finches, kept over a period of twenty years, merely as pets, not for breeding.

The birds—usually nine to eleven of them—were kept altogether in a box cage (2 feet long by 15 inches high, or in a much higher 2½ ft. cage in winter) in the living-room with no central heating and not much warmth before midday. They were fed on Indian and white millet seed only—home-grown since importation ceased—and a very few mealworms in the coldest weather—grass, etc., as available.

Until the war I took them away with me two or three times a year, all together in a quite small cage, long journeys in all weathers, with no ill effects.

They were bought at ordinary London dealers' shops for the most part, and of course I have no idea of their ages when acquired. The Lavender Finches would probably have lived longer if not amongst so many others; this also applies to the Silverbills, who were not too happy in the crowd when I decided to reduce numbers for lack of seed.

	<i>Lived with me—</i>	
	<i>years.</i>	<i>months.</i>
Orange-cheek Waxbill hen (died)	9	4
" " " (bullied by singing Finch, I fear, died)	7	0
Lavender-Finch ? hen as sexed by dealer (died)	8	10
" ? cock " " "	6	0
Goldbreast, cock (chloroformed in war)	9	6
" hen (given away in war)	5	3
St. Helena, cock (given away in war)	6	8
" hen (given away in war)	5	6
Pair African Silverbills (chloroformed in war)	8	5
Cordon-bleu, cock (a very impetuous bird, drowned in that danger-trap, a "hat" drinker)	9	7
Cordon-bleu, hen (healthy till her last few days)	13	10
Green Singing Finch (a non-stop singer <i>after he was alone</i> ; very vigorous till a stray cat got into house, August, 1949, and killed him)	12	8

As so many were kept together there was no question of breeding; the hen Cordon laid an occasional egg in her early days. My other birds—Avadavats, Fire-Finches, etc.—were either short-lived or I have no records of them.

* * *

BREEDING RESULTS AT THE KESTON FOREIGN BIRD FARM, SEASON 1949

By EDWARD BOOSEY

The 1949 breeding season at Keston has been, with one notable exception, a remarkably prolific one, the number of Budgerigars reared alone running into thousands.

The one exception was our stock of Golden-mantled Rosellas, which for some mysterious reason failed lamentably, several of the hens of the best breeding pairs either failing to go to nest at all or else having infertile eggs.

Most of the Meally Rosellas did quite well, but there again, our best breeding pair took an unusually long time going to nest and then the eggs were clear. One pair which utterly refused to go to nest were moved into a different aviary and given two nest boxes—their old one and another of a different type, whereupon the hen instantly

took to the original box which she had previously scorned, and a nice brood was reared !

A cock Browns mated to his hybrid Browns \times Rosella daughter had infertile eggs, which was scarcely to be wondered at as the Browns must by now be a very old bird, having been at Keston for at least 10 years and in the present Duke of Bedford's aviaries for some time before that. They have not been a prolific couple, but before the war they did produce a most beautiful male three-quarter Browns hybrid, which we still have. The Browns was originally mated to a hen Golden-mantled Rosella, and next season I propose, if possible, to mate him to one again, as this mating produces quite the loveliest Broadtail cross I have ever seen. I say if possible, as I have tried to do this before, but without success, as Browns are, of all Broadtails—and possibly of all Parrakeets—the most faithful to their lawful spouses. They are not easy to mate in the first place but, once mated, it usually seems to be for life.

All our pairs of Stanleys reared young ones of excellent quality. This was satisfactory and rather interesting, considering that the aviaries have not been moved on to fresh ground since the beginning of the war, and would certainly drop to pieces if one attempted to move them now !

There were none of the large broods of pre-war days, but that, I find, applies to all our Broadtail Parrakeets, whose broods nowadays consist mainly of threes and fours. Whether this has anything to do with stale ground I don't know, but it will be interesting to try some of our Stanleys on fresh ground when our new aviaries with angle-iron flights are completed. It is curious that if stale ground does cause a degree of infertility it apparently has no detrimental effect whatever on the quality of the comparatively small number of young ones reared.

Ringnecks did particularly well, and both Lutinos and Lutino-breds were reared, including a fine brood of three Lutinos and one green from a Lutino hen mated to a Lutino-bred cock. It is interesting that Ringnecks did so well this season because latterly they had become increasingly unproductive, which decided me to have a general post of husbands and wives—with the most rejuvenating results !

A cock Alexandrine mated to a hen Lutino Ringneck again reared their annual three youngsters, all magnificent specimens, as hybrids usually are. The Ringneck always has to be removed just before the young ones leave the nest as she is one of those strange hens one does occasionally meet with among Parrakeets, who is mother-love personified while the brood is in the nest but murders them the moment they leave it. So far she has, before I could prevent it, made mincemeat of three of her offspring over a period of several years. Now I see to it that she never gets the chance.

We now have a number of these handsome hybrids of various ages, one of which has just assumed full adult male plumage. He is hardly distinguishable from an ordinary cock Alexandrine except for his slightly smaller size and rather less massive head and beak—the latter a distinct improvement.

We have been trying for years—with a view to eventually breeding Lutino Alexandrines—to get a hen Alexandrine to mate to a cock hybrid, but as none seem forthcoming I shall doubtless have to mate him to one of his sisters. It's a great pity one cannot go one step further, and if anyone who reads this has a hen Alexandrine for disposal we should be very pleased to hear from him.

Green and yellow Redrumps did very well, rearing an average of eight young per pair. More than forty were bred.

Four pairs of Cockatiels, most of them bred here last year, reared twenty-eight young ones, and it is nice to have a breeding stock of these quaint and unique members of the Parrot family again.

Blue-fronted Amazon Parrots were a disappointment. A hen bred here before the war, who regularly lays and incubates four eggs each year, had as usual an infertile clutch—this time with a new husband. Another couple, obtained separately, and put together in the spring as a pair, have spent the summer recovering from many years spent in Parrot cages. They were thrilled to death at the sight of a nest box, and with their stiff joints creaking from long disuse, climbed laboriously into it accompanied by a curious combination of uproarious human laughter and the savage barking of dogs, both having obviously, at some time, been the pets of light-hearted dog-lovers!

Unfortunately they soon lost interest in the nest and concentrated instead on planning the amputation of my fingers when I fed them.

Another Blue-front—a fine bird, and I should say a cock—was obtained later and given a presumed hen which, in some extraordinary way (since she was extremely agile and he quite the reverse) he managed to murder, scalping her very savagely after they had been together for several weeks. I propose to try him with another presumed hen, putting them in adjoining aviaries for the winter and, if things look favourable, trying them together in the spring. This is a rare precaution to have to take with Blue-fronted Amazons.

Roseate Cockatoos eventually reared two excellent young ones, having chewed up the first nest box they were given until it was a mere pile of sawdust. Their second nest box was entirely armour-plated with sheet zinc, which they did their best to whittle, with negative results, eventually deciding there was nothing for it but to go to nest. It is interesting that, in spite of increasingly stale ground, their two youngsters were quite the finest they have ever reared, and I can only put it down to the fact that I gave the parents for the first time sweetened bread and milk, of which they ate large quantities. Not all

birds will eat bread and milk—particularly if unsweetened—but I am quite sure that for those that will, it provides the most completely nourishing and satisfactory of all rearing foods.

A nice young pair of Manycolours bred this season at Barrington House from an imported pair, was obtained from the Duke of Bedford.

Of two pairs of Diamond Doves—one has reared seven young ones and they are sitting again, while the other pair had an early nest, which they forgot to feed when almost fledged, and spent the rest of the summer having abortive nests, but now have young again.

Upwards of a hundred Zebra Finches, Greys, Whites, and Silvers have been reared as well as Bengalese.

Fawn Zebra Finches, received rather late in the season, proved difficult to breed, one pair refusing to go to nest at all, while another pair always let their young ones die. A clutch of the latter's eggs were changed over and given to a particularly reliable pair of Silvers, with the typical result that the Silvers hatched but failed to rear the young Fawns, while the Fawns hatched and successfully reared the young Silvers !

I have a few Pheasants in my private planted aviaries, Amhersts, Golden, and a charmingly tame and beautiful male Temminck's Tragopan which feeds out of my hand, also Giant and Paradise Whydahs, Taha and Grenadier Weavers, a male South African Golden-breasted Bunting, and a pair of Bullfinches. The latter reared two nice young ones in a Cupressus bush with no extra foods except egg and breadcrumbs, bread and milk, and, of course, any insects they managed to capture for themselves. They seemed to rear their young largely on sunflower seed, which they adore, and I think it is much better for them than their other favourite, hemp.

The Golden-breasted Bunting—which incidentally is the first we have ever had here—is a really beautiful bird, with its brown back, black tail, black white-banded wings, head handsomely striped in black and white, and its copper-coloured upper breast shading into bright yellow beneath.

I am afraid this account of breeding results at Keston is not up to pre-war standard, but my excuse must be the notorious difficulty of making bricks without straw, which is what trying to write an article about one's birds really boils down to nowadays.

AUSTRALIAN PARROTS IN CAPTIVITY

By ALAN LENDON, Adelaide

(Continued from Vol. 55, p. 179.)(22) RED-RUMPED PARRAKEET (*Psephotus haematonotus*)

Synonyms.—Red-backed Parrot (R.A.O.U. Checklist, 1926), Grass Parrot.

Distribution.—From southern Queensland, through most of New South Wales and Victoria, into the eastern portion of South Australia.

Description.—A rather plump little Parrakeet with marked dissimilarity between the sexes. The adult male has the head and breast bright grass green, the abdomen is yellow, and the under tail coverts are white. The mantle is bluish-green and the rump is red. The general colouring of the female is a greyish-olive with dark edges to the feathers, giving a scaly appearance; the rump is green and the abdomen and under tail-coverts are white.

Immatures are easily sexed when they leave the nest, the young females being identical with the adults except in regard to the colour of the beak which is yellow, whereas young males are duller editions of the adults, the red area on the rump being considerably reduced in size and the bright green of the head and breast being of a considerably duller shade. Adult plumage is acquired by a complete moult of body feathers which usually occurs when the birds are about three months old. Young males, however, retain the spotted flight feathers for about a further year.

Variations.—Several subspecies have been described but none of them appears to be valid, to my mind. The very attractive yellow sport has been developed in England and appears to be firmly established now (*vide* Boosey, AVICULTURAL MAGAZINE, 1949, p. 12).

Coloured Plates.—Roland Green's plate of a pair of these birds in Mathews (vol. vi, p. 395) is very good. The plate of a male in Greene (vol. ii, p. 23) is reasonably accurate but depicts the bird in a most unnatural position.

Field Notes.—A very common bird in South Australia, being found in all classes of country. It is quite common in the parklands around Adelaide and pairs of wild birds often alight on my aviaries and squabble with the inmates thereof. Pairs are occasionally seen on city buildings in Adelaide and they probably breed under roofs and in other crevices in buildings. This species is usually seen in pairs or in small family parties, but occasionally congregates in quite large flocks.

Aviary Notes.—Being such a common bird in this State it is not greatly sought after as an aviary bird. In a mixed collection it is inclined to

be rather aggressive and the combined assault of a pair will usually result in the rout of a much larger adversary.

I usually had one or more of this species in a large mixed aviary in the early days of my collection but made no serious attempt to breed them until 1944 when a hen that I had obtained late in 1938 and a cock secured about a year later were segregated. The hen laid the first egg of a clutch of five on 17th September and young were first observed on 16th October, having obviously then been hatched for some days. A few days later four could be counted, the fifth egg being clear. The first two young, both hens, left the nest on 10th November, the third, another hen, on 13th, and the fourth, the only cock, on 16th.

In 1945 the old hen died and the cock escaped, but one of the young hens was mated to her brother and they went to nest early in November, laying four eggs, all of which proved clear. The following season two eggs were laid late in September and disappeared, then another was laid from the perch, and ultimately seven more in the log. These were incubated but were all clear. 1947 saw a repetition of the previous year in that a clutch, commenced at the end of August, were all clear as were a further clutch of five laid early in October. About this time a wild cock bird became very attentive to the hen, and I eventually caught him and liberated the old cock, who had become extremely fat. The hen seemed very pleased with the change and laid a third clutch early in November but became egg-bound with the fourth egg, and after eventually laying it, did not incubate. In 1948 four eggs were found in the log early in September, but the hen then looked sick and eventually laid a soft-shelled egg and thereafter did not incubate. She spent a good deal of time in the log early in October but did not produce another clutch.

Red-rumps differ from most of the Broadtails in that a pair become very attached to one another, but they are very easily consoled after the loss of a mate and will readily accept a newcomer. They are one of the few species of Australian Parrakeets that indulge in preening of their mates.

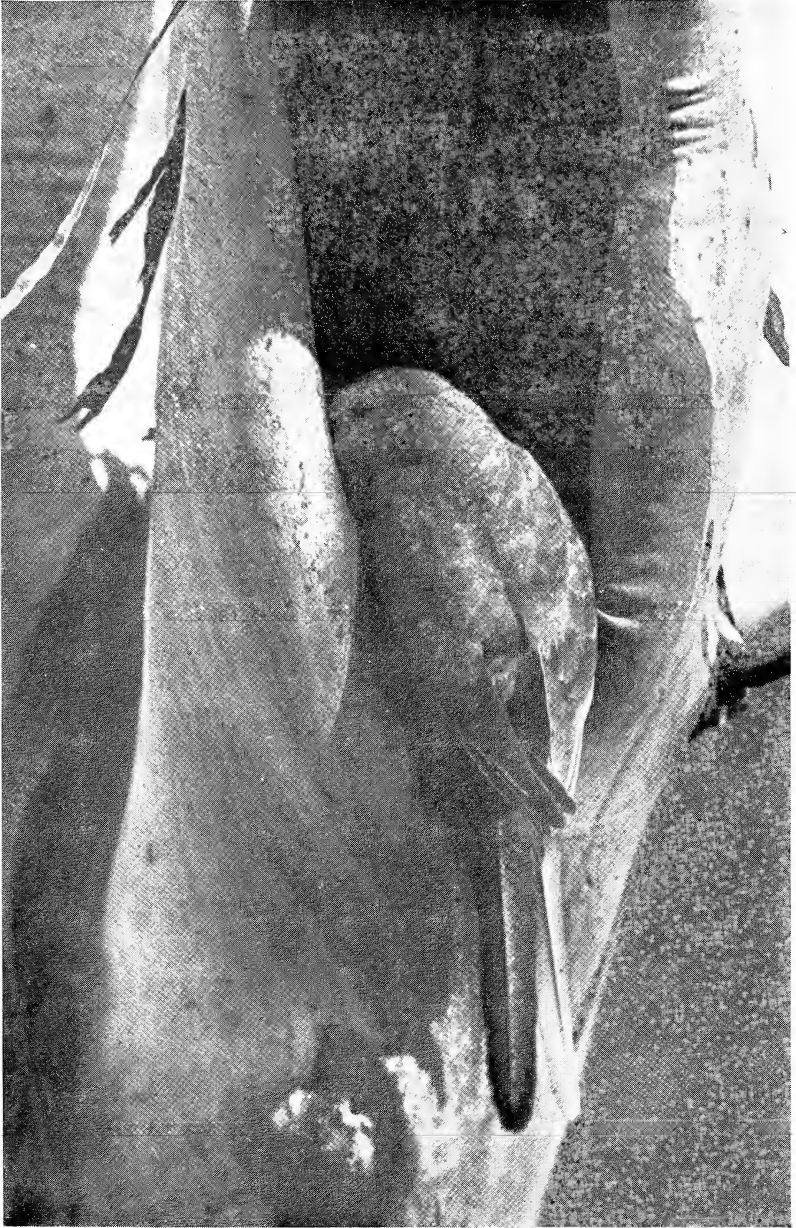
Red-rumps were deemed ineligible for a medal by the A.S.S.A. as the species was known to have been bred on several occasions before the formation of the Society.

(23) MANY-COLOURED PARRAKEET (*Psephotus varius*)

Synonyms.—Mulga Parrot (R.A.O.U. Checklist, 1926), Varied Parrot.

Distribution.—A bird of the interior, ranging from southern Queensland, through western New South Wales and north-western Victoria, into the drier parts of South Australia and through Central Australia into the interior of Western Australia.

Description.—A slim, streamlined Parrakeet with a considerable



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THE MANY-COLOURED PARRAKEET OR MULGA PARROT AT
NEST-HOLLOW

To face p. 22.



difference in the plumage of the sexes. The adult male has the head, back, and breast a bright green, the frontal band, shoulder patch, and under tail-coverts yellow, the margins of the wings and the tail blue, and patches on the nape and rump and the abdomen are red. The female differs in that the bright green areas are replaced by a brownish green, the shoulder patch is dull red, the frontal band is dull yellow with an occasional reddish tinge, and the abdomen is green with an occasional red flecking. Immatures are easily sexed on leaving the nest, the young females being identical with the adults except for the yellow colour of the beaks, whilst the young males are considerably duller than the adults but still much brighter than the females; the red area on the belly is either absent or considerably reduced. In addition the shoulder patch in the young male is generally yellow, but occasionally has a brick-red tinge. Adult plumage is obtained by a complete moult of the body feathers occurring when the birds are about three months old. Young males, however, retain the spotted flight feathers until they are over a year old.

Variations.—It is doubtful whether any of the subspecies described are worthy of retention, as a considerable variation exists amongst a number of birds from any given locality.

Coloured Plates.—Boosey's figure of a cock in Tavistock (p. 218) is excellent, as also is Goodchild's plate of a pair in Seth-Smith (p. 206). Roland Green's plate in Mathews (vol. vi, p. 401) is also very good but the figure in Greene (vol. ii, p. 21) makes all the colours appear somewhat unnatural in shade as well as giving the bird the squat figure of a Red-rump.

Field Notes.—I have observed this bird on numerous occasions in the mallee districts of South Australia and have always been struck by the beauty of the birds when seen in the natural state. They are almost invariably observed in pairs or small parties; in fact, I have never seen them in large flocks like their ally, the Red-rump.

Aviary Notes.—A bird with a very bad reputation for delicacy when first trapped; in fact, many aviculturists declare that they have abandoned the attempt to acclimatize newly caught birds. I cannot help feeling that this supposed delicacy is due to the birds being kept under dirty conditions and badly fed by the trappers.

My initial experiences with this species were in keeping with those of many others in that none of nine trapped birds survived more than a few weeks. In February, 1936, I obtained a pair of acclimatized birds which were alleged to have hatched young during the previous season but to have failed to rear them. This pair went to nest in August, 1936, the first egg of a clutch of five being laid on the 28th of that month. The hen sat very closely and young were first observed on 20th September and eventually all five eggs were found to have

hatched, but four of the young had succumbed by the beginning of October. The fifth, a hen, survived and left the nest on 20th October. This appears to have been the first record of the species having been bred in captivity in South Australia, although the A.S.S.A. medal had been awarded in 1930 to Mr. F. C. Kitchen, a resident of Broken Hill.

The hen of this pair died suddenly in August, 1937, and it was not until February of the following year that I was able to procure a satisfactory substitute. This new hen laid two clutches of eggs that season but did not incubate either of them; however, in 1939 she commenced a clutch of six late in July, of which five were fertile. These duly hatched and all were reared, leaving the nest towards the end of September and being two cocks and three hens. A second clutch laid towards the end of October consisted of five eggs, four of which were fertile and from which four young, two of each sex, were reared, leaving the nest in mid-December.

From that time onward this pair of birds had a remarkable record, rearing eight from two nests in 1940, 1941, and 1942 and four from a single nest in 1943. In 1944 they were again double-brooded, rearing three in the first nest and four in the second and exactly repeating these results in 1945, whilst 1946 saw two reared in the first clutch and four in the second. In 1947 their first clutch was removed and Little Blue Bonnet eggs substituted, and they duly hatched and reared three fine young ones and then proceeded to rear four young Many-colours from the second clutch. By 1948 the cock was beginning to show signs of old age and, although Little Blue Bonnet eggs were again substituted for their first clutch, only two hatched and only one survived to leave the nest. They did not go to nest again and the cock died in early November and the hen later in the same month. They had, I think, a remarkable record in rearing sixty-five young birds in ten seasons.

Many-colours, when once established, make delightful aviary birds, becoming very tame and confiding and not being nearly as pugnacious and aggressive as are Red-rumps. They are very devoted to their mates but are very easily consoled after the loss of a partner and readily mate up with a substitute. Together with the Red-rumps and Blue Bonnets they are unique amongst the Broadtails in the habit of preening the feathers of their mates. Towards the end of winter they become very active, flying up and down their aviary and uttering their very pleasant whistling call notes. At this time, too, the cock frequently displays to the hen in the usual Broadtail, shoulder-squaring manner.

(24) BLUE BONNET PARRAKEET (*Psephotus hematogaster*)

Synonyms.—Crimson-bellied Parrakeet, Bulloak Parrot.

Distribution.—A bird which is confined to the low rainfall type



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BLUE BONNET PARRAKEET AT NEST-HOLLOW

[L. G. Chandler

To face p. 24.

of country, ranging from south-western Queensland, through western New South Wales, down to north-western Victoria. In South Australia it has an extensive distribution in the drier parts, from the Murray mallee in the south to the vicinity of Cooper's Creek in the north and westward to the upper parts of Eyre's Peninsula.

Description.—A rather slim Parrakeet in which the sexes are superficially very similar. The prevailing colour is brownish-grey on the head, wings, rump, and upper breast with the head, face, and wing margins bright blue. The upper breast and sides of the abdomen are yellow and the centre of the abdomen is red. In what may be regarded as the typical race (the Yellow-vented) the subcaudals are pale yellow and there is a broad band of olive adjacent to the blue wing margins. The adult male has a considerably larger beak than the female, and in the latter sex the red patch on the abdomen is generally neither as intense nor as extensive; in fact, most of the red feathers are narrowly margined with yellow. Immatures closely resemble the adults but all colours are slightly duller and the red abdominal patch is much restricted in size. Adult plumage is attained by a moult of body feathers which occurs when the birds are about three or four months old. The sex of immatures can usually be determined with reasonable certainty, as in the adults, by the size of the beak.

Variations.—The Red-vented race, which is found in south Queensland and northern New South Wales, differs considerably from the better-known Yellow-vented bird and has been regarded as a good species by many authorities. The most striking difference is in the colour of the wing-bars, the olive being replaced by reddish-chestnut, while the subcaudals are red instead of yellow in the male and red margined with yellow in the female. Immatures of this race show the chestnut wing colouring very distinctly but the amount of red on the subcaudals is very variable. This race is usually larger than the Yellow-vented and adult males show a small pale green patch at the point of the shoulder, an area that is blue in the Yellow-vented. Intermediate forms between the two typical extremes are often seen, suggesting a merging into one another of the two races and tending to disprove the theory that they are specifically distinct.

I doubt very much the validity of the pallid form described from northern South Australia (*palescens*); such skins as I have examined rather suggest a pale mutation.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 410) is an excellent portrayal of the two races; Gronvold's plate in Seth-Smith (p. 192) is fairly good but the colouring on the wing of the Red-vented bird is of far too crimson a shade and the red on the abdomen is neither sufficiently extensive nor bright enough in either bird. The plate of a Yellow-vented bird in Greene (vol. ii, p. 21)

is poor in that the wings are too green, there is an incorrect violet shade on the chest, and the red on the abdomen extends too far laterally.

Field Notes.—I have seen the Yellow-vented race in the wild state in several places in South Australia, notably near Peterborough and in the vicinity of Blanchetown. They are usually seen in pairs and are noisy birds, giving their loud alarm note when disturbed and indulging in the characteristic jerky, bobbing movements.

Aviary Notes.—Prior to the 1939–45 war large numbers of the Yellow-vented birds used to appear in the local bird shops ; they were extremely shy when first caught and had the reputation of being rather delicate. In addition, they have always been rather unpopular as aviary birds on account of their notorious pugnacity ; pairs being able to take on, defeat, and even kill other Broadtails much larger than themselves. The Red-vented race is quite unknown in local bird shops, any specimens that I have possessed having always been obtained from Sydney or Brisbane. Blue Bonnets have always been regarded as extremely shy breeders, both in Australia and abroad, and my experiences with them have been rather unusual.

Dealing first with the Red-vented race, I obtained my first pair of these birds from the late Mr. Wachsmann, of Sydney, in 1937, but these two birds were never well disposed to each other. Early in 1939 I was fortunate enough to obtain another hen from a Melbourne fancier ; this bird had laid whilst in his possession the previous year and it immediately became very friendly with the original cock bird, and the first egg of a clutch of six was laid on 17th August of that year. All the eggs were fertile and eventually hatched, young being first seen in the nest on 13th September. However, three young birds died during the first week and another when about half-grown ; the remaining two were reared and left the nest on 19th and 21st October. They were a pair, and it was interesting to note that both had well-marked chestnut wing patches and that the male had yellow sub-caudals, whilst those of the female were red. At the first moult, which took place in December, the subcaudals of the male changed to bright red. This being the first recorded breeding of the species in South Australia gained the A.S.S.A. medal and also the silver medal of the Society for the most outstanding breeding achievement of the season. Unfortunately, the breeding pair escaped during the winter of 1940 and were not recovered.

In March, 1943, whilst stationed near Brisbane, I was able to acquire another pair of birds of this race and brought them back with me when I came home on leave. They made no attempt at nesting that year, but in 1944 the first egg was laid on 28th August, and promptly broken. Five more fertile eggs followed and the first young bird was seen on 23rd September ; two days later, three living

and one dead young were seen in the log, the fifth egg having failed to hatch although it contained an almost fully developed embryo. Three young were duly reared, leaving the nest between 26th and 30th October, and being one cock and two hens. The following season (1945) a clutch of three was laid at the end of August. One of these was infertile but the other two hatched and were reared, proving to be two cocks. In 1946 a clutch of six was laid early in August. Of these, two hatched and died when quite young, a third was dead in the shell, a fourth had a very small embryo, and the remaining two were clear. The following year a clutch of five eggs was laid in mid-August but all proved infertile and in 1948 the old hen died in October without having laid.

In regard to the Yellow-vented race, I had almost given up hope of ever breeding them as they had been represented continuously in my collection over a period of ten years or more without ever showing the slightest inclination to go to nest. For the 1947 season I had an old hen known to have been in captivity for many years, mated to an exceptionally vigorous cock alleged to have bred young when mated to a Red-vented hen in Victoria in previous years. As the breeding season approached he drove the hen about a lot, and when a log was provided he forced her to spend a considerable portion of each day therein, much against her will. However, an egg was laid on 24th August and was soon broken, but it was followed by five more, all of which proved fertile and eventually hatched, the first young being seen on 17th September and the fifth not until a week later. All were reared and left the nest between 21st and 28th October, being two cocks and three hens. This success also gained the medal of the A.S.S.A. as this variety had not been previously bred in South Australia; in fact, the only other Australian breeding that I am aware of is that by Mr. H. R. Waddel, of Melbourne, in 1938. Unfortunately, the hen of the above-mentioned pair died before the next breeding season and was not replaced until too late to expect any results in that year.

Blue Bonnets are not very easy to mate up, frequently disapproving of mates provided for them. Once mated they are extremely devoted and indulge in a good deal of mutual preening, an unusual trait amongst Broadtails. They also play, rather in the manner of Lorikeets, with sticks or stones or occasionally with one another. They have the ability to raise the forehead feathers when frightened or excited, in the form of a small crest; this is usually accompanied by vigorous bobbing, especially on the part of the cock bird, and the loud "chop, chop" alarm note is uttered at the same time.

Hand-reared Blue Bonnets lose all fear of humans and usually become extremely aggressive and savage; they make, however, quite fair whistlers.

(25) LITTLE BLUE BONNET PARRAKEET (*Psephotus narethæ*)

Synonyms.—Naretha Parrot, Oak Parrot.

Distribution.—The full extent of the range of this species is quite uncertain but it has only been found in the Desert Sheoak country that fringes the western edge of the Nullarbor plain in the vicinity of the Naretha railway siding.

Description.—A smaller, slimmer bird than the preceding species, with a more obvious sexual difference. The adult male has the general coloration of the back, rump, and chest more of a yellowish olive, the blue of the forehead is a turquoise shade, the abdomen is yellowish orange without any trace of red and the subcaudals are bright scarlet. There are, in addition, a few scarlet feathers just below the bend of the wing. The adult female is easily distinguished for, in addition to having a smaller head and beak, the turquoise on the forehead is duller, the abdomen is yellow without any orange tinge, and the small patch on the wing is brick red. Immatures resemble the adult female, but are duller in all respects; they attain adult plumage within a few months of leaving the nest, prior to which they are best sexed by the size of the head and beak.

Variations.—As is to be expected from a species whose known range is so limited, no variations have been described.

Coloured Plates.—The plate of a pair by Cayley, which appears in *The Emu* (vol. 21, pl. 12), together with an account of the discovery of the species, is quite good. The only other plate of which I am aware is the excellent one by Gronvold in the little-known *Supplement to the Birds of Norfolk and Lord Howe Islands*, by Mathews (p. 25, pl. 63).

Field Notes.—On my only trip on the Trans-continental Railway I passed through Naretha at night and consequently had no opportunity to see the bird in its natural state.

Aviary Notes.—This bird was quite unknown to aviculture until an Adelaide dealer obtained two small consignments early in 1936. I secured a pair from the first lot and lost the hen after about eighteen months. A substitute was secured and survived about two years, and a third hen obtained early in 1942 escaped, together with the original cock bird, during 1943. None of these hens ever showed any real desire to go to nest, although the log was visited occasionally by the second of the trio. A new pair obtained in 1944 went to nest in mid-September, breaking the first of a clutch of six eggs but thereafter incubating steadily; unfortunately, the eggs were all infertile. Prior to the 1945 breeding season a new cock was obtained and a clutch of five eggs was commenced on 6th October, three of which were fertile and duly hatched. Two of the young birds died very early but the survivor, a cock, was reared and left the nest on 11th October. This success gained the A.S.S.A. medal, the only other known breedings

being that in the Adelaide Zoo in 1941 (recorded in AVICULTURAL MAGAZINE, 1945, p. 7) and an almost simultaneous success by Mr. Catt, of Carlingford, near Sydney. In 1946 the same pair commenced a clutch of five eggs on 9th August but investigation in mid-September showed two dead young, two eggs with fully developed young dead in the shell, and a clear egg. In 1947 the first egg of a clutch of five was laid on 15th August and promptly broken ; of the remaining four, three proved fertile and in view of past performances were transferred to my reliable old pair of Many-colours and were duly hatched and reared by them, proving to be two cocks and a hen. The Narethas were given the Many-colours' three fertile eggs, which they hatched and eventually succeeded in rearing two of them ; the elder was one of the finest young cock Many-colours I have ever bred but the younger was a miserable little runt. In 1948 the changes were rung again, but out of four fertile Naretha eggs given to the Many-colours only two were hatched and one reared while the Narethas successfully reared two good young Many-colours from three fertile eggs !

Narethas closely resemble common Blue Bonnets in their habits and behaviour and in spite of the recent action of the R.A.O.U. Checklist Committee in their wisdom (or lack of same) in relegating them to subspecific rank, I am firmly of the opinion that they are a valid and a very distinct species. Furthermore, any odd birds that I have possessed have never shown any desire to mate with common Blue Bonnets of the opposite sex.

Until this year (1949) I do not think they had been taken to England, but a dealer left for America with some just prior to the outbreak of the 1939-45 war ; I have no information as to whether they were landed successfully or not.

(26) HOODED PARRAKEET (*Psephotellus dissimilis*)

Synonyms.—Black-hooded Parrot. Often erroneously called Golden-shouldered Parrakeet.

Distribution.—As far as is known this species is confined to the northern part of the Northern Territory. There is no record of it reaching the Kimberley district of Western Australia, like the Northern Rosella does, nor has it been recorded from north-western Queensland.

Description.—A very slim, relatively long-tailed Parrot with a very marked difference between the sexes. The adult male has the head black, mantle brownish grey, and a broad band of golden-yellow on the wing margins. The rump is pale blue and the under surface is a vivid bluish-green which alters in appearance in different lights. The subcaudals are salmon colour with a faint edging of white to each feather. The colouring of the adult female is mainly a yellowish-green, with the rump, cheeks, and abdomen pale blue and the under tail-coverts salmon tipped with white as in the male. Immatures

almost exactly resemble the female, apart from the yellowish beak which later changes to horn colour; young males, however, invariably exhibit very much brighter blue cheeks than do young females. Young Hoodeds undergo a moult of body feathers when about three or four months old; young males do not begin to assume adult plumage for some considerable time thereafter and the transition is not completed until they are about fifteen or even eighteen months old, depending to some extent on the season of the year in which they were hatched.

Variations.—I have never seen any variants but the species was originally described as having the forehead, lores, and crown dark chestnut. In this connection, reference should be made to two interesting letters to the AVICULTURAL MAGAZINE (1926, pp. 256 and 287), written by Sprawson, in which he claims to have seen a brown-headed bird and also draws attention to other less-marked variations.

Coloured Plates.—These are singularly few in number. Roland Green's portrayal of a pair in Mathews (vol. vi, p. 425) is quite good, although it gives the male a rather unnaturally bulky appearance. Cayley's plate, in *The Emu* (vol. 24, pl. 1, upper figure), is good of a male.

Field Notes.—I have never seen this bird in the wild state and comparatively little has been recorded of its habits; the species is said to frequent open country. It is well known that the three members of this genus make their nests by tunnelling into termites' mounds.

Aviary Notes.—A hardy and most attractive aviary bird and one which has proved a relatively free breeder in captivity. This species is, however, quite unsuited to a mixed collection on account of its pugnacity.

I obtained my first pair of these birds in October, 1935, the male being almost fully coloured when procured. They first went to nest late in March, 1936, laying three eggs, all of which hatched and were reared, the young leaving the nest between 20th and 24th May and all three being cocks. At the end of July the hen commenced a second clutch, which on this occasion consisted of five fertile eggs, all of which hatched but only three of which were reared. These young left the nest at the end of September, the youngest having deformed feet which necessitated its being destroyed. The old pair of birds started to moult early in October, and in the following year (1937) the first clutch consisted of four eggs laid towards the end of March. Three of these were fertile and were duly hatched and reared, leaving the nest in the middle of May. A second clutch of four was laid about a month later and were inexplicably deserted early in July; they were all fertile and were on the point of hatching. Of a third clutch of four laid in August, only two were fertile but these were duly reared and left the nest early in October. The hen, who was not young when obtained, died in November whilst in the moult.

For the 1938 season the original cock bird was mated to an unrelated hen and for a period of eight years thereafter they had a remarkably consistent record of success. They started slowly with two young reared in September, 1938, followed by three young each in April and August, 1939. For the next four years the tallies were six, five, six, and four young successfully reared; on some occasions three clutches were laid in a season but two was the usual and in 1943 the only clutch was not laid until the late winter. In 1944 the first clutch was laid late in July but the eggs were deserted when the hen sustained an injured foot, only two of the five being fertile. A second clutch, consisting of four, laid early in September, resulted in a single bird leaving the nest on 1st November. In 1945 the first clutch did not appear until mid-August, only three out of five were fertile but these were successfully hatched and reared. A second clutch of six was laid late in October but the hen deserted when the ring on her leg caused a constriction which ultimately resulted in the loss of her foot. She laid two clutches of five eggs each late in 1946 but all were infertile and I did not try to breed from her again.

For the 1947 and 1948 seasons I had one of the 1945 cocks mated to an unrelated hen, but they showed very little inclination to go to nest in either year although they had produced eggs in 1946.

Hoodeds, whether trapped or aviary-bred, seem to come into breeding condition in the autumn when young but after several years in captivity or as they get older seem to accommodate themselves more and more to the normal breeding season. Even so, they are usually ready to go to nest before the winter is over and always moult particularly early.

The display of the Hooded is very pleasing and consists of the cock alighting with great ceremony on the perch near the hen or following her along the ground in a series of exaggerated hops, the shoulders being simultaneously depressed and the feathers on the head being erected in the form of a tiny crest. Hens also have the power of erecting these feathers but seldom do so unless very excited.

The medal of the A.S.S.A. was awarded in 1930 to Dr. W. Hamilton for the first breeding of this species; his pair succeeded in rearing a single youngster in an artificial termitarium. Since that date the species has been freely bred in South Australia and little difficulty has been experienced in inducing the birds to take to an ordinary type of nesting log.

(27) GOLDEN-SHOULDERED PARRAKEET (*Psephotellus chrysopterygius*)

Synonyms.—Golden-winged Parrot, Antbed Parrot.

Distribution.—As far as is known this species is confined to Cape York Peninsula, North Queensland.

Description.—Very similar to the preceding species, but differing in the following respects, as well as being slightly smaller. The adult male has a well-marked pale yellow frontal band, the black cap does not extend as far on to the sides of the head, the yellow wing patch is smaller, and the feathers of the abdomen as well as the subcaudals are pinkish, edged with white. The adult female differs only slightly from the female Hooded; the frontal band is present but is a pale cream and not very obvious, there is probably even less blue on the cheeks than is the case in the average hen Hooded, and there are a few pinkish feathers on the centre of the abdomen. Immatures differ little from the adult female, but the young males, like Hoodeds, have bright blue cheek patches. By analogy it is to be presumed that adult plumage is not acquired by the young males until they are about fifteen months old.

Variations.—None has been described.

Coloured Plates.—Gronvold's plate in Mathews (vol. vii, p. 430) is very good of the cock, but the head and cheeks of the hen are much browner than is the case in any skins that I have examined. Cayley's plate, in *The Emu* (vol. 24, pl. 1, lower figure), is good of a male, and the differences between this species and the preceding are well shown. The plate by Renaut, in Seth-Smith (p. 202), completely misses the lovely blue-green colour of the rump and breast of the cock, these being shown as of a rather slaty blue colour.

Field Notes.—The best notes are those of Donald Thomson, in *Birds of Cape York Peninsula*; the species is described as inhabiting open forest country and nesting, of course, in anthills, frequently twice in a season.

Aviary Notes.—I have never seen a living example of this species and the only records of it in captivity are of a small consignment taken to England in 1897, a pair, probably from the same lot, obtained by Mrs. Johnstone, of Bury St. Edmunds, in 1902, and the birds which were hand-reared by McLennan in 1922, four of which were presented to the Taronga Park Zoo, Sydney. Cayley, in his *Australian Parrots*, records that these birds were extremely tame (as would be expected as they were hand-reared) and were noticed on occasions investigating holes in the floor of their aviary. A. S. le Soeuf also studied these birds and has stated that their call-note was not as harsh as that of the Hooded and that they raised the feathers on the head in quite a different manner.

Whilst in Brisbane recently a dealer in that city informed me that he had had seven examples since the war, which he had sold to a ship's officer; other Brisbane fanciers also claimed to have had or to have seen them in the past. As Donald Thomson has recorded, this species is not uncommon in its restricted habitat, and with the opening up of Cape York Peninsula during and since the 1939-45 war there seems

little doubt that examples of this bird will eventually be obtained ; the question is when ?

(28) PARADISE PARRAKEET (*Psephotellus pulcherrimus*)

Synonyms.—Beautiful Parrakeet, Red-shouldered Parrakeet, Soldier Grass Parrot.

Distribution.—The range of this species does not appear to have ever extended beyond south-eastern Queensland and north-eastern New South Wales.

Description.—A slim, long-tailed Parrot with well-marked sexual differentiation. The adult male has the forehead, wing-bar, centre of the abdomen, and under tail-coverts red, the crown of the head black, mantle brownish-grey, rump pale blue, face and breast bright green shading to blue on the sides of the abdomen. The female differs in that the frontal band is yellowish with a few red flecks, the crown of the head is brownish, the face and upper breast are yellowish with a grey shading, and the abdomen and under tail-coverts are pale blue with some pinkish flecking on the centre of the abdomen. In addition, the red wing-bar is neither as bright nor as extensive as in the male. Immatures are said to resemble the female but to be somewhat duller in all respects, with young males distinguishable by better marked wing patches. Presumably they would take over a year to come into full colour.

Variations.—None has been described.

Coloured Plates.—Roland Green's plate of a pair in Mathews (vol. vi, p. 421) is probably the best available, although it gives both birds a rather fat appearance ; the plate of a male in Greene (vol. ii, p. 29) is fairly good but it, too, makes the bird look rather bulky. Cayley's plates in *The Emu* (vol. 24, pl. 14) and in Chisholm's *Birds and Green Places* (p. 100) are both good.

Field Notes.—Since Chisholm's account of the rediscovery of the species some twenty-five years ago, to which any interested reader is referred (*The Emu*, vol. 22, pp. 4-17), the only reports of the continued existence of this bird are those referred to by Cayley in his *Australian Parrots* (pp. 226-7). There seems to be little doubt that on occasions the species bred in creek banks and hollow stumps as well as in termitaria.

Aviary Notes.—I have never seen this bird in life, nor do I know of anyone in Australia who has seen or kept the species in captivity. All the reports of its habits in captivity are the oft-quoted ones of last century. It is said to have been bred on the Continent and in England by Mr. C. W. Gedney, but the latter, although he gives the incubation period and describes the young in his *Foreign Cage Birds*, does not make any definite claim to have bred them.

It would appear that this species was exported in fair numbers towards the end of the last century but that in Europe it had a somewhat doubtful reputation as regards delicacy ; however, it would seem probable that in Australia, at any rate, it would prove as hardy as the Hooded and no more difficult to breed in captivity.

Whether its numbers have suffered a severe decline during the present century is largely a matter of conjecture ; it seems probable that it was never a very common species at any time. Having regard to the way in which supposedly extinct species have reappeared in the last twenty years or so and have now become relatively common in captivity, it would seem pessimistic to regard this bird as finally lost to aviculture, and yet I have a sneaking feeling that such is the case, principally because the districts where it formerly occurred are relatively settled ones.

It is interesting to note that in AVICULTURAL MAGAZINE, 1924, p. 65, Tavistock states that " within the last few years . . . an odd Paradise Parrakeet or so have been sent to America ". It would be interesting to know the writer's authority for this statement ; I am not aware of any further notes in this regard.

Acknowledgment.—The plates of the Many-coloured Parrakeet and the Blue Bonnet Parrakeet which illustrate this article are reproduced from *The Emu* by kind permission of the Editor and the photographer, L. J. Chandler.

(*To be continued*)

* * *

BREEDING RESULTS AT AMERSFOORT, HOLLAND, 1949

By A. F. C. A. VAN HEYST

1949.	Dates of Laying.	Number of Eggs		Number of Birds	
		Laid.	Incubated.	Hatched.	Reared.
<i>Grey Rheas.</i> Two cocks and three hens, adult birds.	April 3, 6, 13, 16, 17, 19, 19, 21, 22, 24, 24, 26, 27, 27, 29, 30; May 2, 3, 4, 4, 6, 6, 7, 8, 9, 10, 11, 12, 14, 14, 16, 16, 16, 18. Between May 19 and May 28, eight eggs were laid and three more eggs were laid on July 16, 19, 21.	45	36	19	13
<i>Impeyans.</i> One cock and one hen, resp. two and three years old.	April 18, 20, 23, 26; May 9, 11, 15 17.	8	8	2	1 (1 ♀)
<i>Swinhoe Pheasants.</i> One cock and one hen, three years old.	March 22, 24, 27, 29, 31; April 1, 3, 5, 12, 15, 17, 20, 24, 27, 30; May 2, 5, 17, 19, 21, 23, 31; June 3, 5, 7.	25	38	27	13 (7 ♂, 6 ♀)
<i>Swinhoe Pheasants.</i> One cock and one hen, three years old.	March 29; April 2, 5, 7, 10, 12, 18, 25, 27, 29; May 15, 18, 22.	13			
<i>Wallich Pheasants.</i> One cock and one hen adult birds.	April 19, 21, 24, 26, 28, 30; May 2, 4, 15, 16, 18, 20, 22, 24; June 5, 7, 9, 11, 13.	19	19	0	0
<i>Satyr Tragopans.</i> One cock and one hen; cock three years old, hen adult.	April 12, 15, 19; May 5, 7.	5 (soft shell eggs)	0	0	0
<i>Reeve's Pheasants.</i> Cock and two hens; cock and one hen two years old, the other hen three years old.	April 5, first egg; June 24, last egg.	68	52	23	11 (5 ♂ 6 ♀)
<i>Lady Amherst.</i> One cock and one hen, three years old.	April 20, 22, 24, 26, 28, 30; May 2, 4, 6, 8, 10, 12, 14, 16, 25, 27, 29, 30, June 1, 4.	20	20	15	11 (4 ♂, 7 ♀)

1949. <i>Elliot's Pheasants.</i>	<i>Dates of Laying.</i>	<i>Number of Eggs</i>		<i>Number of Birds</i>	
		<i>Laid.</i>	<i>Incubated.</i>	<i>Hatched.</i>	<i>Reared.</i>
One cock and one hen, one year old.	April 1, 5, 7, 9, 13, 15, 18, 20, 24, 26, 29; May 4, 10, 11, 14.	15	15	7	2 (1 ♂, 1 ♀)
<i>Blue Crossopylon.</i> One cock and one hen, one year old.	April 16, 18, 20, 22, 24, 26, 27, 29; May 1, 3, 5, 7, 9, 10, 12, 14, 16, 22, 23, 25, 28, 30, 31; June 2, 4, 7, 9, 10, 12, 14, 29.	31	30	0	0
<i>Carolina Ducks.</i> Four pairs, one year old and older.	March 18, 19, 22, 23, 23, 24, 24, 24, 25, 25, 25, 26, 27, 27, 27, 28, 28, 29, 29, 30, 30, 30, 31, 31; April 1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 5, 6, 6, 7, 7, 7, 8, 8, 9, 9, 9, 10, 10, 10, 11, 11, 12, 13, 19, 20, 21, 22, 23, 24, 25, 25, 26, 26, 26, 27, 27, 27, 28, 28, 29, 29, 29, 30; May 1, 1, 1, 2, 2, 3, 3, 4, 5, 5, 5, 6, 6, 7, 7, 8, 8, 9, 10, 10, 11, 11, 11, 12, 13, 13, 17, 18, 19, 19, 20, 21, 21, 21, 22, 22, 22, 23, 23, 23, 24, 24, 24, 25, 25, 25, 25, 25, 26, 26, 26, 27, 28, 28, 29, 29, 30, 31, 31; June 1, 1, 2, 3, 10, 11, 15, 15, 16, 17, 18, 19.	142	139	108	85 (39 ♂, 46 ♀)
<i>Mandarin Ducks.</i> One male and one female, probably old birds.	April 26, 28, 30; May 2, 4, 6, 18.	7	7	3	0
<i>Ashy-headed Geese.</i> One male and one female, adult birds.	April 7, 9, 11, 13, 15, 17, 20; May 2, 4, 6, 8, 10, 12, 14, 31; June 2, 3, 5, 7, 9, 12.	21	21	11	5 (3 ♂, 2 ♀)
<i>Magellan Geese.</i> One male and one female, adult birds. Male probably very old.	April 12, 14, 15, 17, 19, 20, 22; May 3, 5, 9, 10, 11, 13, 14, 16, 18, 20, 23, 25, 26, 27, 30; June 1, 8, 10, 12, 14, 15, 16; July 4, 6, 8, 10.	33	20	0	0

THOUGHTS ABOUT PHEASANTS

By ALEX HAMPE (COBURG)

The last number of our Magazine to my great delight was a Pheasant number and I need not mention that I read it from beginning to end with great gusto. May I be allowed here to make a few comments on some of the articles? Mr. Lowes' recommendations for rearing and feeding young Pheasants is of special interest. I quite agree with him that the very best food for Pheasant chicks are ant eggs. I should, however, like to know what experience Pheasant fanciers of our Society had when feeding eggs of the big wood ants. When I was a boy I reared a lot of Partridges and common game Pheasants and fed them a good deal with eggs of wood ants without detrimental result. These chicks had, however, absolutely free range with their foster-mothers in large meadows and found a good deal of their food themselves. During the last few years I had regularly some young blue Crossoptilons. They prospered until nearly full grown but then a good many of them died and my doctor friend with whom my old pair is billeted attributed their death to too much formic acid contained in the large eggs of wood ants which were extensively fed. I doubt whether this diagnosis is correct, but I remember an article by the late M. Malisoux in which he stated that he had bad results when feeding these large eggs unwashed and when I corresponded with him on this subject he told me that these eggs were obnoxious as food for insectivorous birds if not thoroughly washed before being used. I am very anxious to hear the opinion and experience of fellow-fanciers, but should my Crossoptilons again present me with a brood of youngsters I will certainly feed eggs of the small black meadow ant only. Mealworms must also be given with precaution for if they are not fed on vegetable matter only, they can be very dangerous. Maggots I never fed and do not recommend them. For hardy Pheasants like Silvers, Swinhoes, and also Crossoptilons, a good custard is very good. Of course one must be careful that this food does not get sour during hot weather.

As broodies Bantams seem to be used mostly in England. But what kind of Bantams please? A good many Bantams are very nervous birds and therefore cannot be recommended as foster-mothers, besides on account of their small size they can only cover a few eggs and chicks. For very delicate Pheasant chicks as Peacock-Pheasants, Versicolors, etc., a cross of Japanese and Wyandotte Bantams is very good. For Goldens, Amhersts, Elliot's, viz. for all Pheasants of medium size, I have found Sumatra game, Yokohamas, and Silkies very satisfactory, while for Peachicks, Crossoptilons, Monauls, and should anyone be so lucky as to get Ocelated Turkey chicks, a light, steady Turkey hen is excellent. She can cover a whole clutch of a Crossoptilon

hen and remains with her children until they are full-grown, a great advantage, besides which she is able to defend her brood successfully against cats and dogs. If one has a fenced meadow, an orchard, or park for a rearing ground and has not too many coveys I strongly recommend the brood and their foster-mothers be given free range after the second or third week when the weather is favourable. The chicks then develop rapidly and find a good deal of wholesome food themselves.

Mr. Terry Jones, in his article "Pheasants in Captivity", says the White Crossoptilon was not so badly hit by the war and Mr. Weaver gives a list of the Pheasants now bred in America in which Mr. Lee S. Crandall lists the White Crossoptilon as "fairly common". These statements surprise me, for I have always regarded the White Crossoptilon as one of the rarest of Pheasants. As far as I know White Crossoptilons have never been bred in England or in France but only in America. To my knowledge all the White Crossoptilons have derived from a few pairs which were collected by a Chinese gentleman, I think his name was Young, who went, for the late Mr. Booth, of San Francisco, to the west of China and collected such rare Pheasants as White Crossoptilons, Chinese Monauls, Pheasant Grouse, etc. These birds were consigned to a game farm of a Mr. Laidlay in which Mr. Booth was interested. Also my late friend Tangier Floyd-Smith collected White Crossoptilons in western China and as far as I know some of his birds reached the aviaries of M. Delacour in Clères. But all these White Crossoptilons were *Crossoptilon drouynii* (Verreaux) and not the pure white kind of *Crossoptilon crossoptilon* (Hodgson). I saw a mounted bird at a taxidermist's when I was last in Shanghai in 1937. In my opinion it is not a very handsome bird.

Some pure white Crossoptilons reached Europe in the last ten years of the nineteenth century and a pair lived in the Berlin Zoo. They produced eggs but of a successful breeding nothing is known. During my long sojourn in China I tried hard to get White-Eared Pheasants, but all my efforts were in vain, so it is the more astonishing to me that this Pheasant is now listed as fairly common in America.

The rarest Pheasants I obtained was a trio of Chinese Monauls which I bought from my friend Floyd-Smith in 1937. To my great and everlasting regret these magnificent birds died during my homeward journey in Singapore where I had an involuntarily prolonged stay of eighteen instead of three days. Even for Singapore it was unusually hot and a good many of my Pheasants, Cabot's and Temminck's Tragopans, Soemmering's, and the Chinese Monauls died like flies. Another rare Pheasant I had was *Phasianus elegans*, of which I landed a pair in 1937 in England. *Phasianus elegans* is, of course, a game Pheasant, but one which very justly deserves his name. He is

indeed a very elegant bird, very slim, small, and of rich coppery colour without neck-ring. Game Pheasants, interesting as a collection of them would be, have the disadvantage that all their hens are very much alike and that they cross easily. Besides an acquisitive fancier who wants to cover the food bill of his Pheasants by the sale of their progeny might be disappointed and find it difficult to dispose of his birds. The Zoological Gardens should endeavour to show as many kinds of pure game Pheasants as possible. The Berlin Zoo had a fine collection consisting of Colchicus, Mongolians, Chinese Ring-necks, Tenebrosus, Versicolors, etc., pre-war times; probably this collection has come to an end.

That some of the Pheasants introduced during the last thirty years could not be established, like *Imperialis* and Lewis' Pheasant, I chiefly attribute to the fact that only very few of these species have been imported and that the fanciers were therefore forced to over inbreeding. It is true that our stock of other Pheasants like Elliot's, Brown Crossoptilon, Swinhoes, etc., has derived from only a few birds imported many years ago, but all our Pheasants would certainly greatly benefit from an infusion of fresh blood of wild caught imported birds. I observed especially with Brown Crossoptilons that a good many cocks do not take any notice of their wives. Already the late Mr. Cronau, many years ago the doyen of Pheasant fanciers in Germany, complained that the Brown Eared-Pheasants which were so promising soon after their introduction in 1864 produced only infertile eggs. In his book, *Die Huhnervogel* (the gallinaceous birds) he relates that from three pairs he got for several years each season nearly sixty eggs but never a chick. The question of the reason for this infertility Cronau does not answer, but attributes it chiefly to the high degree of inbreeding and I agree with him. Also of Blue Crossoptilons I had a cock which absolutely neglected his hen and another cock was madly in love with a White Wyandotte hen, but ignored his proper wife completely.

To import wild caught Pheasants from oversea is at any time a tricky enterprise. One may have good success, one may have total loss. That some very desirable Pheasants as the Chinese and Sclater's Monaul, the Burmese and Hume's Bar-backed Pheasant, the Western Tragopan have so to say never been imported and other kinds, as the *Imperialis* and Lewis' Silver Pheasant in only a few specimens I attribute chiefly to three different causes. The big zoological firms chiefly do business in animals and birds suitable for zoological gardens or such birds which can be bought in quantities and care little about rare Pheasants, of which a few specimens only usually can be acquired if at all. Persons who reside abroad and are really interested in Pheasants are as a rule too busy and occupied with their profession so that they can devote only very little time to

a hobby, as was my own case during my long stay in China. Collectors who go in for rare birds, have not visited the countries where rare Pheasants live and will do so only when commissioned by interested fanciers who are willing to pay the high prices such importations command. Besides rarities remain rarities even in their native countries. For instance, in Singapore I have always found Crested and Crestless Firebacks and Argus in the market, but never Malayan Peacock and Bronze-tailed Pheasants (*Chalcurus inopinatus*). Cabot's and Temminck's Tragopans were sometimes obtainable in Shanghai, but never a Brown or Blue Crossoptilon and only once during the twenty-four years of my residence in this city did I find a pair of Amhersts and a single Darwin's Koklass. That Pheasants have greatly suffered by warfare and turmoil in their different habitats I do not believe. They are wary, cautious creatures and soon wander away from a disturbed district. Of course hardly anything alive can be imported under circumstances prevailing at present, but let us hope that the world will come back to her senses and peaceful times are in store for us which will allow able collectors to proceed to the interior of the Far East and bring these gems of the bird world to our aviaries. This is the fervent wish of Alex Hampe.

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THE ORNAMENTAL PHEASANT SOCIETY

By GEORGE A. J. WEAVER

Pheasant lovers in this country will be interested to learn that the old Ornamental Pheasant Society has been reformed in Belgium, and to inaugurate the occasion an excellent issue of the *Journal* has been published this January in French.

Mme. Yvan Malisoux, who is an energetic and untiring Pheasant breeder, has taken over the duties of Secretary, whilst the offices of President and Vice-President are filled by those well-known authorities M. Jean Delacour and Professor Alexandre Ghigi respectively.

In his message to Pheasant lovers, M. Delacour dwells on the pre-war activities of the Ornamental Pheasant Society and mentions that the *Journal* was published in both French and English up to 1940. Unfortunately, he continues, the progress of the Society was halted by the war and in 1946 a meeting was held in London to review the situation. It was decided in view of the great decrease in membership due to the many restrictions prevailing, that the Society as such should become dormant, the Avicultural Society to act meanwhile as a medium,

Post-war conditions in England have not proved suitable for this country to continue to serve as a centre for Pheasant breeders, and so a group of Belgian fanciers resolved to resurrect the Ornamental Pheasant Society without more delay, the membership to be international as before, and everyone interested in these beautiful birds is invited to become a member.

The President says how happy he was to be in contact again with so many of his old friends, in particular Mme. Malisoux and Professor Ghigi, and at the same time he pays tribute to the memory of such well-known fanciers as Y. Malisoux, Jean-Marie Derscheid, and F. R. S. Balfour, whose deaths had occurred during the past ten years.

In her Editorial Mme. Malisoux remarks that although the present *Journal* (No. 8) is a modest effort compared with its predecessors, it is hoped nevertheless through its medium to bring together numerous old members and to attract new ones. The subscription has been provisionally fixed at 100 Belgian francs, and all members will receive a copy of the *Journal*, which to commence with will be published twice yearly. Generous terms are given to members who desire to advertise therein and anyone interested in joining the Society is invited to write without delay to Mme. Yvan Malisoux, Beez, prov. de Namur, Belgium.

The *Journal* also contains interesting articles from the pens of Professor Ghigi, Mme. Malisoux, M. Andre Dupont, and Dr. J. H. J. M. Vallen, and there is little doubt that enthusiasm is running high on the continent so far as the cult of the Pheasant is concerned. To date nothing has been decided regarding the formation of an English branch and we await developments.

* * *

THE SOCIETY'S MEDAL

The Society's Medal has been awarded to :—

Mr. E. N. T. Vane, for breeding the Noble Macaw, *Ara nobilis cumanensis*, for the first time in the United Kingdom and Northern Ireland.

* * *

BRITISH AVICULTURISTS' CLUB

The twentieth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 11th January, 1950, at 6 p.m., followed by a dinner.

Chairman : Miss P. Barclay-Smith.

Members of the Club : R. M. Adamson, Miss K. Bonner, G. T. Clark, Mrs. G. T. Clark, T. Crewes, B. H. Dulanty, O. E. Dunmore, A. Ezra (Patron), H. Fenton, J. F. M. Floyd, A. G. Glenister, H. J. Harman, R. E. Heath, Dr. E. Hindle, Major E. F. Housden, Terry Jones, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, C. J. Morny, G. S. Mottershead, S. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), A. C. Soanes, Captain H. S. Stokes, E. N. T. Vane, C. S. Webb, Mrs. M. K. Woodford.

Guest of the Club : Mme. J. M. Derscheid.

Guests : James Bailey, E. C. Barclay-Smith, W. O. Gilbert, Mrs. W. O. Gilbert, Miss J. E. Glenister, Roland Green, Anthony Jack, Mrs. C. J. Morny, Mrs. S. Murray, J. A. Norris, Dr. R. Scott Stevenson, Mrs. R. Scott Stevenson, V. Thomas, Mrs. K. Thomson, E. H. Tong, Mrs. E. H. Tong, H. B. Usher, T. N. T. Vane, H. Wilmot, Mrs. H. Wilmot, S. Wright, Mrs. S. Wright.

Members of the Club, 30 ; guests, 23 ; total, 53.

The Chairman, opening the meeting, said that for the third year in succession the Club had the honour and pleasure of the presence of Madame Derscheid ; Dr. J. M. Derscheid would long be remembered as one of the greatest aviculturists in Europe and she sincerely hoped that Madame Derscheid's visit would become an annual event. She also welcomed Mr. Anthony Jack, Hon. Secretary of the British Falconers' Club ; the aims of the Avicultural Society had much in common with those of the British Falconers' Club and she urged closer co-operation between the two organizations. A third guest, Mr. H. B. Usher, at present in charge of the Bird Room at the Natural History Museum, had for many years been of very great assistance to members of the Society and she was glad to have this opportunity of thanking him for all the help he had so willingly given.

The Chairman reported that the Council had awarded the Society's medal to Mr. E. N. T. Vane for breeding the Noble Macaw for the first time in Europe and the President presented the medal to Mr. Vane.

The Chairman then paid tribute to Mr. C. S. Webb's outstanding services to aviculture and in particular to his rediscovery of the Grey-necked Picathartes and his great achievement in bringing a specimen back alive to England. It was decided to publish a coloured plate of this bird in the AVICULTURAL MAGAZINE to illustrate Mr. Webb's article about it and Mr. Roland Green was asked to make

a portrait. He had produced an excellent picture of the bird and the Society was much gratified to be the first to reproduce a colour plate of this rare and interesting species in its journal. Miss Barclay-Smith asked Mr. Webb to accept the original painting of the Grey-necked Picathartes as a token of appreciation and admiration from the Avicultural Society for his outstanding achievement. The President then presented Mr. Webb with the picture.

Mr. Webb said that he felt very greatly honoured to receive this expression of the Society's appreciation of his efforts. The Society had always been of very great interest to him and he hoped to help it in every way possible for many years to come.

The Chairman then called upon Mr. Green to speak, saying that he had done more illustrations for the Magazine than any other artist and he was so well known to aviculturists that he needed no introduction.

Mr. Roland Green dealt briefly with his early efforts to become an artist and said that such success as he had enjoyed was mainly due to the fact that he had been able to study birds at close quarters at the Zoo, Foxwarren, and elsewhere. He then gave an exhibition of lightning sketches, some twenty species, including such varied birds as Godwit, Goshawk, Shama, Treecreeper, Curlew, Barn Owl, Bearded Reedling, and Great Crested Grebe being drawn.

Hearty acclamation followed the Chairman's thanks to Mr. Green on behalf of the Club.

Madame Derscheid was presented with a bouquet of spring flowers, tied with the Belgian national colours, by Miss Kay Bonner on behalf of the Club.

The next meeting of the Club will be on **8th March, 1950.**

The Treasurer begs to remind all members *who have not already paid*, that subscriptions (5s.) became due on 1st January, 1950.

ARTHUR A. PRESTWICH,
Hon. Secretary and Treasurer.

* * *

PERSONALIA

Roland Green held an exhibition of water-colours at the Ackermann Galleries during December, 1949.

After more than six years, His Excellency the Duke of Palmella has relinquished his mission as Portuguese Ambassador and has returned home.

Peter Scott exhibited a coloured film illustrating his recent expedition to the Perry River, in the Canadian Arctic, at the Scientific Meeting of the Zoological Society of London, 13th December, 1949.

D. Bowles has been appointed Director of the Scottish National Zoological Park, Edinburgh, in succession to T. H. Gillespie; and D. H. S. Risdon has been appointed to succeed D. Bowles as general manager at the Dudley Zoo.

An end of year visitor was F. E. Fooks, major-domo at Clères. Members intending to visit Clères on 20th May will be pleased to know that all arrangements are well in hand. A New Year visitor was Walter Van den bergh—Director of the Antwerp Zoo.

John Yealland has been sent to Hawaii by the Severn Wildfowl Trust to help the U.S. Conservation authorities who are trying to save the Hawaiian Goose. It is hoped to rear some young ones in captivity and to liberate them in a more suitable place than the particular island where the wild ones are thought to number no more than twenty, and where, of course, they have no chance of survival against the Mongoose. He expects to return to England in June.

Dr. S. Dillon Ripley contributes the chief feature article, "Peerless Nepal—A Naturalist's Paradise," in the January, 1950, number of *The National Geographic Magazine*. This is an account of his recent expedition during which more than 1,200 bird specimens and many small mammals and fishes were collected. From the ornithological point the most important was a specimen of the Spiny Babbler (*Acanthoptila nipalensis*). This species was last obtained by Sir Brian Hodgson in 1843. Dr. Ripley was not successful in his search for the Mountain Quail (*Ophrysia superciliosa*), last collected in 1876, and he considers it probable that the species is extinct.

A. A. P.

REVIEW

RECORDS OF PARROT-LIKE BIRDS BRED IN THE UNITED STATES OF AMERICA. By ARTHUR A. PRESTWICH. (Prestwich : Chelmsford Road, Southgate, London, N. 14. \$2.)

Although the southern United States are ideally situated as regards climate for the keeping and breeding of foreign birds, it is only within the past twenty-five or thirty years that serious aviculture has been in vogue there. It was the Marquess of Tavistock, now Duke of Bedford, who pointed out to a few American friends, who had an inclination in that direction, that they might take up the breeding of some of the rarer of the Australian Parrakeets and so help to prevent their threatened extinction. He actually sent them a number of mated pairs and the marked success that has been achieved must cause him considerable satisfaction.

The Avicultural Society of America came into being prior to 1929, in which year its first volume, *Aviculture*, made its appearance. Since then its pages have contained many records of the successful breeding of various species, including a number of the Parrot tribe. (Personally, I dislike the term "Parrot-like Birds", it is just as correct to call them all "Parrots", which they are.)

In compiling his forthcoming *Records of Parrot-like Birds Bred in Captivity* Mr. Prestwich had to search through all the volumes of the American *Aviculture*, and so impressed was he with the successes recorded therein that he decided to publish a compilation of these in a separate volume. This has now appeared and will be welcomed by all who are interested in this group but do not possess a complete set of *Aviculture*. The compiler has certainly done his work very thoroughly, as is his wont, and his book is as complete a record as can be obtained, though, as he says in the Preface, some records may not have been published and so have escaped notice.

The success in America with certain species has been phenomenal ; for instance, Dr. Patrick wrote of Bourke's Parrakeet in 1938 : " But a decade ago the Bourke's Parrakeet was declared by Australian ornithologists to be so near extinction that little hope was held for its perpetuation. Lord Tavistock first called the attention of American aviculturists to the fact, and very graciously supplied some breeding stock. The result is avicultural history. Among others, such eminent Californian breeders as Arnold, Purvine, Rudkin, Sheffler, Woods, obtained breeding stock and were successful in propagating the species. As a result there are to-day enough Bourke's in California alone to assure the perpetuation of the species. Without applied aviculture this could never have happened."

It is strange that we find no reference to the Many-coloured Parrakeet.

D. S-S.

NOTES

THE NATIONAL EXHIBITION OF CAGE BIRDS.

The National Exhibition of Cage Birds was held at the Royal Horticultural (New) Hall, Westminster, on 1st, 2nd, and 3rd December, 1949. Organized by *Cage Birds*, the proceeds are being divided between the Forces Help Society (Lord Roberts' Workshops) and the National Council of Aviculture.

The Foreign Section attracted 172 entries—a remarkable number at any time, but more especially during the continued great shortage. The judge, our own Allen Silver, must have been very pleased to find so many birds awaiting his placing.

Last year our President won the National Award of Merit and the National Silver Trophy for the best foreign bird with his Brown-eared Bulbul. This year he secured supreme honours with his exquisite West African Collared Sunbird (*Anthreptes collaris hypodila*).

The Psittacine classes were slightly down in numbers, but the quality was excellent. First prize winners were R. Best's Peach-faced Lovebirds, H. Mitchell's Stanley Parrakeet, P. A. Birch's Crimson-winged Parrakeets (Best Parrot-like Exhibit), A. Ezra's Green-winged King Parrakeet, last year's winner, and J. Ford's Hyacinthine Macaw. The last-named exhibitor was also second and third with a good pair of Blue and Yellow and a Red and Green Macaw.

The class for Common Waxbills contained twenty-two entries and was won by B. H. Dulanty's Fire Finches, with S. N. Pinfield's Orange-breasted second and J. E. Williams' Bengalese third. Mrs. K. M. Scamell won the class for St. Helena Waxbills, etc., with a pair of Cordon Bleus. Mannikins and Weavers was won by J. Byrne's Chestnut-breasted Mannikins; Whydahs by H. Cole's Paradise Whydah, and Gouldian and Parrot Finches by T. R. W. Crewes' Parrot Finches.

The class for Long-tailed and other Grassfinches was the largest in the section, twenty-six entries. G. Allerton's Painted Finch, possibly the only one in the country, won from A. Ezra's Gay's Finch and T. R. W. Crewes' Parson Finches. Another notable exhibit was B. H. Dulanty's Black-cheeked Waxbill.

Cardinals were unexpectedly numerous; several good Green being beaten by Mrs. E. Clarke's Red-crested.

All species Sunbirds, etc., contained but two entries: A. Ezra's West African Collared and D. J. Hutson's Grey-throated.

Three classes were provided for all other insect and fruit-eating birds, divided according to size. Small was won by D. J. Hutson's really splendid pair of Scarlet Tanagers; medium by B. H. Dulanty's Blue-headed Rock Thrush, followed by his Superb Spree Starlings, and large by G. C. Lynch's well-known Donaldson's Touracou, repeating its last year's success. The class for Mynahs was won by A. Ezra's Rothschild's Grackles.

The remaining class for lutinos, hybrids, etc., was won by a pair of Turquoise × Elegant Grass Parrakeets, bred by E. N. T. Vane, and exhibited by T. R. W. Crewes. It was interesting to compare these birds with J. E. Williams' Blue-winged × Turquoise.

Finally, mention must be made of the fact that the Editor made her début as a judge. It is at any time rather a thankless task judging the talking, singing, and whistling bird class, but especially when there are fifteen entries. After much patience and perseverance the prize was finally awarded to Mrs. D. K. Draper's Hill Mynahs.

A. A. P.

ADDITIONS TO THE LONDON ZOO.

October, 1949.—The registered additions for the month numbered ninety-seven.

The most important arrivals from the visitor's point of view were three Great Birds of Paradise (*Paradisaea apoda*) and one King Bird of Paradise (*Cicinnurus regius*), part of the collection brought by W. J. C. Frost from New Guinea. Other birds purchased from this collection were one Malay Shama (*Kittacincla macroura*), two Yellow-crowned Bulbuls (*Trachycomus ocreocephalus*), two White-fronted Bronze-winged Pigeons (*Henicophaps albifrons*), two White-naped Pheasant-Pigeons (*Otidiphaps nobilis aruensis*), three Crowned Pigeons (*Goura cristata*), six Chinese Painted Quail (*Excalfactoria chinensis*), and one Two-wattled Cassowary (*Casuarus bicarunculatus*).

Peter Scott presented a number of Ducks—one American Green-winged Teal (*Anas carolinensis*), two American Black Ducks (*Anas rubripes*), two Louisiana Mottled Ducks* (*Anas fulvigula maculosa*), and two Australian Grey Ducks (*Anas superciliosa*).

Eight Curlews (*Numenius arquata*) were presented by the Rotterdam Zoo; two Sclater's Curassows (*Crax fasciolata*) by the Royal Zoological Society of Antwerp; and two Golden Eagles (*Aquila chrysaetos*) and two Imperial Eagles (*Aquila heliaca*) by the Zagreb Zoo.

John Bowden presented one Pied Crow (*Corvus albus*), one African Barn Owl (*Tyto alba affinis*), and one Abyssinian Spotted Eagle-Owl (*Bubo africanus cinerascens*), and W. H. Chippendale two Brazilian Kestrels (Sp. inc.).

Dr. Ludwig Koch presented a Puffin found by the police in London Road, Stanwell, Middlesex!

Amongst other birds received were two Gadwells, one Wigeon, one American Wigeon, two Pintails, three Bahama Ducks, four Indian Wood Ibis, four Golden Plovers, one Mikado and two Lady Amherst's Pheasants, two Brazilian Hangnests, three Superb Tanagers, and two Superb Manakins (*Chiroxiphia pareola*).

The following were "Hatched in the Menagerie": five Bob Whites, four Indian Chukors, one hybrid Swinhoe's × Reeves's Pheasant, and one King Penguin. The last-named was the first ever hatched in the Gardens, and the prospect of its being reared looked good; unfortunately, however, it was crushed, possibly by its parents, when about four days old.

November, 1949.—The majority of the birds taken on the strength during the month were bred in the Menagerie: ninety-four Budgerigars, one Long-tailed Grass Finch, two Greenfinches, four Diamond Ground Doves, three Crested Pigeons, four Gambel's Quails, and one Black-footed Penguin.

Very important from the avicultural point was the arrival of eleven Masked Lovebirds, blue variety, mainly due to the good offices of F. H. Rudkin, jun. Here, indeed, is a fine opportunity to establish this variety in England.

A Dumont's Grackle (*Mino dumonti*), two Banded-tailed Pigeons (*Columba fasciata*), and a Peacock Pheasant (*Polyplectron bicalcaratum*) were received in exchange.

Whipsnade.—The new arrivals included one Black-winged Peafowl, one Barnard's Parrakeet, two Rock Pebbler Parrakeets, two Ring-necked Parrakeets, lutino, and two American White Pelicans.

A. A. P.

NEWS FROM ITALY.

George de Southoff writes from Florence:

"It may interest you to know that Italy, only a few years ago a poor market for foreign birds, is now actually flooded with them. Senegal small seed-eaters are largely imported from France. The price is 700-1,000 lire per pair (£1 = about 1,800 lire); Whydahs are a little dearer. An enterprising Turin dealer, Molinar, has imported great quantities of Indian birds and species that are on sale there, I understand chiefly for export abroad. But many have been put on the Italian market through retail dealers who scarcely ever know what they sell, and often under many names: Shamahs, Fruit-suckers, Garrulaxes, Blue Pies, Barbets, several Mynahs, Bulbuls, Pekin Robins (*Liothrix*), several Cranes, Adjutant Storks, Indian Porphyrios, Flamingos, several Palæornis, Cockatoos, Red-faced Lovebirds, Abyssinian Lovebirds (*A. taranta*), Red-crested Grey Cardinals, Bar-headed Geese—and last but not least—Australian Broadtails, Eclectus, Hanging-Parrots, and many Lories and Lorikeets. Prices are out of proportion; Mynas 4,000 lire, Lories from 45,000 to 60,000 lire, per pair. A small shop here in Florence had: Pied, Bank, and Jungle Mynahs, Rosellas, Pennants, Chattering Lories, Ornate, Forsten's and Violet-necked Lorikeets (*E. viciniata*), all in splendid condition. I did not buy as I cannot afford the prices, not having the benefit of the exchange. I have never before seen such a collection of birds for sale in Italy, and I have lived here all my life. Lately Fischer's Lovebirds, I believe aviary-bred, have arrived from France. There are no longer any cage-makers, and one has to be content with second-hand cages, a great drawback. Wire netting is available, also wood, iron, etc., but labour costs far too much."

* Species new to the Collection.

MISTAKEN IDENTITY OF PLATE OF COMMON KING PARRAKEET.

The suggestion put forward by Mr. Yealland that the plate of a Common King in Greene's work had been made from a skin of one of the "Island" Kings, raises an even more interesting query in my mind.

An error may have occurred over an Amboina King, but having compared the plate with a Salwatty King (*Alisterus dorsalis*) living in my aviaries to-day, I am convinced it does not represent this bird whose red is much darker. Greene's plate of the Red Shining Parrakeet (*Pyrrhulopsis splendens*), for which my bird is frequently mistaken, is much more like the Salwatty, the only differences I can detect are that the Salwatty has an orange pink upper mandible the lower half of which is black and lower mandible all black, compared with the all-black bill recorded in the Red Shining, and its size generally is rather smaller than the Fijian bird.

The point which most interests me, however, is that in the Molucca Islands (Sula, Amboina, Salwatty, etc.) a species of Parrakeet (*Alisterus*) is found which closely resembles another species in the 3,000 miles distant Fiji Islands (Kandavu, Koro Island, Tabuan) (*Pyrrhulopsis*). In both cases the birds are externally at any rate very similar, and moreover the sexes in both groups are alike. Yet those of one group are classified with Common and Green-winged Kings (*Alisterus*) in which the sexes are quite different. I am aware that the habits voice, etc., of the Common Kings and the Shining Parrakeets are different. But this appears to indicate that some clarification is required from scientists—a golden opportunity to arrange these birds into three groups with the application of trinomial taxonomy.

Avicultural experience on this point is very interesting. The only successful record of breeding *Pyrrhulopsis* in captivity is a Red Shining × Tabuan, in New Zealand (AVICULTURAL MAGAZINE, 1944, 22). The only successful "Moluccan" breeding is the Salwatty King in the Duke of Bedford's (then Marquis of Tavistock) aviaries, at Barrington House, in 1940 (*Foreign Birds*, 1940, 111).

Common Kings have frequently been bred—Greenwings only recently by our President and also this year at the Zoo. Hybrids between these two (Greenwings × Common) have been reared in my aviaries this year.

Attempts to breed hybrid Common King × Salwatty were abortive. The hen Salwatty appeared to resent being mistaken for a cock by the Common King and she "accounted" for two such mates, who not unnaturally being accustomed to sober clad consorts made this error. The nearest approach to success was with a cock Pennant, in which case the hen went to nest but only produced infertile eggs.

The Marquis of Tavistock records (see AVICULTURAL MAGAZINE, 1927, 259) that only infertile eggs were obtained from a Red Shining-Sula Island mating, and although a successful breeding is recorded of Crimson-wing × Sula Island King (*Aprosmitus*) (see AVICULTURAL MAGAZINE, 1927, 259), the difficulty experienced in trying to produce hybrids between birds of the *Alisterus* group in which the sexes differ and those in which sexes are alike, or with *Pyrrhulopsis* birds is some indication that the relationship is not so close as generally accepted at present.

E. N. T. VANE.

ATTRACTION OF JACARANDA TREE FOR SUNBIRDS.

Just outside the Homestead building here (Melsetter, Southern Rhodesia) is one very large *Jacaranda mimosifolia*, covered with its lavender flowers at this season of the year (November) which, when they fall, carpet the ground with beauty for many yards. Were this tree as difficult to grow as *Amherstia nobilis*, which is described as "the Queen of Flowering Trees", it might well be claimed as the most beautiful in the world. This particular specimen is surrounded by Eucalyptus growing to a height of over 150 feet, and it must be invisible except from overhead. When it comes into flower it is invaded by literally hundreds of Sunbirds. The Malachite (*Nectarinia famosa*) is much the most common but the Lesser Double-collared (*Cinnyris chalybeus*) is also present in numbers. Normally, two or three pairs is all one sees about the garden; there is no other garden within a distance of several miles and only one within this circle of hills, and it is honoured by only a few pairs. Where do the scores come from? How do they know about this particular Jacaranda tree?

J. H. BLACKWOOD MURPHY.

DIMORPHIC DOWN PATTERNS.

The down pattern of the young of any waterfowl species is generally very well standardized. I think therefore it is worth recording the dimorphism of two species. Last spring we bred seven Ross's Snow Geese, three from one goose and four from another. In each case the goslings hatched were of two strikingly different colours. The majority were silver shading into grey on the back, the pattern being similar to a greyleg or domestic dark gosling, the latter are of course yellow and olive but the distribution of the two colours is similar. The other down pattern is a clear yellow without any down shadings. The Ross gosling of this colour being of a similar shade to a white domestic gosling.

There is as far as I can see no difference whatsoever between the juvenile plumage of these two forms.

When I met Peter Scott after his return from the Perry river we were both rather surprised that the other was already aware of the surprising difference in the colour schemes of baby Ross ! But it is curious that it apparently had not occurred among the good number of Ross that had been bred in Europe in the past. Monsieur Delacour has probably bred the greatest number and as he had not heard of it I think it is fairly safe to say that the variation cannot have occurred at Clères.

The other species in which dimorphism occurs here is in the young Puna Teal. In this case the difference is evenly in the depth of colour, the ground colour and pattern is the same in each case but the density of colouring on the dark ducklings is about twice that of the paler and commoner birds.

TERRY JONES.

BATELEUR EAGLES IN CAPTIVITY.

I have kept several Bateleur Eagles. The first was full grown and lived in a wire-netted enclosure. I awoke one morning to see a vague shadowy form on my pillow, and as the light strengthened I realized that Kisau must have escaped. His talons were within a few inches of my eyes. Eventually I summoned up sufficient courage to put forth a tentative hand and, much to my relief, Kisau put down his head and rubbed the back of it on my face ! Thereafter he remained at large but insisted on sleeping on the ground and was killed one night by a jackal. Another was fed on bats which were caught as they came from out the corrugated iron of my bungalow roof in a wire trap. He was very popular with some lady visitors till they came and reported that when he had been fed they heard the bats going on squeaking inside him, which didn't seem to them to be gentlemanly behaviour. This Eagle habitually sailed along some 2 to 3 feet off the ground and came regularly to my office when it was nearing lunch time when he was fed, and pulled the leg of my trousers till I got up and went back to give him his food.

J. H. BLACKWOOD MURPHY.

CORRESPONDENCE

BIRD SHOWS

I have often seen the opinion expressed—though never, I think, in our Magazine—that exhibitions such as the annual "Crystal Palace" bird-show fulfil, among other functions, that of popularizing bird-keeping with the lay public. In fact, the exact reverse is the case, as anyone who has taken the trouble to listen to the comments of the layman at the shows in question or the comments in the press will be aware. How indeed could it be otherwise ? The average person is profoundly ignorant of all aspects of bird-life, but though he will view with anything from indifference to amusement any cruelties inflicted on such animals as pigs, rabbits, or Magpies, he feels a tender sentiment for small birds, and having perhaps seen Goldfinches or Chaffinches at liberty, he is not unnaturally revolted when he sees them penned up singly in tiny cages. The fact that in most cases (though not all ; I have seen a sick Chough at a show) the exhibits are in good condition, and that they would not be so were they not normally kept in far more spacious quarters is, of course, not understood by him, and so the anti-bird-keeping fraternity receives another convert.

Though as a keen aviculturist I appreciate the skill and patience that has been needed to maintain some of the birds shown in their good condition, yet even I cannot help feeling that they would all have been far happier had they been left in their accustomed aviaries, and would have been left there had their owners cared more for their birds than for their own aggrandisement. At every show there are a few birds that panic at the crowds and strange surroundings, and spend most of the time madly trying to escape. Such birds are doubtless quite tame and happy in their usual home (where their owners would have kept them if they had any real feeling for them), but at a bird show they are a misery to themselves, a disgrace to their owner, and above all a most potent weapon for those who would abolish all aviculture.

Apart from satisfying human vanity, of what use is the bird-show from an aviculturist's point of view? So far as wild species are concerned, his aim should surely be, apart from the æsthetic and emotional pleasure he derives from his pets, to study them under more intimate conditions than are possible in the field, and to try to reproduce them in captivity without losing the natural grace and beauty that Evolution, or the Creator, or what you will, has bestowed upon them, and not to try to "improve" them in accordance with some fancier's idea of what they ought to look like.

We see from our domestic birds (I am talking here only of those not bred for utilitarian purposes, which of course is a rather different matter), the results of following such false ideals of excellence. Who can visit a Pigeon show and view the gross monstrosities there displayed without feeling shame that man has contrived such hideous creatures from such a beautiful species as the Rock Dove? True, some fancy Pigeons, such as the Archangel, are things of some grace and beauty, and the Canary and Budgerigar have not yet produced anything really frightful, but I feel very strongly that aviculturists should breed their birds true to the wild type (invariably more beautiful than anything man can derive from it), and not succumb to the silly idea that an extra large bird is better than a normal sized one, which is usually the first step on the path away from natural beauty.

Aviculturists have contributed a very great deal to the study of birds. I think I am right in saying that many, if not most, of those who have contributed to our knowledge of bird-behaviour have either been confirmed aviculturists or have become so for the duration of their studies. Nevertheless, a very large body of people consider us all as ignorant sadists with no love of or knowledge of birds. A friend of mine who belongs to a society much larger and more influential than our own has been informed by one of its leaders that they "would like to stamp out all bird-keeping". There is much that aviculturists can do to combat such an attitude. They can invite non-aviculturists who are interested in birds to see birds kept under proper conditions where they can draw their own conclusions as to the cruelty involved. They can stress where possible the work that has been done for ornithology by aviculturists. They can agitate that the birds in aviaries in public parks be either properly looked after or not kept at all. And lastly, they can above all refrain from supporting bird shows, which exhibit aviculture to the general public in the worst possible light.

DEREK GOODWIN.

"TOFT,"
MONK'S ROAD,
VIRGINIA WATER.

* * *

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* * *

CANDIDATES FOR ELECTION

- A. W. ANDERSON, "Cranett," Stanley Place, Dunbar, East Lothian. Proposed by A. A. Prestwich.
- MRS. C. M. BAKER, 52 Strathbrook Road, Streatham, S.W. 16. Proposed by E. N. T. Vane.
- R. W. BERTINER, 160 East Park Road, Leicester. Proposed by A. A. Prestwich.
- ALBERT BIRTLES, 169 Royds Street, Rochdale, Lancs. Proposed by A. A. Prestwich.
- B. BRADDICK, 9 Mayfield, Moss Road, Askern, Doncaster. Proposed by A. A. Prestwich.
- K. G. CARTWRIGHT, "The Gables," 10 Brick-Kiln Street, Quarry Bank, Nr. Brierley Hill, S. Staffs. Proposed by A. A. Prestwich.
- T. L. CLAYTON, 75 Park Road, Hampton Hill, Middx. Proposed by A. A. Prestwich.
- D. M. COWARD, 34 Devonshire Buildings, Wellsway, Bath. Proposed by A. A. Prestwich.
- Dr. J. N. E. DAY, M.Sc., Ph.D., 18 Home Wood Road, St. Albans, Herts. Proposed by Dr. Tom Hare.
- J. FELL, 34 St. Faith's Street, Lincoln. Proposed by A. A. Prestwich.
- A. FISHER, 25 Drapers Field, Coventry. Proposed by A. A. Prestwich.
- R. FROST, The Gravels, Station Road, Brimington, Chesterfield. Proposed by A. A. Prestwich.
- J. A. GADD, 75 Holly Road, Aldershot, Hants. Proposed by E. N. T. Vane.
- W. O. GILBERT, F.Z.S., 31 Douglas Road, Luton, Beds. Proposed by Miss M. H. Knobel-Harman.
- MRS. W. O. GILBERT, 31 Douglas Road, Luton, Beds. Proposed by Miss M. H. Knobel-Harman.
- J. H. GODWIN, 21 Vincent Road, Osterley, Isleworth, Middx. Proposed by A. A. Prestwich.
- W. GRAY, 10 North Avenue, Rainworth, Notts. Proposed by A. A. Prestwich.
- A. C. HEARD, The Cedars, Baschurch, Shrewsbury. Proposed by A. A. Prestwich.
- E. HOLT, Mansdale, Redbourn, Herts. Proposed by Dr. Tom Hare.
- MRS. A. HOUGARDY, 615 Baywood Avenue, San Jose, Calif., U.S.A. Proposed by A. A. Prestwich.
- N. D. HUGHES, 1 High Street, Hampton Hill, Middx. Proposed by A. A. Prestwich.
- F. HUMPHRYS, Dorothy Café, Commercial Street, Maesteg, Glam. Proposed by A. A. Prestwich.
- TOM JONES, F.R.H.S., Wellfield Nurseries, Gorslas, Nr. Llanelly. Proposed by A. A. Prestwich.
- Major V. DILWYN JONES, "Sherwood," Grosvenor Road, Llandrindod Wells, Radnor. Proposed by P. A. Birch.
- T. J. KNIGHT, Goonamarth, Nr. St. Austell, Cornwall. Proposed by A. A. Prestwich.
- R. LAZELL, 82 Northfield Road, Ponders End, Middx. Proposed by E. N. T. Vane.
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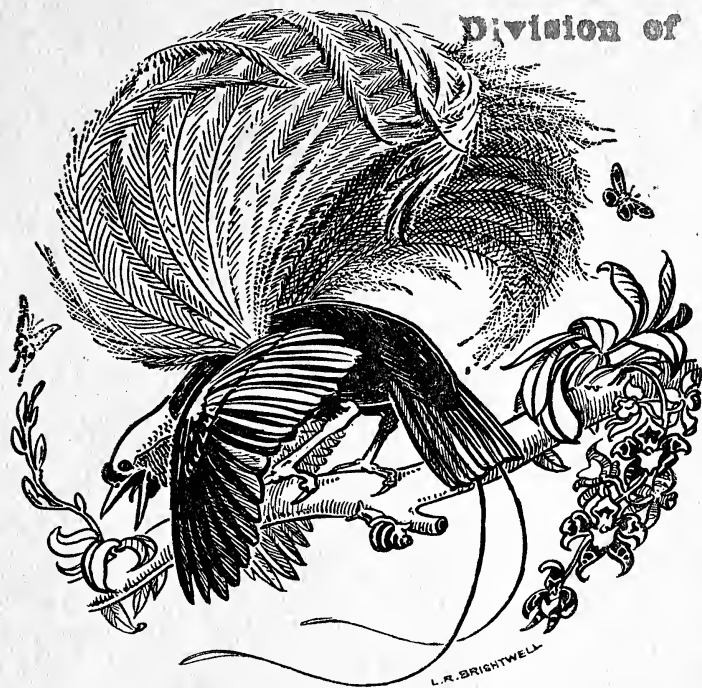
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Birds

AVICULTURAL MAGAZINE

R-9

Division of Birds



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THE AVICULTURAL SOCIETY

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- RULE 1.** A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. W. Lawrence, The Zoological Society of London, Regent's Park, London, N.W. 8.
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MAR 19 1930



PLAINTIVE BARBET (*Capito aurivirens*)

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
AVICULTURAL SOCIETY

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MARCH-APRIL, 1950

THE PLAINTIVE BARBET

(*Capito aurovirens* Cuv.)

By C. S. WEBB

The American Barbets have never been well known to aviculturists in this country, which is a pity considering their beauty and tameness.

With the exception of the Toucan-like Barbet—Semnornis—(figured in the AVICULTURAL MAGAZINE in July, 1939) they belong to two closely related genera (*Capito* and *Eubucco*), in which the sexes differ in plumage and in which all are small or medium-sized.

The Plaintive Barbet is one of the dullest of the group, but nevertheless is much more attractive in life than is suggested by the accompanying plate. In the male a broad band of pillar-box red, stretching almost from eye to eye, extends over the head to the nape of the neck. The breast is brilliant orange yellow in both sexes. The female differs from the male in having grey on the head. The one figured (on the left) was drawn from a living specimen received by the London Zoo on 24th January, 1947. This was not only the first of its kind but was the first of any species of American Barbet to be exhibited in the Zoological Society's collection.

It inhabits Upper Amazonia, which comprises north-west Brazil, and Colombia, Ecuador, and Peru east of the Andes. This region is by no means easy of approach whether from the Atlantic or Pacific coasts, which probably accounts for the lack of knowledge of the Plaintive Barbet in its wild state. Practically nothing has been recorded of its habits though there is no reason to suppose that they differ from those of any of the other South American Barbets. It inhabits well-wooded country, or forest, and subsists on insects, fruits, and berries. I am unable to trace the origin of the popular name and the female in our collection was silent.

A second member of the genus *Capito* was recently introduced by the writer. This is the handsome Black-spotted Barbet (*Capito niger*), from British Guiana, which resembles the Plaintive Barbet in size and habits.

AVIAN OLD AGE

By THE DUKE OF BEDFORD

For mammals, including man, the period preceding death from old age is too often rendered miserable by rheumatic afflictions, internal growths, or malnutrition consequent on loss of teeth. With birds, on the contrary, nature seems to deal gently under like circumstances, especially in cases of "genuine" old age, as distinct from the "premature" old age which is induced by too close confinement. Some people imagine that the protection from "wear and tear" experienced by a captive bird, including one kept in very close confinement, lengthens its days. In point of fact, nothing could be further from the truth. If captive birds belonging to a certain species ever, as a rule, live longer than wild ones, it is simply and solely because they are protected from death by violence, or from starvation during periods of exceptionally severe weather. Exercise, which birds in very close confinement lack, is one of the prime factors in retarding old age. I have on more than one occasion added years to the life of a Parrot or Parrakeet absolutely on its last legs from senile decay merely by allowing it complete liberty.

The life of a small pet bird, even such a domestic species as a Canary, can be prolonged greatly by keeping it in a really roomy cage, about 2 ft. 6 in. by 18 inches by 18 inches, and by seeing that the cage is not cluttered up with unnecessary perches and swings and that one of the main perches is a *natural twig*. This last point is very important. Keeping a bird the whole time on thick, hard, artificial perches, all the same size, with no resilience or change of grip for the feet, is like condemning a person to sit always on a hard form without a back and never allowing him the luxury of an armchair. Admittedly, a natural twig is a little less easy to keep firmly in its place and a little less easy to keep clean, but anyone who is not prepared to go to a small amount of trouble in the interests of his pets should not keep birds at all. I know of a Canary \times Green Singing Finch hybrid who all his life has been caged and looked after as above advised, and at fourteen years he is still as sprightly, sings as freely, and has as perfect feet and nails as he had when only two.

As a group, birds are long-lived creatures and among many genera death from real old age is a decidedly unusual phenomenon. Among waterfowl, in the experience of a life-time, I can only recollect one case. The first pair of Magellan Geese we ever had whose age, when imported, was unknown, after many seasons ceased to breed. For a few years more the old Darby and Joan still went about together; then one dropped out and, in due course, the other.

Of all the Parrot-like birds I have kept I can only recollect about

half a dozen which have died of genuine old age, and of these some were obviously senile when I got them.

Only three which were not noticeably senile on arrival have grown old in my aviaries.

One was a cock Rock Peplar, adult when I received him. When he began to show obvious signs of age I gave him his liberty, which rejuvenated him considerably until he was killed by an Owl.

A cock Princess of Wales' Parrakeet, also of unknown age when I bought him, bred for some seasons and then began to show signs of *anno domini*. He lost interest in domestic affairs, took longer over his moult, and spent an increasing amount of time quietly sleeping and resting. His appetite, however, remained good and he never looked actually ill. At the end he went out quickly, quietly, and to all appearances without pain.

At the time of writing a white cock Roseate Cockatoo is going the same way. He and his albino mate reached me about fourteen years ago, their age being then unknown. They were not a very successful breeding pair but they did succeed in rearing two grey young, which I still have. For the last few seasons they have not nested and the cock is now obviously a very old gentleman indeed. His breast has assumed the dark pink characteristic of very old members of his species; his wings, formerly pure white, are now flecked with pink, and he is slow in finishing his moult. It was my intention, after bringing the pair over to Woburn, to train them as liberty birds. The old cock never gave any trouble, keeping close to the aviaries. His mate, however, probably because albino birds often have defective eyesight, behaved in a foolish and erratic fashion. She started off flying very high and then settled not in a tree but on the ground. The following days he was seen sitting on a gate near the outskirts of the park. Next morning she actually returned home, joined her mate, and flew down with him on to the top of the aviary. Any normal bird would have been safe after that, anyhow for a time, but the foolish creature went off again on her own the same afternoon and was captured some days later at a farm nearly twenty miles away! I brought her back considerably the worse for wear, but she has since recovered though she has not given up the bad habit of plucking her neck which she started during the war, possibly as a result of bad feeding. The old cock, meanwhile, takes life very quietly, sleeping a great deal but now and again whittling his perch or the block of wood hung up in the flight, thus showing that he is not unwell. His aviary door is always open but he seems to have decided that there is no place like home, and goes out less and less frequently and then only to pay a friendly call on his two sons and their wives who occupy aviaries further down the row. How long he will go on it is difficult to say, but it is evident that he is content and that his declining days are

peaceful. He does not even seem to feel the cold for he often sits sleeping in the chilly and drenching rain when there is shelter within easy reach.

I have referred just now to the thick block of wood which I fasten up in all my Cockatoo aviaries to provide the birds with occupation. It is interesting to note how even in the matter of the attention they pay to it, individual birds of the same species vary.

The old cock does a little mild nibbling of his block ; his younger mate, who would be far better occupied on the block than on her own person, never touches hers. One son and his mate do a moderate amount of nibbling. The other pair will soon have demolished their block entirely.

* * *

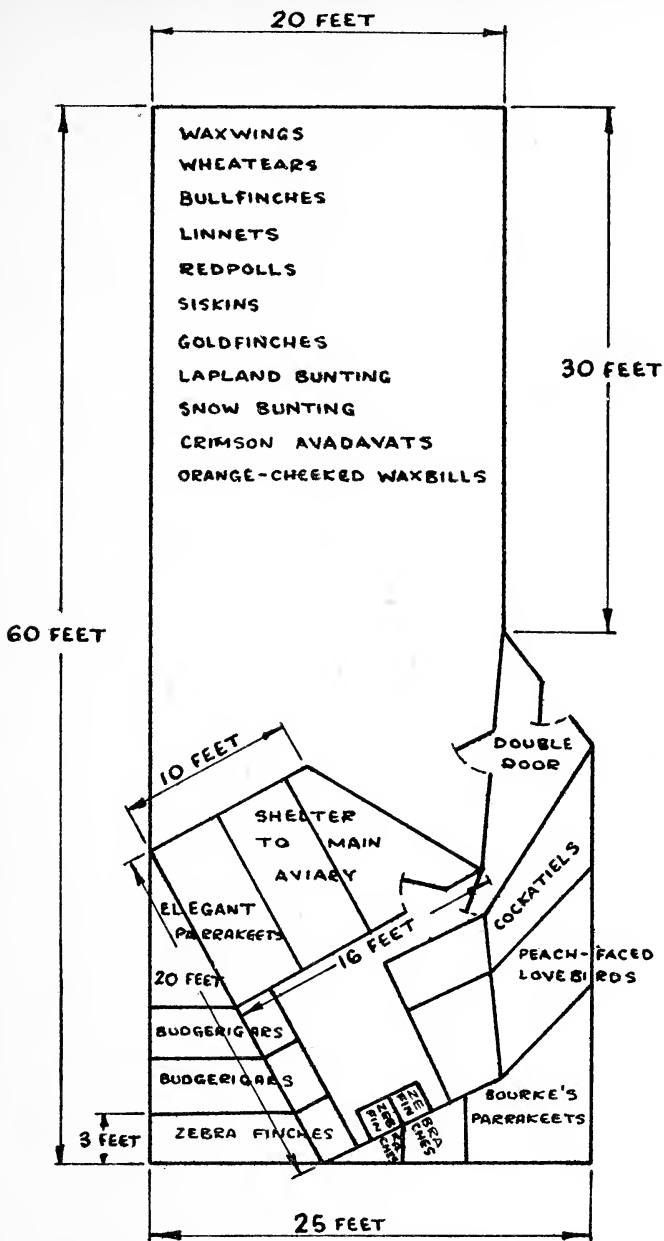
NOTES ON A VERY ORDINARY COLLECTION OF BIRDS, MAINLY BRITISH

By H. MURRAY

As a boy I kept birds in a succession of aviaries and cages for a number of years, but circumstances forced me to stop that for a considerable time. It was not until a year before the war that I started again and built an aviary of roughly 250 square feet which I proceeded to overstock with a collection that one would find it impossible to buy to-day. In due course the war came, my birds went, and I spent the next six years dreaming of the perfect aviary that I would build when I was demobilized.

There was really quite a lot to be said for this sort of aviculture. Consideration of cost, space, etc., did not exist, and one's whole view was conditioned by the birds that one could obtain before the war, but at last came September, 1945, "demob," and a return to a civil life whose dissimilarity to my pre-war existence I only vaguely realized. My garden of some half an acre had been uncared for for five years, and it was obviously necessary to do something about that before birds could be seriously considered. Also, there were poles to cut and materials to be collected by devious means. Army experience is not without its use at such times. Then came the great pruning of ideas as the financial aspect of the matter began to make its presence felt. However, by September, 1946, the large flight and shelter were completed and the remaining portions have been finished as the materials became available.

The sketch plan shows the outline of the aviaries, and the way in which they were stocked at the beginning of this season (1949). The shape of the shelter and its position allows for a number of flights of different sizes, always a useful consideration with a mixed collection. The external dimensions are governed by the size of the ground



SCALE:— 10 FEET : 1 INCH.

available. There are several drawbacks to this layout, the principal one being that no entry is possible into the shelter after dark without disturbing the birds in the outside aviaries, so there is no lighting.

Also, many people will be of the opinion that the large aviary would be much better if divided into separate breeding compartments, but this, although undoubtedly desirable from a purely breeding point of view, would make a lot of extra work for which no time is available, and would also do away with the great pleasure that one can obtain through watching a mixed collection of birds in a large aviary. No comparable interest can be enjoyed by observing birds in small aviaries or even more so in cages. The critic will reply that the birds cannot really be seen as they are apt to get wild and hide themselves in a large flight, but to my way of thinking it is a great asset to a bird to spend at least a part of the year in a large space where it is able to enjoy unrestricted flight and has the opportunity of foraging for at least part of its food.

The shelter is built of wood and is constructed so that apart from the side facing the main aviary where all the glass can be removed in the summer, there are alternate panels along the sides of wood and glass. This ensures that the cages are light, and also in the winter when the sun is low, enables the inmate of each cage and shelter to have an hour or so of direct sun on those days when the sun shines. The wooden panels allow the bird to get out of the sun if it so desires, and keep the place warmer. The glass should be vitreous glass, but even without being so, the birds always take the opportunity of sitting in what sun there is in the winter. In the summer, when the sun is high, little direct sunshine comes into the cages except in the late evening, but as every bird has access to an outside flight this is unimportant.

The floor of the shelter is unboarded and covered with sand. The floors of the actual shelters to the aviaries are netted and covered with peat. Nothing solid is allowed to stand on any floor to provide cover for mice. Mice do come in from time to time, but they cannot live there.

All the cages shown in the accompanying plan have access to outside flights and are 3 feet long, 3 feet high, and 2 feet deep. All birds are fed inside the shelter, a matter for congratulation on wet mornings, and the water does not freeze so easily in the winter. Slight heat is also provided. A solid division cuts the shelter into two parts, thus enabling birds in the main aviary and the Parakeet aviaries to have the use of their flights in the winter without letting a cold draught come through on to the cages.

The foregoing description gives a rough idea of the shelter. The flights are plain pole and wire constructions about 7 feet high with flat roofs. The vegetation has had a rather thin time of it so far as Bullfinches, Budgerigars, etc., do not go well with much green growth,

but a considerable quantity of oats, wheat, canary seed, etc., grow and provide green seeds in their season. The giant hogweed has also proved itself an excellent plant for an aviary as it always seems to have a certain amount of greenfly which the birds relish, and the broad flat flowers prove very attractive to the birds. I am not sure if the flowers themselves are picked and eaten, or if it is the insect life attracted by the flowers that the birds take, but Redpolls, Siskins, Waxbills, and even Waxwings spend a long time picking about on the heads. I think that it is the flowers that are eaten. Large quantities of green food are given every day when available.

Nesting and roosting places of gorse, etc., are provided, but the two types of nestboxes that have proved most popular are, firstly, cylinders of wire netting about 9 inches long bound about with leafy twigs and hung from the roof, and secondly, a half-open box with the back, top, and bottom solid and with thin branches nailed to form the sides. I believe that birds prefer these to boxes with solid walls, as the box gives them a feeling of security and they can still see out of the sides. Another useful form of nesting site is provided by hanging a short crooked branch under one of the roof timbers and lashing twigs, etc., to the sides to give some cover and to hold the nest securely. Birds which normally nest on branches seem to like these, and they are quite safe from mice. It may be mentioned before leaving the subject of nesting boxes, that I have never known one of these used by a Finch unless it was facing south or west. I do not believe that this is coincidence, but is a deliberate preference.

Birds in their habits are infinitely variable and it has always seemed to me that too much dogmatism is displayed by people writing about them. We have all suffered during these last ten years from the prevalent idea of being "typed" and forced to conform to the theories of the powers that be. In the main, the theory may be correct but the dragooning is not always satisfactory. This, I believe, applies as much to birds as humans.

With the clear understanding that the following remarks apply solely to my own birds, and are not intended as general statement on the species mentioned, I will venture to give the results of breeding, or non-breeding, of the species that I have kept this year, and any other odd facts that have been observed and warrant inclusion.

In my opinion, the finest bird for a large outdoor aviary is the Waxwing. Hardy, tame, friendly, and easy to feed, it is always the bird most admired by visitors, and one cannot help feeling that the reason why it is not more widely kept is due to the fact that it is frequently wrongly fed, and I feel sure that this is the cause of many being lost. The Waxwing is usually classed as a softbill and fed accordingly, but in actual fact it can be kept in perfect health and great liveliness without even seeing an insect.

Its natural diet consists of berries, and in the northern woods where it lives these grow with a richness and abundance seldom seen in England. My birds have been with me for two and a half years and have thrived on a diet of rowan berries for as long as these can be kept, usually until March, and for the rest of the year on dates cut up into small pieces. Soft food is provided every day but is seldom touched. Should the supply of dates or rowan berries fail, and the birds be forced to soft food, their condition falls away at once. In pre-war years Waxwings were fed on currants, but these are unobtainable now. Occasionally maggots are eaten, and I have seen them take black fly, but they make no effort to hunt for live food. The shells of groats are eaten and the seeds of chickweed are also pecked off and eaten whole. The heads of milk thistle are eaten also ripe or over-ripe apple.

This bird has a reputation for sitting about a lot, and will certainly doze during the heat of the day, but the mornings and evenings find them active enough, and their strong swift flight is beautiful to watch. Due to their habit of living in dense woods they have a tremendous power of flight control, and can turn in their own length while in full flight.

When frightened by Hawks these birds "freeze", usually against a branch. The head is pointed half upward and the birds stay motionless and can even be picked up. In a pine tree the bird must resemble a cone very closely and relies on this for its safety. Given plenty of space a Waxwing is a fine bird for a cold aviary. I have two of these birds which I think are a pair. They are always together and feed and display to one another but so far have made no attempt to nest. I have never heard any sound from them except a long drawn out tsee. Waxwings are safe with the smallest of other birds.

Wheatears, of which I have a pair, are neat and tidy birds, and apart from a habit the cock bird has of chasing the hen about, they seem harmless enough to other birds. Towards the end of the summer I saw the cock catch insects and feed the hen, and the hen carried moss about, but they made no real attempt to breed. I erected stone crannies into which they frequently went, but no serious attempt at raising a family was made. During the winter they were fed on maggots and soft food, but in the summer they seemed to find most of their own supplies themselves. The "bobbing" and tail flirting of a Wheatear makes them conspicuous in an aviary.

Snow Buntings and Lapland Buntings are attractive birds, and both have a considerable plumage change in the spring and again in the autumn. The spring change is made without a moult, but in the autumn the moult is very heavy indeed, so heavy that the birds lose most of their flights and can only fly in a clumsy and blundering fashion. Both of these birds live in the stony wastes of the far north,

and both have the long claws of a Lark or Pipit, but apart from the similarities mentioned above, they have little in common.

The Snow Bunting is the more lethargic of the two, but the cock is reasonably active and is very conspicuous in his summer dress of black and white. He seems to flaunt his bright plumage deliberately and goes out of his way to call attention to himself. A favourite habit is to try to balance on a thin twig, an obviously impossible thing to do with his long claws, and flap his wings wildly to keep himself steady. This seems quite deliberate, and I have seen my bird do this on the same twig every morning for some weeks.

Movement on the ground is either by hopping or walking, but the whole method of progression seems to be done with the idea of the bird making himself as obvious as possible, and there is a constant wing flapping and tail flirting. The hen is much more subdued. The cock bird sang for a few weeks only, principally in the evening. The song is loud, piping, and very liquid, much more Blackbird than Bunting. No attempt was made to nest.

During the winter the Lapland Bunting is Sparrow-like in its plumage, but in the spring the cock grows a black head and bib, and chestnut patches on the nape of the neck. This bird is active and a fine singer. He loves to sit on a broad branch out in the open and sing for hours at a stretch. He cannot be said to perch as his feet cannot grip anything small, but he squats low down and rests his body on the bough. During the spring my bird sang a pure Goldfinch song which I think he must have copied from birds in the aviary, but later on he sang what I should imagine was his true song, four or five notes uttered in a clear and bell-like tone.

A lot of time is spent on the ground, and when in the open the bird seems to press his body as close to the ground as possible and usually walks. Every sense seems to concentrate on making the bird inconspicuous. When one considers the difference in habits between the two Buntings, one wonders how the Snow Bunting survives the many risks run by conspicuous birds from Hawks and other enemies. Admittedly, I have never seen a Snow Bunting in its natural haunts, but although I agree that the black and white pattern of the summer plumage may tone in with odd patches of snow when the bird is still, this certainly does not apply when the bird is on the move. The flight of both Buntings in an aviary is clumsy, fluttering, and slow.

After two years of unsuccessful effort I managed to rear Bullfinches this year (1949). Last year all save one died, but this season I have reared nine young from one pair in four nests. It seems that live food is essential, and the parent birds have eaten a prodigious quantity of maggots and black fly. In addition much green food is consumed and sprouting seeds are eagerly taken. Young Bullfinches are most attractive little creatures, but seem loth to commence to feed on their

own. It is seldom that they make any effort to feed themselves until they are nearly four weeks old, and then only feed in a most desultory fashion. Berry fruits and sunflower seeds are greatly appreciated, and it is a great pity that these birds are so destructive to vegetation as their appearance adds colour to an aviary.

Last year the Goldfinches reared young, but this season they did nothing except build nests all the summer, laying an odd egg now and then which they did not incubate.

A pair of Linnets had three nests and reared two from the first nest and three from the second. The third nest was taken by mice. In each case the nest was built in the same patch of gorse. When feeding young the parents ate large quantities of green food, but touched no insects as far as I could see. Linnets seem to be the easiest of the British Finches to rear.

Lesser Redpolls are active birds in an aviary, and although in previous years I have had young birds live to the age of ten days, I have never succeeded in rearing them before. This year my pair reared four young. The nestlings are fed almost exclusively on live food, and this summer there was no shortage of black fly. The parent birds would clear a large heavily infested plant in an hour or so. The young birds are very forward and fly at twelve days old. It is not many days before they start to pick up food for themselves, but even so, the parents feed the youngsters for a considerable time after they have flown. In the wild state Redpolls usually nest fairly high up, but my pair nested in a bush barely 3 feet above the ground.

Siskins are too well known to need any description, but so far I have never been lucky enough to breed any of these pretty little Finches. This year my birds followed the same pattern as the previous one, and spent the summer thinking about nesting but never really getting down to work. It is probable that better results would be obtained if there were several pairs in the one enclosure.

The foregoing notes complete the tale of the resident birds in the large aviary. During the summer I acquired a few Orange-checked Waxbills, Avadavat Waxbills, Ruficauda Finches, and a pair of Diamond Doves. Next year I hope to try to breed some of the foreign species, for these small birds are most attractive. They are always so active and interested in all that passes. It will be a good day when they can be imported again and sold at a reasonable price.

Cockatiel reared eight young in two nests, a three and a five, but these birds are so widely bred that there is no point in doing more than just recording the fact.

The Peach-faced Lovebirds made no attempt to nest, although they were in very lovely condition all the summer. I do not think that they are a true pair.

Bourke's Parrakeets provided me with my biggest disappointment

this year. When given their nest box one bird immediately took this over and commenced laying. After a short time the other bird started to go into the box. I had my suspicions, but left the birds alone. When both birds spent all day in the box and only came off for food and then dashed straight back again, my suspicions were confirmed. Both my birds were hens and had laid ten eggs between them. I exchanged one bird for a cock, but no further nesting was attempted.

Zebra Finches did moderately well and reared four young, but the Budgerigars spent the summer churning out young with commendable efficiency and regularity.

The Elegant Parrakeets made no attempt to nest, and spent most of the summer moulting.

They were late 1948 birds so nothing much could be expected. At the end of July they were turned out into the large aviary, and I must say that they appear closer to their name there than they ever did in their small aviary. Their flight is attractive and their colours show off to much better advantage when they are given the opportunity of flying properly. The general idea that Grass Parrakeets are harmless to vegetation seems to be one of the inherited fallacies with which aviculture abounds. In a month these birds had completely stripped a large hawthorn bush.

This, then, brings me to the end of my notes on a very ordinary collection. Perhaps in time I shall manage to acquire some birds that are somewhat more exotic, but the keeping and breeding of the few species with which I have been successful has been intensely interesting, and the experience gained may perhaps prove valuable in time to come when those aviculturists who missed the halcyon days before the war may have the opportunity of obtaining some of the more attractive birds which have so far been little more than names to them.

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AMERICAN AVICULTURE—1949

By J. DELACOUR

Since my return from Europe at the end of August, 1949, I have had the pleasure of visiting many of my aviculturist friends in different parts of the United States. They were all eager to hear my news of European aviculture, and I believe the reverse to be true, so that I venture to give here a short account of what I have seen during the past few months. The collection of live birds broadly belong to three different categories—public zoos' bird-houses and pens, private amateurs' aviaries, and game birds, waterfowl, or other bird farms.

I. EASTERN COLLECTIONS

In the vicinity of New York one of my first week-end visits was to Mrs. M. Erlanger's country place, at Elberon, New Jersey. There is certainly the choicest private collection of small birds in eastern North America, housed and cared for with all possible refinements. It includes both softbills and seedeaters, grouped in a dozen or more very comfortable flights with large indoor compartments. In a long garden aviary along the house, during the summer are kept such insectivorous species as the Red-bellied Niltava, White-capped Redstart, Indian Crested Tit, Fork-tailed Flycatcher ; also frugivorous birds, such as Quetzals and various Tanagers. Two odd Crested Bulbuls, a Red-eared and Yellow, happening to constitute a pair, nested and hatched two young hybrids which were unfortunately destroyed by other birds. There are also Red Pileated Finches, European Goldfinches, much appreciated here and breeding, and a few others. In other aviaries, two pairs of Shamas nested but failed to rear their young, as too often happens, as I found out at Clères whenever they were kept in outdoor aviaries, while they reared brood after brood in the greenhouses, which I never could explain.

One of the pearls of the collection is a beautiful pair of Scarlet Cocks of Rock, finger-tamed and quarrelling to a minimum. The male, thanks to a careful diet of tomatoes and other appropriate food, has kept his brilliant deep red colour which in zoos too often turns dull orange. They have already played at nesting, and hopes are high for a brood some time ! There are elsewhere many pairs of Australian, African, and other Finches and Waxbills ; several broods of Gouldians, Diamond Sparrows, Avadavats, Cordon Bleus were reared last summer, and also hybrids between Masked and Long-tailed Grassfinches. The outstanding success of the season, however, was the breeding of two Yellow-winged Sugar-Birds, which had been out of the nest a couple of weeks when I saw them. An excellent Racket-tailed Drongo, a tame European Robin, and Vermilion Flycatcher must also be mentioned.

I often go to the Bronx and Philadelphia zoos. It was a delight to see Mr. Cordier and the wonderful birds he had brought from the Congo: African Peacocks, Black Guinea-Fowl, Hartlaub's Ducks, Finfoot, several Sunbirds, including the beautiful little Royal (*N. regia*), and many others. In 1939 he and I had planned a similar expedition for the benefit of the Clères collection. . . . But Mr. Crandall will tell us more about the birds at the Bronx where, I am glad to say, the aviaries continue to be beautifully kept and filled with wonderful birds, thanks to him and to George Scott, the perfect head keeper.

At Philadelphia, great progress has been made with the birds. The very wise director, Mr. F. Shelly, has entrusted them to a young curator, Mr. J. A. Griswold, who has proved both enthusiastic and efficient. The larger birds are very well represented; the collection of Waders, Waterfowl, and Pheasants are good; many Rheas have been reared last summer. The small birds' house is being completely modernized; it will be reopened next May. No doubt it is going to be one of the most attractive in existence. It will not be easy, however, to beat those at St. Louis, at the Bronx, and also at Brookfield (Chicago), where I had the pleasure to see recently the great improvements just effected to the already very fine bird accommodation. The curator, my old friend Karl Plath, was on his way back from Australia with a wonderful consignment. It was bad luck to miss him by a few days.

There are several very good collections of Pheasants and of waterfowl in New Jersey and in New England, some kept entirely for the pleasure of their owners, others as commercial breeding farms, several a combination of the two.

The largest of the former is that of Mr. J. Livermore, at West Redding, Connecticut. In a number of enclosures, pens, and aviaries my friend keeps hundreds of Swans, Geese, and Ducks as well as Rheas, Cranes, Peafowl, Pheasants, Quails, and Doves. The waterfowl collection is excellent, far the largest in America. All the more current species are represented, often by a dozen or more pairs. Among the rarest are Blue-winged, Ashy-headed, Red-breasted, Emperor, Orinoco, Ross's, and Maned Geese, Coscoroba Swans, Baer's and White-eyed Pochards, Ruddy Ducks, Golden-eyes, Cape, and Marbled Teal, Comb Ducks, Australian and South African Sheldrakes, and Crested Ducks. A number of young have been reared during the last season: three Cereopsis, several Gray Lags and Bar-headed Geese, Black Swans, many Carolina Wood-Ducks, Red-crested Pochards, some Mandarins, Chiloe Wigeons, and Ruddy Sheldrakes. There are White-necked and Stanley's Cranes. Among the Pheasants figure pairs of Edwards, Temminck's, and Satyr Tragopans, Brown and Blue Eared Pheasants. The collection of

Doves is very good, including Plumed Ground, Grayson's, Bronzewing, Galapagos, and many other species. Mr. Livermore also keeps a number of Budgerigars, a tame Piping Bullfinch, and a pair of very amusing Violet Jays, from Brazil.

A little to the north, at Litchfield, Dr. Dillon Ripley has gathered a very choice collection of waterfowl on a delightful little lake fed by a stream, with suitable accommodation for the cold winter months. He keeps Black-necked Swans, Red-breasted, Emperor, Ross's, Cackling, and Bernicle Geese, and also many ducks, including Baer's and White-eyed Pochards, and three rare and lovely Philippine Mallards. I often go to West Redding and to Litchfield, as I enjoy greatly the company of my two excellent friends and their birds.

There are several professional breeders in New England. Mr. L. Renkavinsky, Fairfield, Connecticut, runs a regular farm, but he also rears many Pheasants and waterfowl, including some of the rarer species. He loves his birds and is very successful with them.

At Millbury, Massachusetts, Mr. J. Deeter, another farmer with a great love for, and a long experience with waterfowl, is doing exceedingly well. Last summer I saw there two nice young Ross's Geese, bred from an old pair born at Clères and sent before the war to Mr. C. S. Sibley, who has unfortunately since given up birds. Mr. Deeter also had young White-fronted and Bernicle Geese, Black Swans, and many Ducks, particularly Carolina Wood-Ducks. It is great fun to visit him, as he is so pleased to exchange ideas and data on birds, and his cordial welcome is touching.

Mr. C. Humphrey has made a hobby of farming and since a few years he has built up, mostly for his own satisfaction but on a sound business basis, a great agricultural enterprise at Tilverton, Rhodes Island, the 8-rod Stock Farm. A large game farm is a part of it, under the very able management of Mr. Leon Campbell. I made a most interesting visit to them in September. Mr. and Mrs. Humphreys and Mr. and Mrs. Campbell gave me a delightful reception, and I took great interest in the place. A very large walled-in enclosure contains hundreds of well-built pens for Pheasants and Quails. All the installations, carefully planned, are made of unusually good materials and appear to be extremely suitable. There are uncommonly good breeding coops made of concrete and of steel, and excellent heated winter quarters for tender species. In other words, one of the finest establishments for ornamental game birds that I have ever seen. All the commoner species are there as well as the rare ones, such as Tragopans, Monals, Edwards, and Imperial Pheasants, the various Firebacks, Mikado, Elliots, and Peacock Pheasants, and Spicifer Peafowls. Young birds were numerous and healthy. Further away, large pens for waterfowl, both wild species and domestic varieties, occupy much space, and a new pond was being dug. No

very rare species have yet been acquired, but I was much interested in two pairs of particularly dark and rather small Canada Geese, of unknown origin, smaller and darker than the White-cheeked subspecies (*occidentalis*) from the north-west coast, which might well belong to a still unknown form.

I think that the 8-rod farm has a great future, and I was glad to congratulate both Mr. Humphreys and Mr. Campbell for such an achievement in a comparatively short time.

At the end of October I went, as I usually do, to the garden party given by Mr. and Mrs. H. L. Lehman, at their Dew Drop Pheasantry, Mayerstown, Pennsylvania.

It has become quite a tradition for all Pheasant amateurs and breeders to meet there every autumn, and a large crowd always turns up at the reception. Mr. Lehman is a very keen amateur, and his collection of Pheasants, probably the most complete in the east, includes such unusual birds as the three species of Crested Firebacks, Gray and Germain's Peacock-Pheasants, Imperials, Bel's, and Mikado Pheasants. He also owns the three species of Eared Pheasants and he has reared in 1949 seven most interesting hybrids, three-quarters White, one-quarter Blue, which in shape look very much like the White, having a flat, thick tail and short ear tufts, only a little greyer on the back. They were produced by a White female and a Blue × White hybrid cock reared in California by Mr. R. Gibson in 1948. As there are only a very few fertile White cocks left in America, and none in Europe, these hybrids will prove most useful; they may save the species; mated to pure Whites, they will produce undoubtedly an entirely normal looking offspring. Mr. Lehman, among others, reared some Mikados and Siamese Firebacks in 1949.

Also in Pennsylvania, Mr. Fred Sturgis keeps a limited number of Pheasants and Geese, but only the best: Red-breasted, Blue-winged, and Ashy-headed Geese; Satyr, Cabot's and Temminck's Tragopans, Mikado and Elliot's Pheasants, several pairs of each. Mr. Sturgis is one of the keenest, most kind, and unselfish amateurs I have ever known.

I have kept for the end a remarkable establishment which during the last few years has become more and more familiar to me: that of Mr. W. J. Mackensen, at Yardley, Pennsylvania, a few miles from Trenton, New Jersey, and one hour out of New York. For some fifty years Mr. Mackensen, alone in this country, has managed to make a steady living out of his birds, mostly Pheasants, Peafowl, and waterfowl. This is saying much for his skill and also for his honesty. Born in Canada of mixed Scottish and German ancestry, his wife is English, and his son, Richard, who is now finishing a course for a doctor's degree as a Veterinarian, at Philadelphia, married a French girl during the war. He now helps his father whenever he is free to do so, and will eventually take over. He is also an enthusiast of birds,

and my usual companion on bird trips in the east. More than twenty years ago I went to Yardley to buy Geese, and when I came to live in New York I got into touch again with Mr. Mackensen. I found him so utterly conscientious and reliable that I asked him to procure or to handle all the birds I acquire for Clères. I take great pleasure in visiting him and his son often. Although money making is a necessity at Yardley, the love for birds and the interest in them come first. There is extensive and well-kept accommodation both for breeding pairs and for chicks. Rows of well-built Pheasant pens, large houses and runs for Peafowl, enclosures crossed by fast running streams which remain open during the coldest spells for Swans, geese, and ducks, constitute excellent accommodation. The collection is large, and so is the number of young reared every year. I enjoy the proximity of Yardley during the part of the year when most of the birds I see are stuffed specimens, and frequent visits to the Mackensen farm are welcome diversions.

(*To be continued*)

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SOME NOTES ON BIRDS IN NIGERIA

By HERBERT A. FOOKS

It is some time now since I have seen any of your publications as I particularly asked for them not to be sent out to me here in case they were lost during the constant packing and moving which is part and parcel of a forest officer's life.

My main difficulty out here has been lack of reference books, and outside of *Bannerman* there is nothing. Now *Bannerman* (complete) is an expensive amusement and the official copies I have access to when in station is limited to one copy at a time. You will therefore have to forgive these haphazard notes. From the avicultural point of view there is practically nothing to say except that the only bird I have seen regularly kept is the Grey Parrot. In one case what I took to be the Sierra Leone subspecies—very dark grey in colour. I have seen several where the red of the tail has suffused the belly and several of the breast feathers. They are here, in Benin Province, in large numbers and flight regularly at fixed times during the morning and evening. One thing I particularly noticed is that they flighted very late in the evening, sometimes after dark, as their whistling could not be mistaken. I have seen flocks of about 200 to 300 and flocks of 30 to 50 are very common. Numbers are destroyed for their tail feathers which fetch about 2*d.* each. These are supposed to be reasonably good "juju".

The feathers of the Vulturine Fish Eagle are also in demand for

the same purpose. The latter bird is eaten but the Parrot does not seem to have the same attraction. Birds as a whole, in this part of Nigeria at any rate, are looked on entirely from the gastronomic point of view. Size therefore counts, and I am glad to say the smaller forms enjoy through this a natural protection. The five Hornbills found here are mercilessly persecuted, both in and out of the breeding season. Plantain Eaters are also esteemed as a delicacy but are not quite so common or easy to secure.

In the savannah the common Guinea-fowl is very plentiful owing to the fact that it is capable of taking precautions. In high forest, such as we have in Benin, the West African Crested Guinea-fowl is the only one to be found. It is exceedingly difficult to shoot except with a .22 rifle. They have to be stalked and flushed without unduly alarming them so that part of the covey at least settles in the surrounding trees. They only call when going to roost, never when coming down in the morning. Incidentally, *Bannerman's* illustration of this species is wrong. The back of the neck and throat are *not* feathered for at least $1\frac{1}{2}$ to 2 inches. The throat is dull carmine and the skin at the back of the neck a dull sky blue. I hatched out some of their eggs and found the young easy to rear on ground casava and pounded maize. They are very pugnacious.

I managed to secure a Finfoot, which thrived quite well but which I had to release as I was touring too frequently to enable me to feed it with any regularity.

The commonest birds round my bungalow are Orange-cheeked Waxbills, in large flocks, also a species of Weaver which I can only guess to be the Chestnut Weaver. They appear in huge flights about dusk on their way to roost. There is also another weaver I cannot identify, very similar to *Pyromelana hordeacea sylvatica* but without the red rump, which is black. The red on the front does not extend below the throat and does not cover the breast. I have seen about five species of Sunbirds; one, I think, is the Violet-tailed, another the Double-collared, and one I am almost certain the Malachite, though I have only seen this bird previously with Mr. Ezra.

One of the most beautiful birds here is the Broad-billed Roller—I think it should be called the Mauvy Cinnamon Roller. The small Malachite Kingfisher is also common and is mainly met with a considerable distance from water. I have frequently seen them in high forest, also the Nigerian Blue-breasted Kingfisher. Two or three times I have seen the Giant Kingfisher, frequently though not invariably, near water. He is very shy.

Another very interesting bird is the Standard-wing Nightjar, which appears to have two attendant bats flying somewhat above and behind the bird in flight. The only one I managed to see on the ground had these two feathers erect whilst sitting, otherwise the bird was

invisible. It's eyes were also closed. An interesting bird is the Senegal Crested Hornbill, with its long tail and white crest. They appear to go about in pairs, unlike the other Hornbills. A very common bird round here is the Pintail Wydah. I notice he likes the ladies and always has at least two wives with him. His pugnacity is well known and I have often seen him drive my chickens off their corn. He also keeps his stamping ground well clear of intruders and gets plenty of exercise chasing anything from a Coucal to a Sunbird. I have made a long list of what I could identify and made water-colour sketches of a great number which I could not. Unfortunately, it is not possible for me to keep anything beyond a Sunbird or two so there is nothing of real interest for the magazine.

I have just added a young male Yellow-bellied Parrot to my household. He is thriving on Horlicks and powdered guinea corn.

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AVICULTURE IN DENMARK

By C. AF ENEHJELM, Zoological Gardens, Helsingfors

It may be that some items about aviculture in a country about which very little has been written in the Magazine will be of interest to some readers.

In happy pre-war days I lived for many years in Denmark, where at that time aviculture, from 1920 to the war, was progressing year by year.

The principal interest in Denmark was—and still is—for the different species of Spermestinae—Weaverfinches—even if the interest in Parrakeets, especially in the Australians—has many new recruits, as everywhere, in recent years. Canaries are, of course, kept on a considerable scale, in recent years mostly red-factor birds by the more advanced breeders, but the majority being common Canaries of doubtful pedigree. The interest and quality of English and Continental breeds has never been great in Denmark. Budgerigars are widely kept, mostly of an average or poor quality, as is the case almost everywhere outside English-speaking countries. Some few fanciers are interested in various softbills, Shamas and Peking Nightingales forming about 90 per cent of the foreign softbills kept. Formerly there was a keen interest in Continental birds, especially Finches, but also to some extent in softbills. The bird protection laws, which are not so favourable for birdkeepers as those in England, have practically stopped this branch of aviculture.

There is one important society in Copenhagen with about 400 members, with local societies in some towns. There is also a specialist

club for Budgerigars and one for Canaries. The big society—"The Society of Birdfriends"—was founded in 1922 and is still flourishing. A monthly paper is published and shows are held occasionally at very irregular intervals. The Danes are not so "show-minded" as their English confrères! The Budgerigar Club was founded 1930 and is still working; the membership, however, is small, about fifty I believe. For some reason the numerous Canary clubs founded during the last two decades have never been very long-lived, from lack of knowledge, I fear. The shows are arranged on quite a different system to those in England. Except for Budgerigars and Canaries, standardized show-cages are not much used, the birds usually being shown in their ordinary stock or breeding cages, which are equipped in such a way as to show the tyro how the birds should be correctly kept. In judging the cages their practical equipment is also considered. As almost everywhere on the Continent a point-scale is used, the birds getting the highest points getting the highest awards. Having judged by this system very many times I am fully aware of its drawbacks. On the other hand, there is no risk that an exhibit which is not qualified getting an award only because there is no competition in a class. In recent years the point-scales are used more as a guide for judges and exhibitors, and the points are not counted up, but a short criticism is written on each cage.

As to the manner in which the birds are kept, this differs a lot from that—I understand—most popular in England. Outdoor aviaries are not nearly as much used, owing to the climatic conditions not being so favourable, and that most fanciers, usually people of small means, live in flats. Most birds are kept in cages in living-rooms, which may be one of the reasons why even small seed-eating species are in the majority. Irrespective of this the birds are usually in good condition and the breeding results are very good, a fact which I had opportunity to mention last autumn when officiating as a judge. Fanciers who can afford it keep the birds in a special room in the dwelling-house, special outdoor birdrooms as in England being practically unknown. The birdrooms are either divided into an indoor flight or equipped with cages. Open all-wire cages are mostly used, even if box cages are more in use now than before. Cages 24 inches by 30 inches long are perhaps most common.

The feeding is practically the same as in England, the use of sprouted seeds is rather general with more experienced fanciers.

As to breeding, the best results are obtained in roomy indoor flights, especially when only a few pairs of birds which agree well together are kept. I cannot see any difference in stamina between indoor- and outdoor-bred birds as I have often read in English books and papers. This, of course, applies to small Finches, and as to Parrakeets and other Parrots I am also a strong believer in outdoor aviaries, and so

are most Danish breeders. In spite of this even smaller Parrakeets and Lovebirds are bred in indoor flights. Even in cages many good results have been obtained. There are in Denmark very many good breeding strains of Bengalese, and especially eggs of Australian Finches are on a large scale put under them. Personally, I only use this as a precaution with birds which do not feed themselves, or in exceptional cases for very rare species in order to secure some more specimens before I let the birds try themselves. Generally, I am against this method, especially if it is done systematically, as many Danish breeders do. The fact remains, however, that had not Bengalese been used so extensively, the comparatively numerous strains of Three-coloured and Red-headed Parrotfinch, Common, Long-tailed, and Masked Grassfinch, Ruficauda, Bicheno's, Diamond Sparrow, and Cherryfinch, and to a certain degree Gouldian, would have been extinct to-day. Most of the African and Asiatic species died out during the war, but there have been, and still are, numerous importations, so there is no shortage of these birds now. The rarer species from South Africa and imported specimens of the Australian species are still lacking. Fresh blood will soon be very urgent for the Australians. I do not think that a single one has been imported for the last ten years.

As to Lovebirds, Peach-faced, Fischer's, and Masked are quite numerous, all the others being extinct. Cockatiels and Redrumps are the most common Parrakeets, but Bourke's, Red, Golden-mantled, and Meally Rosellas are also kept. Also a few other species, but sparingly.

There are some very clever fanciers on foreigners, and several first breedings have been achieved. At the moment I can only remember the Crimson-faced Waxbill (*Pytilia afra*) and Black Borneo Mannikin (*Uroloncha fuscans*), but there are certainly more. One of my friends, for many years President of the Cagebird Society, was in pre-war times one of the very few specialists in *Sporophila*, and had very fine breeding results with many species, as far as I know first breeding records with two or three species. His strain died out during the war, and very few have been imported in the later years. At the moment very many fanciers concentrate on Parrakeets, but the Parrot ban makes it very difficult to get new blood for the existing specimens and for obtaining new species.

The bird house at the Copenhagen Zoo is one of the best I have ever seen and contains a wonderful collection. As far as I remember a *Colibri*—the last of a pre-war consignment—lived for eight years (I believe a record); in every case showing that the management is in very able hands; this is certainly true, the Director, Mr. A. Reventlow, being one of the most experienced aviculturists and an old member of the Avicultural Society.

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY

(Continued from page 7)

Breeding results during 1932 were very satisfactory, our wonderful old pair of Brown's Parrakeets rearing eight young in two nests of five and three.

A young hen Barraband, which had been bred at the farm and was mated to an imported cock, reared a fine brood of five, and her parents reared four. The cock of this older pair was unfortunately far more beautiful in appearance than character, for he gradually developed the murderous habit of slaughtering his sons the moment they left the nest, though he continued to feed and care for his daughters. The only extenuating circumstance that can be pleaded on his behalf is that each succeeding year, for some reason, his sons did tend to leave the nest showing much more colour than is usual in young cock Barrabands, one in each brood being generally brighter than the rest, and appearing in almost fully adult colours. Possibly this caused the old cock to treat his male offspring as rivals rather than sons. In any case, it became necessary to have a small aviary erected at the end of the breeding aviary and to catch him up and put him in this the moment the first young one left the nest, and I can still recall his murderous look of baffled fury at being able to see his sons but unable to scalp them!

It has always interested me that as this pair of Barrabands got older their young showed this tendency to leave the nest more and more brightly coloured each year, because it would almost seem as if it might have some bearing on the fact that the brilliance of the colours of adult birds—or at any rate Parrakeets—tend to be enhanced as the bird grows older.

Incidentally, Barrabands are among the most amiable of the larger Parrakeets, and I have little doubt that, given plenty of nest-boxes and a large enough aviary, several breeding pairs could safely be kept together.

An imported hen Manycolour mated to a cock of our own breeding reared an excellent brood of five, but the feet of the hen of an imported pair suddenly became completely paralysed just as she had finished laying her clutch of five eggs. These were put under a mateless hen Stanley who was incubating infertile eggs, but though she hatched them she failed to rear them. Meanwhile, the hen Manycolour gradually recovered complete use of her feet.

Our, by now, very old original pair reared but one young one, and this was their swan song in the way of breeding, though they both

remained until the end of their lives as honoured old age pensioners on the farm.

Of Grass Parrakeets, broods of Bourke's, Elegants, and Turquoisines were reared.

I noted that a hen Turquoise mated to one of our male Blue-wing \times Turquoise hybrids laid and incubated a clutch of infertile eggs and was eventually given some Turquoise's eggs, which were duly hatched and reared.

A cock Bourke's which had been graciously lent to us for breeding purposes by H.M. King George V, had to be mated at first to a hen Turquoise, no spare hen Bourke's being then available. That their first clutch of eggs was unfertile was hardly surprising as the cock Bourke's had started to moult. However, when the hen Turquoise eventually laid again the Bourke's had completed his moult and was in breeding condition, and extremely attentive to his wife, but unfortunately the latter died on the nest after laying her second egg, so what these very interesting hybrids would have looked like remains unknown.

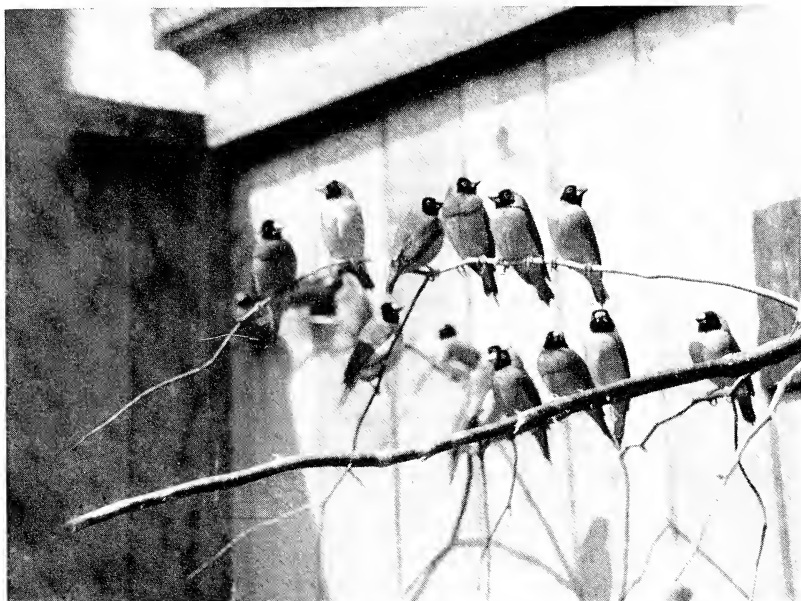
His Majesty's Bourke's was afterwards mated to a hen Bourke's of our own breeding.

Swainsons and Red-collared Lorikeets went on propagating their kind very slowly but surely, as is their way, usually rearing one young one from every clutch of two eggs, and I noted that one pair of Swainsons had two young ones fledged out of doors on Christmas Day !

All the Parrakeets, of course, invariably have their nest-boxes taken down in the autumn, but if this had been done with the Lorikeets, not only would it probably have been necessary to have caged them in a warm room for the winter (in an outdoor aviary they always roost in the nest-box) but as there are only two eggs in each clutch, and as the young spend such a very long time in the nest, each pair would not have had time to produce more than two or at most three youngsters per season, and so from the farm standpoint Lorikeets would hardly have been worth keeping. One would certainly have missed them, however, for I have always thought their rather dirty messy habits and frightful ear-splitting cries are more than compensated for by their droll ways and playfulness, and the incomparably rich lustre and brilliance of their plumage. All our Lorikeets were fed on Allinson's Feed, well sweetened bread and milk, and a desert apple a day, and required no extras when rearing young. Some would eat a little seed, but much preferred slops.

Owing to lack of aviary space we had previously parted with all our Lovebirds with the exception of Peach-faced, which had a very satisfactory breeding season.

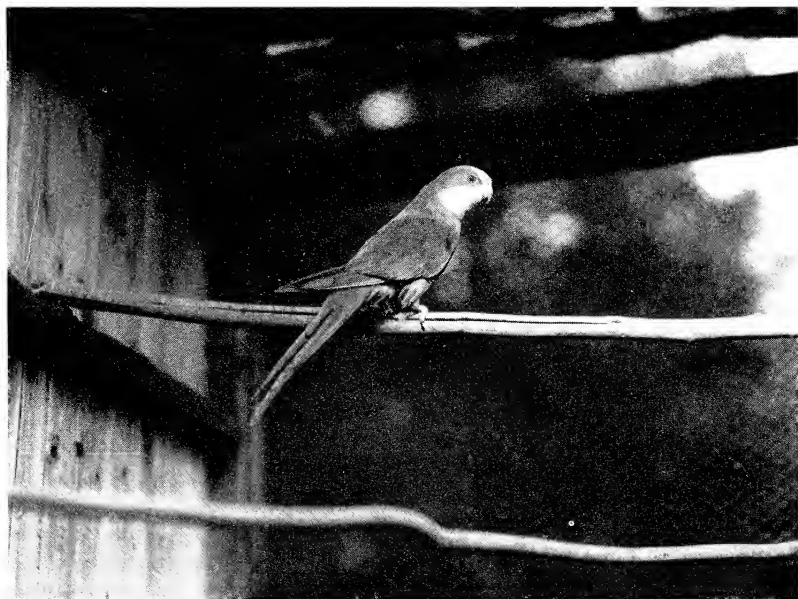
We found that Miss Knobel's pelvic bone test for sexing the larger



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YOUNG GOULDIAN FINCHES.

[Alec Brooksbank.]



Copyright.]

COCK BARRABAND PARRAKEET.

[Alec Brooksbank.]

To face p. 72]

Parrots was equally successful with Peach-faced provided the birds were fully adult.

As we have no trees at the farm from which the bark peels easily, such as lime or willow, we used to make periodic expeditions to my mother's house a few miles away, in the garden of which there grew a belt of very large old lime trees. From these we used to cut the suckers which grew up round the base of the trunks and return with a carload of them.

The provision of really large nest-boxes and suitable nesting material in the form of plenty of lime or willow twigs from which the birds can peel off strips of fresh moist bark is essential, and is really the secret of successfully breeding Peach-faced Lovebirds, which, it should be remembered, continually add to their nest even while incubating their eggs. This habit is observable in all the Lovebird family, so all need to be given a large nest-box, but the other members of the family are usually less fastidious as to nesting material and will use anything that happens to come their way, such as small twigs, rootlets, bits of hay and straw, and particularly old damp empty millet sprays, which latter one always seemed to find incorporated into every nest.

Generally speaking, we found that while most of the Lovebirds carried their nesting material in their beaks, it was really only Peach-faced that had the curious habit of carrying into the nest strips of bark inserted among and held between the feathers of the rump, though I have an idea that this method of transporting nesting material is also practised by the Madagascar Lovebird, but am not certain as we never kept breeding pairs of these. Incidentally, this was one of those birds which was widely kept before the 1914-18 war, and whose popularity subsequently waned so that one hardly ever encountered them in later years. No doubt this was largely due to the discovery, between the wars, of other and much more brightly coloured members of the family, but I always thought their chaste combination of grey and various shades of green had an attraction of its own, and that their almost total disappearance from aviaries in this country was to be regretted.

Among the Finches, several hundred young Zebras were again reared, and taken by and large it was a pretty good season.

The summer was a very hot one, and looking back it does seem to me that—even so comparatively short a while ago as 1932—we still did have definite "seasons" in this country, and though we undoubtedly had our unwelcome Buchan cold spells, I cannot ever remember spending most of the summer evenings crouching miserably over a fire, and then coming out of a sort of summer hibernation to bask frantically in the ever declining rays of a futile and quite useless "Indian summer" sun in October and November, long after the

breeding season was over and when many of the trees were already leafless.

The hot summer seemed admirably to suit our *Ruficaudas*, so much so that all were double-brooded, and we ended the season with forty-three young ones from five pairs.

Long-tailed Grass Finches were less successful, but this, I think, was because we decided to try them in aviaries of a new type without enclosed shelters, and, being inquisitive birds, they were inclined to come off their nests whenever anyone passed their aviary. Quite a fair number of young were finally reared, but undoubtedly our best breeding results with Longtails were obtained where the shelter was entirely enclosed, with only a small entrance hole to the flight.

Gouldians started as usual late, but in the end did very well indeed, and my partner also succeeded in breeding a number of young Masked, Bicheno's and Cherry Finches. Now, while the large number of *Ruficaudas* reared was, among the Finches, undoubtedly the most spectacular success of the season, I think the most difficult achievement was the successful rearing of young by several pairs of Cherry Finches, for not only are they by no means free breeders, but adult birds of this species are difficult subjects at the best of times, having a disconcerting and unaccountable tendency to die suddenly when apparently in absolutely show condition.

I also noted that we bred a Zebra Finch \times Long-tailed Grass Finch hybrid which was rather like a young Longtail, but with a smaller bib, and with the Zebra Finch penny trumpet voice.

It was during this summer that we tried various Waxbills—Fire Finches, Cordon Bleus, Orange-cheeks, and Orange-breasts—at liberty.

All stayed well except the Orange-breasts, which apparently strayed at once. Fire Finches—those most admirable of liberty Waxbills—bred successfully in the garden, just as they had thirteen years previously at my old home, and concerning which, I remember, I wrote a letter to the *AVICULTURAL MAGAZINE* at the time. Incidentally, liberty Waxbills seem to have a perfect passion for pea sticks, and I recorded in my letter how the first Fire Finches I ever bred at liberty nested—in spite of having every bush in a large garden to choose from—in a bundle of peasticks which had been laid in a wheelbarrow in a lean-to against the potting shed! And we found, at any rate, some of the nests of those that bred at the farm among the peasticks when we were picking sweet peas. Incidentally, most Waxbills and small Finches that dislike a closed-in nest-box seem to favour a bundle of twigs nailed against their shelter wall under overhead cover as a nesting site.

I might add here that one of the best stayers among the Finches proper is the attractive little Cuban Finch, and if they are ever

imported again in any numbers I can imagine no more suitable subjects than these and Fire Finches for anyone desiring to attempt liberty birds in, say, a small suburban garden. I once let some Fire Finches straight out of their travelling box, and they at once joined those already at liberty in the garden, and not one of them strayed !

I remember, too, that on one occasion the door of one of our terrace aviaries containing a large flock of Cuban Finches was inadvertently left open, and all escaped. A pot of seed was at once placed just inside the door of the flight and, though they remained at liberty for several hours, they never showed the slightest desire to stray more than a few yards from their aviary, and by evening all were back and roosting in the shelter. I remember wishing at the time that some of the quite numerous body of people who (usually themselves possessing neither avicultural nor ornithological knowledge of any kind) nevertheless maintain that *all* birds in confinement—even in aviaries—are utterly miserable, could have witnessed this incident !

Apropos of this, I shall never forget a certain good lady of this ilk, who asked to visit the farm quite obviously hoping to find lots of her little " Feathered Friends " (as she called all birds) beating their tiny hearts out against the prison bars of their minute cages, and her look of baffled irritation when she was confronted with ranges of aviaries, each containing a single pair of obviously extremely healthy and contented birds, most of which had either young ones in the nest or just fledged !

During 1932 there were the following notable additions to our breeding stock : Parrakeets : Yellow-rumped, King, Norfolk Island. Also Red-headed Parrot Finches, Cuban Finches, Green Avadavats and Pin-tailed Nonpareils, and Black-cheeked Lovebirds.

(To be continued)

* * *

THE NEWMAN BEQUEST LIBRARY

The magnificent collection of books, numbering some 1,500 bequeathed to the Avicultural Society by the late T. H. Newman, are available for use of members ; in addition there are a large number of journals belonging to the Society. The books and journals are housed in the library of the Zoological Society of London, Regent's Park, N.W. 8, where they may be consulted by any member of the Avicultural Society between the hours of 10 a.m. and 5 p.m. each weekday and 10 a.m. to 1 p.m. on Saturdays.

AUSTRALIAN PARROTS IN CAPTIVITY

By ALAN LENDON, Adelaide

(Continued from Vol. 56, p. 34.)(29) BOURKE GRASS PARRAKEET (*Neophema bourki*)

Synonyms.—Pink-bellied Parrakeet, Blue-vented Parrakeet, Night Parrot (in error).

Distribution.—A bird of the interior of the continent, ranging from the interior of mid-Western Australia, across Central Australia, into the far western portions of Queensland and New South Wales, and possibly the north-western corner of Victoria. In South Australia it is found only in the northern parts of the state.

Description.—The largest of the Grass Parrakeets but, even so, an appreciably smaller bird than the Red-rump. The adult male has the upper parts mainly of a brownish hue, the wing-coverts showing light buff edgings. The abdomen is pink and the same colour margins the brownish feathers of the chest and face. The wing margins are violet and the under tail-coverts and sides of the rump are pale blue, and there is a broad frontal band of the same colour extending back behind the eyes. The adult female is almost always smaller than the male and lacks the blue frontal band; consequently the whitish tinge around the face is more apparent. Furthermore, the breast feathers have narrower margins of pink, resulting in a somewhat scaly appearance. Immatures resemble the female, but exhibit less pink on the abdomen; the sexes can usually be determined by the larger, flatter heads of the males, and the very restricted area of pink on the females. Adult plumage is acquired at the first moult of body feathers, which usually occurs at about three or four months after the young birds have left the nest.

Variations.—No valid subspecies have been shown to occur. I have seen a few examples of a very attractive pale (cinnamon or fawn) mutation, but this variety has not yet been established in captivity.

Coloured Plates.—Goodchild's plate in Mathews (vol. vi, p. 432) is the best that I am aware of as regards accuracy of colour, although it gives the birds rather too slim an appearance. The plate in Greene (vol. i, p. 107) is poor, the bird having a quite unnatural shape and the colouring also being bad. Cayley's plate of a male in *The Emu* (vol. 27, pl. 12), is just a little too vivid in colour, though otherwise good.

Field Notes.—Few have seen this species in its natural state on account of the remote districts that it inhabits. Most observers have commented on its unusual habit of watering before dawn and after dusk, and also on the peculiar whistling noise made by the wings in flight.

Aviary Notes.—A very popular aviary bird, and one which has fortunately bred so freely in captivity in the last twenty years or so that it can be regarded as domesticated in Australia.

Although I have now had Bourkes for a good many years, they have not proved quite as reliable breeders in my hands as they have with many other aviculturists, as the following account of my experiences will show. My first pair were obtained late in 1935, and the following season they had two nests, rearing five young in October and two more, as well as two Splendids, in January. In 1937 three young were hatched from a clutch of five laid late in September, but two of these died when half-grown, and the sole survivor left the nest late in November. The hen then proceeded to lay ten eggs without making any attempt to incubate them, and when these were removed a further five eggs were laid and incubated. Only one of this clutch proved fertile, and the young bird was reared, leaving the nest in mid-February. However, 1938 was another good season, five young being reared in October and a further four in December.

Prior to the 1939 breeding season the old hen was mated to one of her two-year-old sons. She laid a clutch of seven in mid-September, all of which proved fertile and hatched, and although one died quite soon the remaining six were reared, leaving the nest in October and early in November. The hen thereupon resorted to her bad habits of 1937, and laid eleven eggs without incubating. After these were removed she laid a further nine, and although five of these were fertile only two hatched, and these died in mid-January, when about two weeks old. For the next four seasons, during my absence on service, the same pair of birds invariably had two nests each year, but never succeeded in rearing more than three young in any one nest, and frequently only managed two. In 1944 an early clutch of seven eggs was laid in August, but only one of these was fertile, and the young bird died soon after hatching. Of a second clutch of seven again only one was hatched, and this bird survived but a fortnight. At this stage, owing to urgent need for accommodation, the Bourkes were put in an aviary with a pair of Barrabands, whose large log they promptly appropriated. They laid five eggs, hatched four, two of which died when nearly fledged, and the two survivors left the nest in mid-January.

After a good start in 1945, four young being reared from the first clutch of five eggs laid late in August, the hen had one of her old lapses, and laid no less than fourteen eggs! A third clutch of four was laid in mid-December, but only one was fertile; however, the young bird was duly reared. In 1946 four were hatched from the first clutch of six, but all died quite soon. Of the second clutch of six five were fertile, and four hatched and were reared almost to the point of leaving the nest. At this stage the parents unaccountably ceased

feeding, and although three young birds left the nest only one managed to survive and the fourth was found dead in the nest. Out of a third clutch of eight only three were fertile, and these young birds were deserted when a week old.

1947 and 1948 were blank years as far as the breeding of this species was concerned, although one bird was reared by foster-parents (Turquoisines) in the latter year. For the breeding season just concluded one pair of birds hatched all of the first clutch of five eggs, and reared four of them in mid-November. A second clutch of five were all hatched, but were deserted early in January. A second hen had two clutches of five infertile eggs and then, when given a new mate, laid and hatched all of a further clutch of five and succeeded in rearing three of them late in December.

Although generally included in the same genus with the other Grass Parrakeets, there is little doubt that this species belongs to a genus of its own. Its peculiar habits, already referred to in *Field Notes*, are very apparent in captivity, the species being always the last of the collection to settle down for the night. The unusual warbling call-notes particularly of the male are also very distinctive, and the colouring is, of course, very different from that of the other Grass Parrakeets.

The medal of the A.S.S.A. was awarded to Mr. S. Harvey in 1930 for the breeding of this species, and the same success gained a silver medal for the outstanding breeding of the year.

(30) BLUE-WINGED GRASS PARRAKEET (*Neophema chrysostoma*)

Synonyms.—Blue-banded Parrakeet.

Distribution.—Probably commonest in Tasmania, but also very plentiful in the coastal parts of Victoria and south-eastern South Australia. Rarely found in other parts of South Australia, but has been recorded from both Eyre's and Yorke Peninsulas. The R.A.O.U. Checklist includes New South Wales in its range, but this is almost certainly incorrect.

Description.—The adult male is of an olive-green colour on the head, mantle, rump, and chest, whilst the abdomen, subcaudals and face are bright yellow, and there is a broad wing edging of bright blue. The frontal band is dark blue, with a very faint light blue line immediately behind it. Some males exhibit a large, rather irregular area of an orange shade in the centre of the abdomen, and the top of the head is usually of a more golden-olive shade than the rest of the body colouring. The adult female is of a slightly duller shade of olive, and the yellow areas on the face and abdomen are not as bright as they are in the male. In addition the blue area on the wing is not as vivid, being slightly suffused with green, and the frontal band is narrower and less obvious and lacks the faint pale blue line.

Immatures are duller in all respects than the adult female, the blue on the wing being rather slaty in shade, and the frontal band is absent. Adult plumage is not acquired until the September or October after they leave the nest ; that is, when they are about eight or nine months old. Until then I doubt whether they can be sexed with any certainty.

Variations.—The Tasmanian and mainland birds have been separated subspecifically, a decision which appears absurd in the light of their alleged migration. However, recent examination of a consignment of Tasmanian birds, most of which were not in adult plumage, gave one the impression that the blue area on the wing might be darker than that exhibited by birds from the south-west of Victoria.

Coloured Plates.—Roland Green's figure of a male in Mathews (vol. vi, p. 438, lower figure) is good, although the green colouring is, perhaps, a little too bright. Cayley's plate in *The Emu* (vol. 27, pl. 1) is a good representation of a male ; the same artist's plate in AVICULTURAL MAGAZINE, February, 1932, is rightly criticized by Tavistock in the next issue. The upper figure is obviously meant to portray a cock Blue-wing, but the green is much too bright ; the lower figure is a very good representation of a cock Orange-bellied !

Field Notes.—I observed this species in the field for the first time when in the Portland district of south-western Victoria recently. It was a very common bird there, being seen in pairs or small flocks, many of which consisted of immature birds. Its habits and call notes appear to be identical with those of the Elegant, which I have observed on numerous occasions. The vexed question regarding the alleged migration of this bird to and from Tasmania appears to be unsolved ; several observers have informed me that the bird is in Victoria all the year round, but this does not say that some birds may not cross Bass Strait.

Aviary Notes.—Although moderately freely imported from Tasmania in pre-war years, this species became quite rare in South Australian collections during the war, and it is only recently that a number of birds have been received, both from Victoria and from Tasmania.

This bird has not proved a free breeder in the hands of local aviculturists, and I have been singularly unsuccessful with the species, as the following account will show. In 1937 the hen of the pair in my possession at that time laid four eggs towards the end of November and proceeded to incubate, but was found dead in the nesting log some three weeks later. The following season a new hen, mated to the same cock, had a clutch of infertile eggs, and in 1939 the same pair went to nest early in December, a clutch of six being laid. Five of these eggs proved fertile and hatched in due course, but two young birds died within the first few days, and a further two when half-grown ; the sole survivor, a male, left the nest late in January, and

although possessed of what Budgerigar breeders call an undershot beak, was otherwise a good specimen. The old cock died shortly after this, and for the next four seasons the old hen, although provided with a new mate, did not even lay. In 1944, however, she relented, and laid four eggs in December, but these soon disappeared. A second pair obtained prior to this season laid three eggs in the middle of November, and later added two mis-shapen ones to the clutch, all of which proved clear, and a second attempt in January by this pair resulted in three more peculiarly shaped eggs. The following season this latter pair failed even to lay, although the hen spent a lot of time in the nest. The two following seasons were also blanks, and in 1948 I determined to try and break the hoo-doo with four pairs of young birds which moulted into adult plumage just prior to the breeding season. Of these, the first pair laid three eggs about the middle of November, all of which proved fertile, and two of which had hatched by 2nd December; two days later both young birds were dead, and the third egg was found to contain a fully developed chick. The second pair laid a clutch of four eggs at the same time as the first pair, and four young were seen early in December, but unfortunately the log fell off its supporting nail a few days later, with the resultant death of all the young birds. A third pair had three infertile eggs, and the fourth pair did not lay. The recent season was no more successful, two pairs being tried. One pair laid five eggs early in November, all of which were fertile, and had hatched by the end of the same month; however, two of these died quite soon, and all had succumbed by the middle of December. The second pair, the hen of which was a young bird of the previous season, started to lay late in October, and continued to do so intermittently until early in December, sixteen eggs being laid in all! Several of these were obviously fertile, but at no time was incubation sufficiently continuous for the embryos to develop very far.

The medal of the A.S.S.A. for the first breeding of this species was awarded in 1935 to Mr. S. Harvey; since then only a few other spasmodic successes have been recorded in this state. I feel that one reason why this species has not become established as an aviary breeder here is on account of its late breeding season, with the consequent liability of spells of hotter weather being encountered than would be the case in its more southerly habitat.

(31) ELEGANT GRASS PARRAKEET (*Neophema elegans*)

Synonym.—Grass Parrakeet.

Distribution.—Widely distributed in South Australia, where it extends as far north at least as Beltana in the Flinders Range, and also

in the south-west of Western Australia. It also occurs in north-western Victoria, and has been reported from various parts of New South Wales; Queensland records are probably doubtful in their authenticity.

Description.—The colouring of the head, back, rump, and breast of the adult male is a rich golden olive, the face, abdomen, and sub-caudals are yellow, and there is often a small orange patch in the centre of the abdomen. The frontal band is double, consisting of a broad, dark blue line in front of a slightly narrower light blue one; similarly, the narrow wing patch consists of two bands of the same two shades of blue. The adult female is of an appreciably duller shade of olive which lacks the golden hue, but she does not otherwise differ materially from the male, except that the small orange abdominal spot is never seen. Immatures are not very much duller than adult females in the general body colouring, but the frontal band is either absent or very faint. I do not think they can be sexed with any certainty until they attain adult plumage, with the first moult of body feathers, which occurs when they are only about three months old and is rapidly completed.

Variations.—The Western Australian birds have been separated subspecifically, but from an examination of a number of skins I am very doubtful whether any appreciable difference exists between the western and eastern birds.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 447), although allegedly portraying males of the eastern and western races, serves as an excellent representation of an adult pair. The plate in Greene (vol. i, p. 83), is not good, the shape of the bird being quite unnatural, and the shade of green being deceptive. Cayley's plate in *The Emu* (vol. 27, pl. 22) is a little too dull for the adult male it is intended to portray.

Field Notes.—This bird is very common in many parts of South Australia, and I have observed it on many occasions. It can almost always be seen near Victor Harbour, either in pairs or in fairly large flocks, according to the season of the year. When flushed from the ground this species often rises rapidly to a considerable height, and is not easily followed up for further observation. In Western Australia in 1948 I saw a single pair of these birds in the vicinity of Williams.

Aviary Notes.—As a schoolboy during World War I, I possessed two successive pairs of this species at a time when they were extremely rare in captivity; in fact, I know of no others having been kept about that time. Neither pair showed any inclination to go to nest, although they survived for considerable periods in a mixed collection.

In the last twenty years or so large numbers of Elegants have been trapped in this state, and the species has become very common in captivity and has bred to the extent that it may be regarded as

domesticated. The A.S.S.A. medal for the first breeding was awarded to Mr. S. Harvey in 1930.

My own breeding experiences of this species have all been achieved with two individuals of each sex. An adult pair obtained in 1935 seemed likely to nest in a mixed collection, until murdered by a pair of Blue Bonnets. In 1936 a new pair was obtained, but they did not go to nest that season; in 1937 a clutch of four eggs was laid in September and October, but they proved clear. The next season a clutch of four was laid in mid-September, and three young hatched and were reared, all of them leaving the nest about the middle of November, plucked to a varying degree, presumably by their mother. In the 1939 breeding season it soon became obvious that a young hen that had been left in the aviary had mated with her father and, in view of the plucking episode of the previous season, she was not discouraged. She laid a clutch of eggs in August, but these soon disappeared, and early in September she laid a further clutch of five, four of which hatched by the end of the month, but only lived for a few days. The old hen was thereupon restored to her former mate, and she laid a clutch of four in mid-October, three of which were fertile and were hatched and reared to leave the nest in a shockingly plucked condition in December; however, like their predecessors and many successors, they soon recovered from their ordeal and became presentable-looking specimens.

During the next three seasons a few young Elegants were reared, but the pair were mostly used to hatch and rear Turquoisines, which they invariably plucked. In 1943 the old hen was replaced by one of her daughters bred the previous season; this bird failed to lay that year, but in the following year commenced a very successful breeding career. Her first clutch, laid late in August, consisted of five infertile eggs, but the second clutch, produced early in October, consisted of four eggs, all of which were hatched and reared, the first three leaving the nest early in December, and the fourth not for a further fortnight! A third clutch, commenced about the time the first three young left the nest, proved all to be clear. In 1945 three were reared from the first clutch of four laid late in August; the second clutch, laid late in October, was replaced by some Hooded eggs, which had been deserted, without result, and the third clutch of four was infertile. In 1946 the old male, who had been in my possession for ten years, died in August just as the hen commenced to lay, and her eggs were all clear. A new cock was obtained almost immediately, and five were reared from the second clutch, which was laid early in October; a third clutch laid in December were clear. This pair has carried on quite successfully since then, rearing three out of four, and five out of five in 1947; three out of three and two out of three in 1948, and four out of four and two out of three during the recent season.

The display of the Elegant is identical with that of its near allies, and consists of the cock flying to a perch or to the ground near the hen, depressing his shoulders so that the blue margins are more clearly visible and at the same time uttering one of his call notes.

(32) ROCK GRASS PARRAKEET (*Neophema petrophila*)

Synonym.—Rock Parrot.

Distribution.—The coastline of Western Australia and South Australia, extending as far north as Shark Bay in the former state, and as far east as the vicinity of Robe in the latter.

Description.—The dullest and, at the same time, the bulkiest member of the genus. The adult male is of a uniform brownish-olive colour on the head, back, rump, and breast, whilst the abdomen and under tail-coverts are dull yellow. The frontal band is dark blue, with a very inconspicuous line of pale blue behind it, and the very narrow wing edging is also dark blue merging into a paler blue; the face is dull blue. Adult females are not appreciably duller than their mates, and the species is consequently a particularly difficult one to sex, the only reliable guide being a somewhat wider frontal band in most males. Immatures are only slightly duller than adults, but the frontal band is lacking and the face is olive, not blue. Like Elegants, they attain their adult plumage rapidly by a moult which occurs when they have been about three months out of the nest. Occasionally adults of both sexes show the yellow of the abdomen replaced by a large patch of dull orange.

Variations.—The western and eastern birds have been separated subspecifically, but quite unreasonably, one would think, as the range is continuous and no appreciable difference exists between the extremes.

Coloured Plates.—This species has seldom been portrayed. Roland Green's plate in Mathews (vol. vi, p. 451) is good as regards colouring, but fails to convey the bird's size and plumpness. Cayley's plate in *The Emu* (vol. 27, pl. 22) is a very good representation of a male.

Field Notes.—This species is very common in the vicinity of Port Lincoln, South Australia, and was nesting there on the small islands called The Brothers in January, 1948. It is quite often to be seen on the eastern shores of St. Vincent's Gulf, and is not uncommonly seen near the Outer Harbour, less than fifteen miles from Adelaide.

Aviary Notes.—This species has never been very plentiful in captivity, partly because it is seldom trapped, and also because it is the least colourful member of the group, and has the reputation of being relatively short-lived and difficult to breed. Always a plump bird, it tends to become extremely fat and sluggish in captivity, and many birds seem to die suddenly when apparently in good health. It was

first bred in South Australia by Mr. G. Pearce, of Port Augusta, in 1936, a feat which gained the A.S.S.A. medal and also the silver medal for the outstanding breeding success of the season. Mr. W. K. Penney, of Plympton, also bred the species a little later. On both these occasions the birds nested amongst stones or rocks, but most subsequent successes have been achieved in the ordinary type of log nests.

My personal experiences with this species have been disappointing, as the following account relates. I obtained my first pair late in 1935, and for the next five seasons they gave no indication of wanting to go to nest, although the cock was occasionally observed feeding the hen during the spring. Then in 1941 they surprisingly went to nest in a log, laying a clutch of three eggs early in October. Two eggs hatched, and the young birds were reared, leaving the nest early in December. Prior to the 1942 breeding season both parents and one of the young birds died, and though a mate was obtained for the surviving young hen, no inclination to breed was apparent either that season or the following one. However, in both 1944 and 1945 considerable interest was evinced without eggs actually being laid. Before the 1946 season I had acquired a further hen, and she occupied the same aviary as the mated pair. She came into breeding condition late in October, and frequently implored the cock to feed her, without result; she then laid four eggs in mid-November, which, as expected, were infertile. Just about this time I was lucky enough to secure a new cock, and he immediately mated with the odd hen, and she laid a further clutch of three eggs early in December, all of which were fertile. Two young were hatched and reared, leaving the nest at the end of January and proving to be both cocks. The following season the cock of this breeding pair died early in October, and the only other Rock that I could obtain proved to be another hen. However, the old hen mated with an odd cock Blue-wing, laid two eggs late in December, one of which was fertile and was hatched and reared to leave the nest early in February. The second hen mated up with an odd cock Orange-bellied, laid three eggs late in December, only one of which was fertile, and although it hatched in mid-January the youngster unfortunately only lived a few days. This last-mentioned hen was mated to a new cock in 1948, and she laid three eggs early in November, but only hatched one of the two fertile ones, and the chick only survived a fortnight. Similarly, in 1949, two eggs were fertile out of the clutch of four laid early in November, both hatched, but one died in a few days and the other survived nearly a month but failed to leave the nest.

(33) ORANGE-BELLIED GRASS PARRAKEET (*Neophema chrysogaster*)

Synonym.—Orange-breasted Parrot.

Distribution.—Coastal south-eastern South Australia and western

Victoria would appear to be the mainland strongholds of this species. It undoubtedly occurs in Tasmania, but is probably rare there. In South Australia there are a few records from the vicinity of Adelaide. The inclusion of New South Wales in the range of the species appears to be based on a record which is now many years old.

Description.—This species is very much the size of the Rock, and almost as plump. The adult male has the head, back, and rump a rich grass-green, the breast is a green with a somewhat more yellowish tinge, and the face has a marked yellow suffusion. The abdomen is also greenish-yellow, with a large central patch of bright reddish-orange, and the subcaudals are yellow tinged with green. The frontal band is of a mid-blue shade, with a less obvious paler blue band behind it, and the narrow wing edging is of the same two shades of blue. The adult female is of an appreciably duller shade of green, and her frontal band is considerably less obvious, and appears to be single. She exhibits a large orange abdominal patch which is little duller than that of the male. Immatures are duller than the adult female, but still of a considerably brighter shade of green than their near allies; they show a well-marked dull orange belly patch which is, however, smaller than that of the adults. My impression is that they do not attain adult plumage until the late spring, probably eight to nine months after they leave the nest, and I very much doubt if they can be sexed until then.

Variations.—There does not appear to be any appreciable difference between the Tasmanian and mainland birds, although they have been separated subspecifically.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 438, upper fig.) is very good as regards colouration, but does not accurately convey the bird's bulky figure. Cayley's plate in *The Emu* (vol. 27, pl. 1) is a very good representation and, as previously noted, the lower figure in his plate in *AVICULTURAL MAGAZINE*, February, 1932, is certainly meant to represent this species and not a hen Blue-winged. The plate in Greene (vol. i, p. 103) is quite inaccurate, both as regards shape and coloration.

Field Notes.—My sole encounter with this rare species in the field was a fleeting glimpse in May, 1949, of a single bird near Geelong, Victoria, a district in which the birds have often been observed in recent years.

Aviary Notes.—This species is undoubtedly the rarest of the genus, and is quite unknown to the majority of aviculturists. Very occasionally an odd bird is trapped with a flock of Elegants but, as far as I am aware, only once has a consignment reached the Adelaide bird market. That was in the middle of 1940, when a few dozen birds were obtained from the south-east of South Australia. Most of these were

immature birds, and two of them were obtained on my behalf, but unfortunately both proved to be cocks, and they only survived until 1943. In November of the following year I obtained two more cocks, the survivors of three birds which had been in the possession of Mr. S. Harvey prior to the war. One of these I still have, but the other died late in 1945. In May, 1946, I obtained the loan of a hen, the sole survivor of a small batch of the 1940 trapping which had been sent to a Victorian aviculturist. About Christmas time that year the hen was seen to be taking an interest in a log, and one day in mid-January she was noticed to be looking a little off colour, and inspection of the nest revealed a single egg; next day the hen was found dead, and it was obvious that the effort of egg-laying after so long in captivity had been too much for her. The egg was placed under a sitting Blue-winged in a friend's aviary, but it was not fertile. The following season the cock mated with a hen Rock, and she laid three eggs late in December. Only one of these was fertile, and it hatched in mid-January, but only survived a few days. I would particularly have liked to have reared this hybrid, as I have always felt that the Rock was the closest relative of the Orange-bellied. It was not until January, 1949, that I was able to obtain another hen of this species, and about Christmas time she began to take an interest in a log, and continued to do so for over a month without laying, as far as is known. Unfortunately, the old cock, who has now been in captivity for over ten years, has never been observed to feed her and seemed quite disinterested when she was obviously in breeding condition.

As far as I am aware this species has never been bred in captivity. During World War II Dr. M. E. Chinner, of Adelaide, had a hen which laid and incubated a clutch of eggs for at least four successive seasons, but the eggs were invariably infertile, although two cocks were tried.

Dr. W. Hamilton, also of Adelaide, has never been without a number of these birds, which he traps himself, since 1934, but he has never been able to report a breeding success, although he informs me that he thinks a young bird was successfully reared in his aviaries during the war at a time when his birds were, of necessity, receiving minimal attention and practically no observation. The birds have, however, laid and hatched young for him, but in the majority of instances the eggs have been infertile. His experiences with the species make most interesting reading, and have been recorded in *AVICULTURAL MAGAZINE*, 1938, p. 213; it is to be hoped that he will contribute a further article thereto in the light of his more recent experiences. However, I find myself unable to accept his conclusion that they breed in late winter in the wild state, in view of the invariable midsummer nesting in captivity, and I think that their migration to Tasmania is unproved; it is more likely that they migrate to the

shores of Port Philip Bay in Victoria when they leave South Australia in November, and they probably breed somewhere in Victoria.

(34) TURQUOISE GRASS PARRAKEET (*Neophema pulchella*)

Synonyms.—Red-shouldered Parrakeet, Chestnut-shouldered Parrakeet, Beautiful Grass Parrakeet (a name which should be reserved for the Paradise Parrakeet), Turquoise.

Distribution.—From southern Queensland through New South Wales into Victoria. The stronghold of this species at the present time is undoubtedly north-eastern New South Wales, but a few birds can still be found fairly close to Sydney. It would appear to be extremely rare in Victoria at the present time, if not extinct.

Description.—The adult male is bright green on the head, back, and rump, whilst the breast, abdomen, and subcaudals are rich golden yellow. The forehead and facial mask are a bright turquoise blue of two shades, as is the broad edging to the wing, and there is a noticeable band of reddish chestnut on the shoulder. The adult female differs in that the extent and brilliance of the blue facial mask is diminished, the breast is green like the upper parts, and the reddish wing bar is absent, although I have twice seen hens which showed a slight indication thereof. Immatures leave the nest looking like dull editions of adult females, but in most cases young males have brighter and more extensive facial masks and a fairly large proportion of them show a faint brownish wing bar. Adult plumage is acquired early by a moult of body feathers which is completed at about the age of four months.

Variations.—Some adults of both sexes exhibit a large patch of an orange-red shade on the abdomen; I consider this to be an individual variation and not a racial or subspecific difference.

Coloured Plates.—This species has been frequently depicted in colour. Goodchild's plate of a male in Seth-Smith (p. 223) is very good, as also is Roland Green's of a pair in Mathews (vol. vi, p. 458). Boosey's drawing in Tavistock (frontispiece) gives the bird rather a dumpy figure, and an irregular wing bar, whilst that in Greene (vol. i, p. 77) is also rather unshapely and of too dull a shade of green. Cayley's plate in *The Emu* (vol. 27, pl. 12) is an excellent representation of a male.

Field Notes.—I have not had the opportunity of observing this species in its natural state, but as a few birds have recently been located not far from Sydney I look forward to remedying this omission in the future.

Aviary Notes.—After having been a well-known aviary bird in the nineteenth century, this species disappeared from the ken of aviculturists both in Australia and abroad, and during the early years of the

present century many ornithologists in Australia believed the species to be extinct. However, a few reached the hands of experienced Sydney aviculturists in the early nineteen-twenties, and since that date the species has steadily increased its numbers in captivity in most parts of Australia, and can now be considered to be satisfactorily established in a state of domestication.

My early experiences with the species were most unsatisfactory, two pairs of trapped birds acquired in 1935 failing to survive for more than a few months. Then, in August, 1936, I secured a nice pair of well-acclimatized birds, only to lose the hen egg-bound a few weeks later. A substitute was obtained, but the cock never became reconciled to the change, and it was not until late in October, 1937, that I was able to exchange her for another hen. The cock at once approved of the newcomer, and she laid a clutch of seven eggs late in November and early in December, but did not incubate them, a trait in her character which was destined to prove a great trial in future years. In 1938 she commenced to lay early in September, and produced thirteen eggs without becoming broody; four of these were placed under a pair of Cockatiels, and were hatched and reared, but the foster parents would not feed them after they left the nest, and they all succumbed. A second clutch of nine was laid in November, but again was not incubated. In 1939 she again started laying in mid-September, and broke many of the first batch of fourteen eggs, but behaved better in regard to the second lot of eleven commenced in November; once again, however, no incubation ensued. For the next four years she was rightly regarded as a hopeless proposition; nevertheless, seven young birds were reared by transferring eggs to a pair of Elegants whenever opportunity offered.

Prior to the 1944 season a new hen was obtained, and she laid a clutch of five fertile eggs late in September. All of these hatched and four were reared, leaving the nest about the middle of November. A second clutch of four was laid later in the same month, and all were hatched and reared by mid-January. 1945 was another good season for this pair, four eggs being laid late in August, and all being hatched and reared. A second clutch was laid late in October, and although one of the four died early the other three were reared, in addition to a young Splendid which had been transferred to the nest.

1946 started poorly in that the hen became eggbound with her fifth egg in mid-August, and on recovery proceeded to break the clutch. However, she laid five more eggs early in September; of these three were fertile, but only one hatched; it was successfully reared. A third clutch of six eggs late in October resulted in five good young being reared, and two more were obtained from the fourth clutch laid in mid-December, only three of the six being good. 1947 was a poor season. The first clutch of six, laid in August, were all clear; a second

batch of five in mid-September resulted in the three fertile eggs hatching in early October, and although one died early the other two, and a Splendid which had been placed in the nest, were reared early in November. Although five out of the third clutch of six, produced early in November, were fertile, the only two to hatch died within a few days.

In 1948 the first two clutches, of four and two respectively, were clear, and at this stage the old hen was mated with one of her previous year's progeny, and she laid a third clutch late in October—two out of the five being fertile. The clear eggs were removed and replaced by a partly incubated Bourke egg and, in due course, two Turquoisines and a Bourke were reared. At the same time the old cock was mated with a newly acquired hen, and she laid a clutch of six fertile eggs in mid-October, and though the old fellow (who had been over twelve years in my possession) died soon after they hatched, she carried on single-handed and succeeded in rearing four very good youngsters.

For the season just past the old hen again started with two infertile clutches before eventually producing three fertile eggs out of five laid early in November; from these, however, three were reared. The second hen had a very stormy time with a new mate, who knocked her about very badly at times; of the first clutch of five eggs, three were broken, and only one hatched and was reared early in December. She laid two more eggs in mid-December, and at the time of writing (end of January) two young birds are more than half-grown. A third pair laid a clutch of five in mid-October, and hatched four of them, lost one early on and one later, but reared the other two.

The medal of the A.S.S.A. was awarded to Mr. S. Harvey in 1929 for the first breeding of this species; the records show that he first bred them in 1926, prior to the formation of the Society.

(35) SCARLET-CHESTED GRASS PARRAKEET (*Neophema splendida*)

Synonyms.—Splendid Grass Parrakeet, Orange-throated Parrot.

Distribution.—The true range of this bird is very uncertain; it appears mainly to inhabit Central Australia and northern South Australia, with an extension of its range down into Eyre's Peninsula and the west coast of South Australia. It has also been reported from northern New South Wales and north-western Victoria; the last Western Australian record is over a hundred years ago.

Description.—This and the preceding species are the smallest members of the genus. The adult male has the nape, back, and rump bright green, the breast scarlet, and the abdomen and subcaudals bright yellow. The facial mask is an extensive area of two shades of dark blue, and the broad wing edging is pale blue. The adult female differs in that the facial mask is restricted in extent and of a duller

blue, and the breast is green instead of scarlet with, very occasionally, a few orange feathers on the throat. She shows the broad wing edging of pale blue, and in this respect differs most markedly from the hen Turquoise, in whom this area is of a deeper shade of blue; there is, in addition, more blue as a rule on the face of the hen Scarlet-chested. Immatures leave the nest looking like very dull hens and at that stage they are difficult to sex, although I think young cocks usually have more blue in the facial region than do young hens. However, in about two or three months a few red feathers begin to make their appearance on the chests of the young cocks, and in about six months young cocks have achieved a fair imitation of the adult plumage, with considerable restriction in the size of the red area. This does not develop to its fullest extent until the next moult, usually when the bird is between fifteen and eighteen months old. Young hens assume practically full adult plumage at the first moult, which is generally completed when they are five or six months of age. Very occasionally, indeed, young males leave the nest showing a few scarlet feathers on the chest.

Variations.—A fair number of adult males show an extension of the scarlet patch on to the abdomen, and even as far as the vent, but this marking is seldom even and usually fades out to an orange colour and is not, to my mind, at all attractive. Females are not infrequently seen showing an extensive orange abdominal patch. As in the case of the Turquoise, I do not consider the foregoing to be a subspecific difference.

Coloured Plates.—Goodchild's figure of a male in Seth-Smith (p. 223) is excellent; Roland Green's in Mathews (vol. vi, p. 462) is even better. The pair depicted in Greene (vol. i, p. 99) are not of a good shape, and the scarlet of the chest of the male is of a very washed-out shade. Cayley's plate of a pair in *The Emu* (vol. 26, pl. 34) is excellent of the male, but the female has a rather bulky, foreshortened appearance.

Field Notes.—As in the case of the Bourke, the interior habitat of this species has resulted in few people having seen it in a wild state. During an irruption of the birds into the vicinity of Wynbring, a siding on the Transcontinental Railway, in 1939, it was stated that they were very tame and consequently a very large number were trapped.

Aviary Notes.—The reintroduction of this species to aviculture in 1931, and its subsequent breeding in captivity by Mr. S. Harvey, of Adelaide, forms the subject of an interesting article in AVICULTURAL MAGAZINE, 1933, pp. 8-12; for this success Mr. Harvey was awarded the A.S.S.A. medal in 1932, and also the silver medal of the Society for the outstanding breeding achievement of the season. Since that date the species has been bred extremely freely in Australia generally, and in South Australia in particular, and is completely domesticated;

it is all the more tragic, therefore, that the species did not become firmly established in England before the introduction of the present apparently unsurmountable difficulties in importation.

My first examples of this species were obtained late in 1935, and the following season the hen began to lay in mid-October, but broke several of the early eggs before settling down to incubate ; in all, six young were hatched in mid-December, but the cock died about this time and none of them survived long thereafter. Meanwhile two of the early eggs had been hatched by Bourkes and were successfully reared by them in January. In 1937 the same hen was mated to the young cock fostered by the Bourkes the previous season, and she started laying late in August and continued to do so until October, breaking most of her eggs soon after producing them. A new hen was obtained at the end of October, and she laid a clutch of four in mid-November ; three of these were fertile and were hatched, and two survived to leave the nest in the middle of January. This hen died egg-bound in July, 1938, and a new hen proceeded to lay eggs throughout September without going broody.

Prior to the next season I obtained a new hen, alleged to be a trapped bird, and mated her with the cock bred in 1937, and this proved to be a very successful mating. In 1939 the first clutch of six eggs was laid in mid-September, and all were hatched, and although three did not survive long the other three left the nest early in November. A second clutch of four was laid in mid-November, all hatched and three were reared, leaving the nest early in January. For the next four seasons the same pair had very good results, having two nests each season, and rearing eight young in 1940 and in 1941, seven in 1942, and nine in 1943. In 1944 only one egg was fertile in the first clutch, but the young bird was successfully reared, and although all six eggs comprising the second batch were fertile, three died early and one later on, and only two were reared. The following season all of the first clutch of four were duly reared, but of the second lot of the same number, three died early and the survivor was given to Turquoisines to rear in the hope of a third clutch, which, however, did not materialize. 1946 saw the end of the breeding career of the old hen, who by that time had become extremely fat and sluggish. She hatched five out of her first clutch of six, laid in August, but three were allowed to die early, and the other two were reared. The second clutch of five, laid late in October, were all hatched and promptly allowed to die, and the three hatched out of the third clutch of five, laid early in December, were similarly treated.

Since that date I have not been particularly successful with Splendids. Two new pairs were tried in 1947, both hens laying in mid-September. One pair threw all their eggs out of the nest and the other hen hatched all of her four eggs just after the cock died ; when

three of these had died, one after another, the survivor was transferred to a pair of Turquoisines, and was reared by them. For the 1948 season the first of the above-mentioned pairs was given another chance, but after they had broken the first lot of eggs the hen was changed. The replacement succeeded in hatching two out of a clutch of five, only to lose one early and the other when it was quite large. A second, entirely new, pair produced a lot of eggs without incubating. For the season now ending, the first pair failed to rear any of three hatched in the first nest, got two good young on the wing out of three hatched in the second, and have two half-grown young in the third. A second pair of birds, bred in 1948, reared one of the two hatched in the first nest, but have failed to rear any of three hatched in both second and third nests.

(To be continued)

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BRITISH AVICULTURISTS' CLUB

The twenty-first meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 8th March, 1950, at 6 p.m., followed by a dinner.

Chairman : Mr. D. Seth-Smith.

Members of the Club : R. M. Adamson, Major J. E. Adlard, Mrs. C. M. Baker, Miss P. Barclay-Smith (Vice-Chairman), Miss Kay Bonner, G. T. Clark, Mrs. G. T. Clark, T. Crewes, Sir Godfrey Davis, B. H. Dulanty, O. E. Dunmore, A. Ezra (Patron), J. F. M. Floyd, H. J. Harman, R. E. Heath, G. T. Iles, Terry Jones, Miss E. Maud Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, A. F. Moody, C. J. Morny, G. S. Mottershead, H. Murray, S. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), J. H. Reay, D. H. S. Risdon, R. C. J. Sawyer, Peter Scott, J. A. Swan, E. N. T. Vane, C. S. Webb, H. Wilmot, H. Wallace Wood, Mrs. M. K. Woodford, S. A. Wright.

Guests : Mrs. J. R. Alderson, James Bailey, H.G. the Duke of Bedford, J. N. C. Bennett, Mrs. D. Carson-Roberts, Miss J. Crone, Miss J. Davis, Miss R. Ezra, Mrs. C. Harrison-Tubbs, G. J. Linnett, Mrs. C. J. Morny, Mrs. S. Murray, Mrs. V. G. Pelly, Mrs. J. H. Reay, Mrs. J. A. Swan, Miss P. Talbot-Ponsonby, E. H. Tong, Mrs. E. H. Tong, Mrs. K. Thomson, H. D. Tyringham, Mrs. H. D. Tyringham, Miss M. White, Mrs. H. Wilmot, Mrs. S. A. Wright.

Members of the Club, 39 ; guests, 24 ; total, 63.

The Chairman, opening the meeting, drew attention to the fact that it was the twenty-first meeting of the Club ; consequently, it could be said to have come of age. He then gave a brief outline of the

inception of the Club, and stressed the important part it had played in revitalizing the Society during the difficult post-war period.

On behalf of Mrs. G. T. Clark, the Chairman exhibited a mounted specimen of the Queen of Bavaria Conure, bred last year by Mrs. Clark, and now destined to the British Museum (Natural History). The Duke of Bedford gave a brief history of this bird, and said the female parent was one loaned by him to Mrs. Clark. He had made many attempts to breed this species, and although young ones had been hatched in his aviaries, they had not been reared.

The Chairman said Peter Scott was too well known to need a lengthy introduction, and he did not propose to waste time in this manner. Peter Scott then showed a very interesting series of coloured films taken last Autumn in Canada and the U.S.A. A good idea was conveyed of the Delta Waterfowl Research Station at Lake Manitoba, Canada, and its large collection of Canvas-back and surface-feeding Ducks. Other films dealt with the extensive collections of Dillon Ripley and Jack Livermore, in Connecticut. Members were delighted to see Jean Delacour in several scenes.

The last film consisted of a brief survey of the Severn Wildfowl Trust collection and the various activities connected with the Trust. Amongst distinguished visitors we were shown the Duke of Edinburgh feeding Snow Geese.

There can be little doubt that many in the audience were surprised to learn a collection of such magnitude existed in England.

Thanking Peter Scott, on behalf of the Club, the Chairman said it was indeed fortunate for Aviculture there were such enthusiastic and skilled breeders. He would like to take the opportunity of mentioning another very successful breeder of Waterfowl, namely Terry Jones, of Leckford.

The audience showed by its warm applause that it had fully appreciated Peter Scott's films and commentary.

The next meeting of the Club will be on **10th May, 1950.**

ARTHUR A. PRESTWICH,
Hon. Secretary and Treasurer.

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COUNCIL MEETING

A Council Meeting was held on the 8th March, 1950, in the Council Room, Zoological Society of London.

There was the following election and appointment :—

Elected Honorary Member—Mr. Lee Crandall.

Appointed Assistant Secretary—Miss Kay Bonner.

PERSONALIA

Dr. W. C. Osman Hill has been appointed Prosector to the Zoological Society of London.

News from correspondents.

I. Baty says "The breeding season resulted in four Elegants, eight Redrumps, and nine Bourkes".

F. H. Rudkin, Sr. : "My son got back with so much to tell of English Aviculture that it makes me homesick (just a little). The lovely lutinos he brought back are wonderful. We have just acquired two Keas."

F. L. Gary, of New Jersey, the newly elected President of the American Bantam Association, writes that A. F. Sturgis, Harleysville, Pa., has just imported from Calcutta a pair of Cabot's Tragopans ; they are the only ones in America. Also that the Philadelphia Zoo has received a trio of Scintillating Copper Pheasants.

John Yealland writes from Honolulu concerning the Hawaiian Goose re-stocking project : "We have three pairs here at present, and one of them is nesting. The female of the second pair was taken, by some extraordinary chance, alive and uninjured from a hunter, so could not really be expected to nest this year. The third might still be too young. However, we hope !"

C. L. Faudell, now domiciled in Canada : "The disposal of my birds was almost the only sad part of my venture. Fortunately they were all taken by Mr. Vane to be well cared for. I was especially sorry to part with my outstanding pair of Leadbeater's Cockatoos. I hope they will continue their remarkable breeding success with Mr. Vane. Since I acquired this pair in 1943, they have bred and reared fourteen young and, as far as I am aware, thirteen are still living, and have at least three grandchildren. These must represent quite a substantial part of the total Leadbeater population in England."

F. S. Scherr, the Parrot Jungle, Miami, Florida, writes : "We started breeding Macaws ten years ago. One pair, a blue and gold male and a scarlet female, have bred eighteen babies so far, two per year. The parents' colours diffused into orange-breasted birds. Several straight matings have produced another dozen birds. A mating of a military (green) Macaw with a scarlet female produced some more hybrids with various mixed colours. Our birds fly about free, which accounts for their breeding so freely. Birds that are trained to perform and have their wings clipped do not breed."

A. H. Gardner, Sydney, writes : "Perhaps this information will be of some help to those members keeping birds which need live food. Half-fill a wooden box or small barrel with bran, mixed with water

to the usual consistency for feeding fowls. Place the box containing the damp bran in the sun, but out of all wind. The bran thus generates great heat and cracks appear in the surface. The smell will attract the small house-fly. After about three days, if the mixture and the position of the box are right, hundreds of gentles will be obtainable every day until the bran needs renewing. These gentles are smaller and cleaner, and the smell is less objectionable than that of the head of a sheep or meat.

I have a pair of Hooded Parrakeets which have reared over sixty young to maturity in the last sixteen years, and look as well as any of their offspring, which, believe me, were well reared."

W. G. Baird, New Zealand, writes : " We are very fortunate here, being able to get Finches across from Australia by air, the journey only taking about $6\frac{1}{2}$ hours. The Department of Internal Affairs, which controls the Wild Life section, has been making a check up on native Parrakeets being kept in captivity. It is an offence for them to be held, and officers of the Department have been coming round the aviaries taking particulars of number of birds held, and also size of aviaries. From what I can gather, we are now going to be issued with permits to keep native birds in captivity ; at long last the Department is taking a sensible view of things. The only way of the public seeing New Zealand birds is to let aviculturists keep them. Hundreds of people have asked me what the ' Green Parrakeets ' are in my aviaries, and when I tell them that they are natives of New Zealand, they all say the same, ' Never knew there were any Parrakeets here.' "

The Avicultural Society prides itself on being international in character. Reference to the List of Members shows there are in fact members throughout the world. But many more are wanted. Members are asked to remember they are *members of a Society*, and not just subscribers to a publication ; and as such they are urged to participate in the activities of the Society.

A. A. P.

REVIEW

EDWARD LEAR'S PARROTS. By BRIAN READE. Duckworth.
8s. 6d. net.

I must confess that before reading the handsomely produced *Edward Lear's Parrots*, by Brian Reade, I did not realize that Lear the bird artist and Edward Lear of the immortal nonsense rhymes was one and the same person, and it is interesting to note that "the Nonsense idiom began to develop as a means of amusing Lord Derby's grandchildren" during a visit to Knowsley Hall to do illustrations of the zoological collection there: interesting, too, are the sidelights on that apparently ruthless individual, John Gould, after whom the Gouldian Finch is named.

As the birds themselves are only incidentally mentioned in the text, it is perhaps best that I should concentrate on the accompanying coloured plates which, though they all have a quaint decorative "period" charm, cannot, in some cases, be taken seriously as accurate portrayals of the birds they are supposed to represent.

It seems a pity that the present-day Latin names are not given as well as the superseded ones, as this would have made it easier to identify the "Roseate Parrakeet. *Palaornis Rosaceus*" which—presumably a Barraband—is the merest grotesque caricature of that very elegant and beautiful bird.

The deliniation of each separate feather—particularly in the Salmon-crested and the White-tailed Black Cockatoo is often exquisitely done, and to my mind the two best plates are those of the Blue and Yellow Macaw and the Browns Parrakeet, except for the latter's enormous left foot, which is the same size as its head! The Mealy Rosella looks as though suffering from a bad chill, but the colouring is quite good except that the patch of salmon-pink feathers is round the vent and not on the thighs.

The Stanley—presumably a hen—is one of the best for contour, but its colouring does not do justice to even the drabest female of the species.

Quite the worst plate in the book is the Rock Peplar, not so much for colour as shape, with its massive Macaw-like body tapering off to a tiny Budgerigar-sized head, which, with the mantle, appear to be clothed in fur rather than feathers.

One should not, of course, be too censorious of these ancient coloured plates produced, with limited technical facilities, over a hundred years ago; but so uneven are their merits that it seems obvious that some were done from living specimens and others from skins, and that, while the best of the former are worth reprinting the latter are extremely misleading and much better forgotten.

E. BOOSEY.

NOTES FROM THE LONDON ZOO

By C. S. WEBB

The period under review, from the end of November to the end of February, is naturally rather dull from the point of view of new arrivals. However, there are a few things worth recording.

Ten Greater Flamingoes were received from the Giza Zoological Gardens, Egypt. These are destined for Whipsnade when the weather is favourable.

A North American Ruddy Duck (*Oxyura jamaicensis*) from the Severn Wildfowl Trust, is new to our collection. It is an attractive bird of the Stiff-tail group, and raises its tail to the vertical position when displaying. We were pleased to get two Crowned Pigeons and one Victoria Crowned Pigeon from Mr. Frost, as these are the first arrivals since the war. To those unfamiliar with these birds it is as well to mention that they are the giants of the Pigeon tribe—being as big as Geese—are mainly terrestrial, and have large ornamental crests. The Victoria Crowned Pigeon is easily recognized by the white spatulated tips of the crest feathers.

Other interesting birds from the Frost collection are two Yellow-crowned Bulbuls (*Trachycomus ochrocephalus*) and two Javan Hill Mynahs.

A welcome addition is a Kea, which recently arrived by sea from New Zealand. An effort to bring it by air was frustrated because the Australian authorities would not allow it to touch down in their territory! Much has been written and said about this remarkable Parrot, but its chief claim to fame is on account of its supposed habit of attacking sheep and tearing open their loins to get at the fat surrounding the kidneys. Probably no bird is so playful and full of curiosity, and it may be that the latter has been the cause of the bird's undoing. Keas cannot resist anything new and so, in the early days, they flocked round settler's huts to inspect anything unfamiliar. In this way they are supposed to have found that strips of fat that were hanging up were quite nice to eat, and a taste was acquired for this new article of diet. Newly introduced sheep proved to be irresistible to the playful Keas, as they could ride around on their backs and enjoy themselves tugging out wool. Maybe through devilment, or through some birds hanging on too tightly when sheep were on the run, some animals were torn open, and the ever inquisitive and intelligent Keas found in this way, it is assumed, that here was a wonderful source of supply of fat. It seems equally feasible that this strange habit may have originated through sheep being injured, once the taste for fat had been acquired. One can fully sympathize with sheep farmers in districts where Keas have become a menace, though there is a difference of opinion as to whether all Keas should be slaughtered. In some districts, for reasons unknown, they do not

attack sheep, and in other districts there are no sheep to be attacked, but it is reported that Keas are slaughtered in great numbers everywhere, as there is a price on their heads. It is said that they do not migrate from one district to another. If this is so, let us hope that they will be preserved, at least, where they are doing no damage.

To revert to the Zoo, we intend shortly to stage a separate exhibit of the British Owls on the same lines as the one of the British Crow tribe. In this connection we have received a Long-eared Owl—hand-reared and presented by Mr. Phil Bates of Whipnade—but we still need a Short-eared Owl to complete the British list.

By an extraordinary coincidence, shortly after deciding to make our open lawns more attractive by running some Geese on them—at the same time cropping the grass—a fox visited the Gardens and slaughtered a pair of Cereopsis Geese, and a pair of Egyptian Geese. As there was no further trace of the marauder, we continued with our experiment, hoping it would confine its attentions to outer London; however, after a lapse of several weeks it returned, and slaughtered a pair of Ashy-headed and a pair of Brent Geese.

A fairly large collection of Pheasants arrived recently from Calcutta, some of which may remain in this Menagerie. It included 21 Impeyan, 3 Koklas, 3 Nepal Kalij, and 7 Cheer Pheasants, also 25 Chukor Partridges.

Just arrived are a pair of Chilean Black-faced Ibis (*Theristicus melanopsis*) from South America.

Some of our Delamere's Giant Whydahs that came from Kenya last summer are in full colour (February) in an outside aviary.

* * *

COLOURED PLATE FUND

At the Council Meeting of the Society held on 8th March, 1950, it was decided to open a "Coloured Plate Fund" to provide for further coloured plates in the AVICULTURAL MAGAZINE. It is hoped that all members who appreciate coloured plates will increase their subscriptions by an additional donation to this Fund. At the Avicultural Dinner held the same evening, the twenty-first of the series, the Chairman, Mr. David Seth-Smith paid tribute to the Hon. Secretary, Mr. A. A. Prestwich, whose idea the formation of the Club had been and to whom its great success was due. The Club has done much to weld the Avicultural Society together and much to stimulate interest in both aviculture and the Society. Following the dinner Mr. Prestwich received a cheque for £50 for the Coloured Plate Fund from the President, Mr. A. Ezra, as a token of his appreciation and gratitude for all Mr. Prestwich has done for the Society. A good example and happy way of showing appreciation of the Hon. Secretary which so many members undoubtedly feel.

NOTES

ROSEATE COCKATOO × GREATER SULPHUR-CRESTED COCKATOO HYBRID.

In Volume 55, No. 3, of the AVICULTURAL MAGAZINE (May-June, 1949) a hybrid Roseate × Greater Sulphur-crested Cockatoo is described. It is of interest to record that an exactly similar bird has been on exhibition in the Adelaide Zoo for many years. There are also three hybrid Roseate × Leadbeater's Cockatoos on exhibition.

ALAN LONDON.

* * *

CORRESPONDENCE

RED-BILLED WEAVERS AT LIBERTY

About the middle of November, 1949, two cock Red-billed Weavers were accidentally let out here at Keston, while being transferred from one aviary to another.

We had quite forgotten about them until, on 27th January—six weeks later—we suddenly saw them sitting among various Tits and Sparrows in an elder bush close to an aviary containing a hen Weaver, and both looking very fit and well.

I think it is interesting that they should have stayed and survived in mid-winter without even being fed, and curious that nobody spotted them before, except that some Weavers at liberty do seem to have a mysterious habit of suddenly vanishing for quite long periods, and as suddenly reappearing again.

The two Weavers stayed around for about a week, and then did the vanishing trick, but I've little doubt they'll turn up again soon; the mystery—and one I've never been able to solve—being where do they spend their time in the interval?

EDWARD BOOSEY.

THE KESTON BIRD FARM,
KESTON, KENT.

MISTAKEN IDENTITY OF PLATE OF COMMON KING PARRAKEET

John Yealland (Vol. 55, No. 4) suggests that Dr. Greene's plate is one of the "Island" King Parrots. I feel quite sure this suggestion is correct, but I had overlooked it owing to my relative unfamiliarity with the extra-Australian members of the genus.

ALAN LONDON.

66 BROUGHAM PLACE,
NORTH ADELAIDE,
AUSTRALIA.

With reference to Mr. Vane's letter on King Parrakeets, I do not think that, beyond the fact that they both belong to the same order of birds and have a certain superficial resemblance in form and colour, there is the least affinity between the members of the subgenera *Alisterus* and *Pyrrhulopsis*. Having kept both, I can say with confidence that it is difficult to find two groups of Parrakeets more utterly unlike in every respect.

Between the species of *Alisterus* in which the sexes are alike and those in which they differ in appearance there are fairly marked points of resemblance and also fairly marked points of distinction. In voice the former group are definite Kings, but in temperament both sexes are fierce birds, addicted to murder, which the Australian King is not.

The climate of the East seems, indeed, to have a bad effect on the manners of Parrakeets of the Australasian group.

For many years I longed to possess the Timor Crimson-wing (*Ptilinopus timorensis*), but when my ambition was at length realized I found that the whole order of Parrots does not contain a more ill-conditioned brute, nor one more tiresome from the avicultural standpoint—not only does he pluck himself with more frequency and persistence and less excuse than any other psittacine bird, but he kills his wife as a matter of habit, and, if he should be tame (?), hates the human race—and especially his owner—with an intensity that must be seen in order to be believed!

BEDFORD.

CROWHOLT,
WOBURN, BLETCHLEY,
BUCKS.

9th February, 1950.

SEXING BLUE-FRONTED AMAZONS

E. Boosey's method of sexing Blue-fronted Amazons proved accurate in respect of a bird of this species which died in the Adelaide Zoo about the time this number was received in Adelaide.

ALAN LENDON.

66 BROUGHAM PLACE,
NORTH ADELAIDE,
AUSTRALIA.

BIRD SHOWS

Mr. Goodwin's communication on this subject requires an answer. He asserts (1) that at Shows birds are "a misery to themselves, a disgrace to their owner, and a most potent weapon for those who would abolish all aviculture."

(2) That the efforts of breeders to produce winning birds results in their Uglification and Derision, as Alice might say. "Hideous and monstrous," says Mr. Goodwin quite emphatically, for he is pretty good at invective.

Now anybody who lives very familiarly with birds knows at sight whether they are uncomfortable, restless, discontented, bored, happy, or "a misery to themselves". The vast majority of birds at Shows are Canaries and Budgerigars. Some few of them, used to aviaries, are a little bored and restless, but less so no doubt than Mr. Goodwin when he has just missed a train and has to wait an hour for the next.

About the British birds one cannot speak so dogmatically and I do wish that their cages were larger—many of them, however, seem fairly contented, and such birds as Nuthatches or Wagtails usually have decent-sized cages and seem easy in their minds. I think many of the Finches in their tiny boxes are bored and weary long before the end of a three-day Show, but out of the thousands of birds on view at the "National" very few indeed could be described as a misery to themselves or definitely unhappy at all.

As to the effect on the public, it is true that some people whose zeal (as usually happens) is in direct proportion to their ignorance, violently object to any imprisoning of wild birds. But such persons usually avoid bird shows altogether, and for one visitor who is repelled and disgusted there would be, in my opinion, a dozen who would decide forthwith to keep birds themselves. If Mr. Goodwin's view were correct the Shows could not flourish as they do.

As to constituting a weapon in the hands of prejudiced fanatics there may be something in that assertion, but that "something" is quite outweighed by other considerations. "Vested interests" have an unprepossessing sound, yet sometimes they are useful. The bird shows, together with the trade interests and the fancy journals that support them, constitute a power for which we had reason to be thankful when the originally destructive "Buckmaster Bill" was amended into a sensible, and, indeed, admirable measure.

Regarding the alleged crimes of Uglification and Derision one must beg to differ entirely. If one fact is clear and certain it is that Nature herself is forever making experiments, and much more blindly than man. If mere man had produced the archæopteryx or the dinosaur Mr. Goodwin's vocabulary of epithets would have run dry. Moreover Nature sacked the lot and tried again; and what a boss shot she made over the African lung fish and the giant salamander of Japan! Or does Mr.

Goodwin admire these nightmare creatures because their very ancient lineage makes them more truly "natural"?

He considers the original Green Budgerigar far more beautiful than any birds derived from them. If he can produce three unbiased artists I will bet him five pounds to five shillings that they all disagree with him.

Breeders, being human, must sometimes err, but their work adds greatly to the vast amount of pleasure and interest which many thousands of people derive from the Shows. No, Mr. Goodwin, our birds are not a disgrace to us. We are creative artists and very respectable: indeed if we happened to be foreigners instead of Englishmen we should undoubtedly receive some sort of decoration and wear a nice rainbow-coloured ribbon in our buttonhole.

A. H. SCOTT.

25 CHESHAM PLACE,
LONDON, S.W. 1.

(The above letter was shown to Mr. Goodwin who replies as follows.—Ed.)

I feel some reluctance to cross swords with one whose articles—particularly "Sand Martins in Captivity"—have struck me as among the most pleasing that have appeared of recent years in our Magazine. Nevertheless I feel obliged to reply to the points made in his letter criticizing my remarks about bird shows.

If Mr. Scott re-reads my previous letter he will see that I said not that all birds at shows were "a misery to themselves, etc., etc.", but only such few birds as panic at the crowds and strange surroundings. This I maintain is true, but I will go further and say that the sight of what they consider to be "wild birds" shut up in tiny cages is revolting to most of the general public. With regard to the ignorance and, in many cases rank hypocrisy, of some of the anti-bird-keeping fanatics Mr. Scott and I are evidently in accord, but that ignorance does not prevent them from sometimes getting a hearing in influential circles. It may be—though I doubt it—that there are six converts to bird-keeping made at a show for every visitor who is disgusted, but it is a truism that hate is stronger than love (at least in *Homo sapiens* (?)) and the person who is disgusted is more apt to make his voice heard. For example after one of the Palace shows—I think the 1948 one—*Punch* published a most moving poem on the subject which I will warrant made more enemies for bird-keeping than all the pro-show eulogies in the fancy press made friends.

Aviculturists tend to preach to the converted (and of course not only aviculturists are guilty in this respect) but I know that by far the majority of people interested in birds that I have met have been definitely against the keeping of birds in captivity. In many cases this has been due to their imagining that all aviculturists kept their birds penned up in the sort of little cells they had seen at bird shows or in bird-dealers shops. Most have expressed great surprise at seeing birds quite happy in moderately spacious quarters and been ready to revise their views. In the main, however, ornithologists are it seems against bird-keeping, despite the fact that many of the more learned ornithologists have been aviculturists as well. Even now, however, the fact of a man's being an aviculturist is sufficient to invalidate his opinions—irrespective of his field experience—with some ornithologists.

With regard to the trade and vested interests. It may be true that they were of service in whittling down the Buckmaster Bill to its present sensible form. Yet it may well be suggested that but for the disgusting cruelties and excesses of that trade such Bills are hardly likely to have been inaugurated. It is true that the cruelties now inflicted on domestic animals and ("so-called") vermin with the full approval of the law and public sentiment far exceed any cruelties that were inflicted by the wild bird trade (unless call-birds were at one time blinded on a large scale of which I have yet to read or hear the account of a personal witness) but as public sentiment makes a vast distinction as between say a Goldfinch and a pig that does not affect the practical as distinct from the moral issue.

(2) I said that many fancy Pigeons were "hideous and monstrous" and expressly stated that Canaries and Budgerigars had not yet produced anything really frightful. There is, however, no reason to suppose that Man may not ultimately produce something from these two species as revolting in appearance as a winning bulldog or Show Homer. I have not seen a wild Budgerigar but from a comparison of museum

specimens I imagine that it would when alive have a certain natural grace and balance that would make the domestic bird look coarse and heavy beside it. That some (not all by any means) colour varieties of domestic Budgerigar are beautiful I agree but none *more* beautiful than the Green. In the case of the Canary, Pigeon, and Domestic Fowl I have seen the wild prototypes and am of the opinion that they are infinitely more beautiful than even the best-looking of the domestic breeds.

That because Nature has produced creatures which appear to us as vile or monstrous Man is therefore justified in taking some of her most beautiful creations and making monsters of ugliness out of them is I think a rather debatable point, but for the sake of space I will not attempt to debate it here. Nature certainly produces variations but she only allows such as are fitted to their environments to survive. Whatever may be thought of the dinosaurs and their contemporaries they were—whilst they survived—adapted to their environments and the same is true of the present day lungfish and giant salamander. Man, on the other hand, perpetuates variations, such as the bulldog and the featherless Pigeon, which could not possibly survive if cast on their own resources and which can justly be called monstrous in every sense of the word.

So far as vertebrate animals are concerned I know of none which strike me as having that kind of "unnatural" ugliness which one finds in so many "fancy" varieties. Such creatures as baboons seem rather hideous, but this is probably one's emotional revolt at seeing the feelings and motives that so largely dominate Man expressed in their crudest form with none of the graciousness and, albeit at a sub-rational level, kindness which birds have evolved in their social relations.

Apart from every other consideration if only the time, money, and energy that has been spent in producing fancy varieties had been devoted to the domestication of other wild species—the Snow Pigeon, the Bronze-wing Pigeon, the Goldfinch, etc.—how incomparably richer would our aviaries be to-day. It is indeed an oft repeated and not altogether unjustifiable accusation against aviculturists that they have caused countless thousands of wild birds to be trapped and then die off in captivity without leaving either descendants or detailed records of their habits and behaviour.

DEREK GOODWIN.

TOFTS, MONKS ROAD,
VIRGINIA WATER, SURREY.

WHITE EARED PHEASANTS

The reference to White Eared Pheasants in Mr. Alex Hampe's article "Thoughts about Pheasants" that appeared in *AVICULTURAL MAGAZINE* for January-February, 1950, points out strongly the danger that lies in the use of comparative terms. When I marked this bird, in Mr. Weaver's list, as "fairly common" in this country, I had in mind its position at that time, as compared with its former great scarcity. Up to 1947, really good progress was made, with a fair number of young being reared annually. During the past two seasons, however, the White Eared Pheasant has retrogressed so that very few remain. In the eastern states, there seems to be only a single cock. Fortunately, there is a good hen here in the Zoo, which will be paired with this cock during the coming season.

The form, incidentally, is *Crossoptilon crossoptilon crossoptilon* and not, as Mr. Hampe suggests, *C. c. drouynii*. They were first received and successfully bred by the late Leland Smith, on the Californian game farm in which Mr. Booth was interested. On Mr. Smith's death, the stock was taken over by Mr. Claude Hooke, who continued to do well with them.

The season of 1950 will be a crucial one in determining the future of this fine bird in American aviaries. Certainly, it cannot now be said to be "fairly common".

LEE S. CRANDALL.

NEW YORK ZOOLOGICAL SOCIETY,
BRONX PARK,
NEW YORK, U.S.A.

The Editor does not accept responsibility for opinions expressed in articles and correspondence. No article in the AVICULTURAL MAGAZINE can be reprinted without permission from the Editor.

THE AVICULTURAL SOCIETY RECEIPTS AND PAYMENTS ACCOUNT

Year ended 31st December, 1949.

	RECEIPTS		PAYMENTS	
	£	s. d.	£	s. d.
To Balance at Bank, 1st January, 1949		412 4 8		
Ordinary Subscriptions—				
Arrears	31	5 0		
Current	479	7 1		
In advance	57	3 5		
Life membership subscriptions		45 0 0		
Donations		23 17 0		
Sales of Magazines		126 4 10		
Sales of <i>Aviculture</i> , Volume I		30 13 1		
Sales of Plates		5 3 0		
Sales of Waterfowl Rings		8 0 7		
Members' advertisements		4 7 7		
Dividends on 2½ per cent Defence Bonds		4 2 6		
<i>Note.</i> —In addition to the Balance at Bank the Society holds the following investment—				
£195 2½ per cent Defence Bonds				
By Printing of Magazine			537	17 3
Sundry printing and stationery			50	17 6
Printer's Expenses and Charges			8	15 0
Postages			21	0 7
Honorarium to Editor			100	0 0
Blocks for coloured plates			42	9 10
Paintings and Drawings			52	10 0
Newman Library—				
Insurance			2	5 0
Preparation of Card Index			2	2 0
Purchase of books			1	8 6
Waterfowl Rings			49	0 0
Black Swans (Carriage, etc.)			7	18 10
Expenses at Council Meetings			1	18 0
Registry—"Pheasant"			10	0 9
Advertisements			11	0 0
Accountancy fees			5	5 0
Bank charges			8	10
Purchase of 2½ per cent Defence Bonds			30	0 0
Miscellaneous Expenditure			5	0 1
Balance at Bank, 31st December, 1949			940	7 2
			287	1 7
			<u>£1,227</u>	<u>8 9</u>

We have examined the above Account with the books and vouchers of the Society and certify it to be in accordance therewith. We have verified the Bank Balance and the Investment.

W. B. KEEN AND CO.,
Chartered Accountants.

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LONDON, E.C. 2.
3rd March, 1950.

CANDIDATES FOR ELECTION

- THOMAS BARR, Beanscroft, Kilmarnock, Ayrshire. Proposed by A. A. Prestwich.
- J. C. BEALL, "Greenways," 119 Station Road, Glenfield, Leicester. Proposed by O. E. Dunmore.
- R. W. BRIGHT, 190 Kingston Road, Staines, Middx. Proposed by A. A. Prestwich.
- Dr. REGINALD BROWN, 6 Barker Street, Newcastle, N.S.W., Australia. Proposed by Miss M. Reid.
- JEROME BUTEYN, San Luis Rey, California, U.S.A. Proposed by Francis H. Rudkin, Sr.
- W. CARTER, P.O. Box 49, Vereeniging, South Africa. Proposed by Dr. A. R. Robertson.
- V. C. DAVIES, 14 Station Road, Tir-y-Dail, Ammanford, Carm. Proposed by A. A. Prestwich.
- FRED G. FIERKE, 602 Point Basse Avenue, Nekoosa, Wisconsin, U.S.A. Proposed by A. A. Prestwich.
- W. FRILING, Eikelenberg, Brasschaat, Nr. Antwerp, Belgium. Proposed by Miss P. Barclay-Smith.
- M. W. GAUNT, 48 Ainsdale Road, Leicester. Proposed by O. E. Dunmore.
- Mrs. EVA GLENN, Justrite Pet Foods, Ltd., Beach Road at Windermere cut-off, Hamilton, Canada. Proposed by A. A. Prestwich.
- F. A. GOMM, The Cave, Amersham Road, Hazlemere, High Wycombe, Bucks. Proposed by A. A. Prestwich.
- Mrs. VERA HARMAN, 3601 West 102nd Street, Inglewood, Calif., U.S.A. Proposed by Mrs. Ruth Adams.
- ALEX J. HARRIS, Jr., Pendleton, Virginia, U.S.A. Proposed by A. A. Prestwich.
- KEITH C. KIRK, 54 Station Road, Sutton-in-Ashfield, Notts. Proposed by A. A. Prestwich.
- I. LAGER, P.O. Box 40, Panys, South Africa. Proposed by Dr. A. R. Robertson.
- G. H. LEE, 26 River Street, Maesteg, Glam. Proposed by A. A. Prestwich.
- E. LEVY, 22112432 CFN Levy, R.E.M.E. (attached) H.Q. 6 Inf. Brigade, B.A.O.R.4. Proposed by A. A. Prestwich.
- C. MERRY, 89 King William Street, Tunstall, Stoke-on-Trent. Proposed by A. A. Prestwich.
- C. A. MORGAN, "Malvern," 97 Gaynes Park Road, Upminster, Essex. Proposed by A. A. Prestwich.
- L. RAYMAEKERS, 71 Avenue Moliere, Brussels, Belgium. Proposed by Miss P. Barclay-Smith.
- J. DONALD SMITH, Game Conservationist, Board of Commissioners of Agriculture and Forestry, Honolulu 1, Hawaii. Proposed by John Yealland.
- ERIK SVERRE, JR., Box 15, Skoyen, Norway. Proposed by A. A. Prestwich.
- LLOYD B. THOMPSON, 1818 Cliff Avenue, RR 8, New Westminster, B.C. Canada. Proposed by Dr. W. E. Hurlburt.
- E. H. TONG, Zoological Society of London, Whipsnade Park, Nr. Dunstable, Beds. Proposed by Mrs. G. T. Clark.
- H. C. VAN DIJK, Stedekestraat 24, Tilburg, Holland. Proposed by E. W. Coombs.
- A. F. WALBRIN, School House, Croft Road, Hastings. Proposed by A. A. Prestwich.
- R. H. WALKER, 102 Chapel Street, Skinningrove, Saltburn-by-the-Sea, Yorkshire. Proposed by A. A. Prestwich.
- Miss B. R. S. WEST, Hazelcombe, Dulverton, Somerset. Proposed by Miss Kay Bonner.
- Professor JOHN WHEATLEY, 5 Westleigh Avenue, Putney Hill, S.W. 15. Proposed by Mrs. J. Wheatley.
- S. H. WRIGHT, c/o 7 King's Road, Cheltenham, Glos. Proposed by A. A. Prestwich.

NEW MEMBERS

The fifty-eight Candidates for Election, proposed in the January-February number of the Magazine, were duly elected members of the Society.

READMITTED

Miss MARION REID, c/o Messrs. John Reid, Ltd., Walt Street, Newcastle, N.S.W., Australia.

CHANGES OF ADDRESS

JOHN W. LIVERMORE, to 3 Levels Farm, West Redding, Conn., U.S.A.

B. MOTT, to The Croft, Bittell Road, Barnt Green, Worcs.

JAMES RICHARDSON, to 101 Stockton Lane, York.

Dr. A. R. ROBERTSON, to P.O. Box 242, Vrede, O.F.S., South Africa.

MARK VINSON, to The Beeches Farm, Cowden, Edenbridge, Kent.

COLOURED PLATE FUND

	£	s.	d.
A. EZRA	50	0	0
Capt. C. SCOTT-HOPKINS	1	5	0
Miss M. MAXWELL-JACKSON	1	1	0
C. L. SIBLEY	1	0	0

DONATIONS

	£	s.	d.
J. SPEDAN LEWIS	9	0	0
A. LAMB	2	2	0
Miss E. F. CHAWNER	2	0	0
E. VALENTINE	2	0	0
W. L. EAVES	1	2	0
Capt. C. SCOTT-HOPKINS	1	2	0
J. A. SWAN	1	2	0
S. MURRAY	1	1	0
Mrs. MARGARET K. WOODFORD	1	0	0

MEMBERS' ADVERTISEMENTS

The charge for Members' advertisements is ONE PENNY PER WORD. Payment must accompany the advertisement, which must be sent on or before the 20th of the month, to A. A. PRESTWICH, CHELMSFORD ROAD, SOUTHGATE, N. 14. All members of the Society are entitled to use this column, but the Council reserves the right to refuse any advertisements they consider unsuitable.

FOR SALE

Two Carolina, one Wigeon, drakes, 1949 hatched, pinioned. ; offers, or might exchange.—W. PAYN, Hartest Place, Bury St. Edmunds.

AVICULTURAL MAGAZINES, fourth series, Vol. VI, No. 1, January, 1928 ; third series, Vol. IX, complete ; third series, Vol. X, complete except for June. *Bird Notes*, Series III, vol. v, complete ; Series III, vol. vi, complete ; Series III, vol. vii, No. 1 to 8 inclusive ; what offers?—Capt. R. WAUD, Beadley Court, Chieveley, Newbury.

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AVICULTURAL MAGAZINE

Division of Birds



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THE AVICULTURAL SOCIETY

Founded 1894

PRESIDENT : A. EZRA, Esq., O.B.E.

MEMBERSHIP SUBSCRIPTION is £1 per annum, due on 1st January each year, and payable in advance. Life Membership, £15.

Subscriptions, Changes of Address, Names of Candidates for Membership, etc., should be sent to—

The Honorary Secretary and Treasurer,

A. A. PRESTWICH,

Chelmsford Road,

Tel. : Palmers Green 4484.

Southgate, N. 14.

Assistant Secretary, MISS KAY BONNER.

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is published bi-monthly and sent free to members. Members joining at any time during the year are entitled to back numbers for the current year on the payment of subscription.

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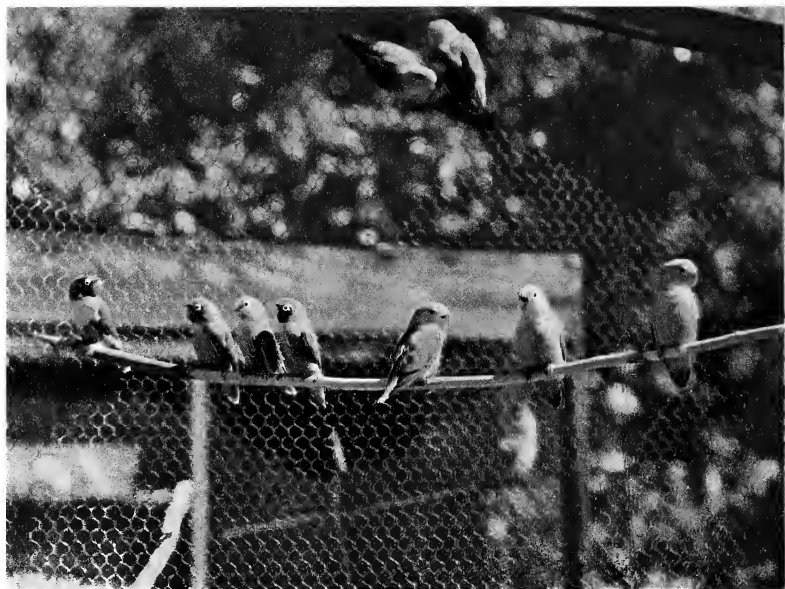
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POST-MORTEM EXAMINATIONS

- RULE 1.** A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. W. Lawrence, The Zoological Society of London, Regent's Park, London, N.W. 8.
- RULE 2.** A fee of 10s. and a stamped addressed envelope must be enclosed with the bird.
- RULE 3.** No body or skin of any bird will be returned under any circumstances whatever.



MASKED BLACK-CHEEKED AND FISCHER'S LOVEBIRDS
TAKEN AT
THE KESTON FOREIGN BIRD FARM.

From a colour photograph by Alec Brooksbank.

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MAY-JUNE, 1950

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY

(Continued from page 75)

The following year, 1933, produced another glorious summer with long hot days and a wonderful sunshine record, and during the season the following species reared young at the farm.

Parrakeets : Browns, Rosellas, Stanleys, Barrabands, Turquoisines, Bourkes, Blue-wings, Elegants, Manycolours, Ringnecks, Redrumps, and Hooded × Redrump hybrids. Also Budgerigars, Cockatiels, and Swainsons Lorikeets.

Lovebirds : Black-cheeked, Nyassa, Fischers, and Peach-faced.

Finches : Gouldian, Zebra, Red-headed Parrot, Long-tailed Grass, Heck's Grass, Ruficauda, Cherry, Bicheno. Also Silverbills, Bengalese, and Diamond Doves.

Among the Broadtails Stanleys and Rosellas did well, but our old pair of Browns were a disappointment, not entirely through any fault of their own. It is true they hatched and reared only two in their first nest, the remaining three eggs containing young dead in the shell, but they afterwards had a second brood all of which died in the nest when about a week old. As they were always such model parents, I cannot help thinking that this may have been caused by a prolonged thunderstorm of almost tropical violence, in the course of which there was a terrific simultaneous flash and explosion, and our house narrowly escaped being struck by lightning. It was after this storm that the young Browns were found to have died in the nest.

Barrabands again did well, as did Manycolours, two pairs of which alone reared ten young ones between them.

Having become rather tired of the extremely beautiful Hooded Parrakeets' maddening habit of moulting hard all the summer, and coming into breeding condition in the autumn, I decided to see if the hen could be tricked into going to nest at the proper time of year, and my plan proved unexpectedly successful.

In the early Spring, before she had started to moult, I mated the

hen Hooded to a cock Redrump who, unlike his new wife, considered the Spring the proper time of year to breed.

When the hen Hooded refused to take the slightest interest in a particularly seductive nesting site in the form of a natural hollow log, the cock Redrump, much to her consternation, decided it was time to start chivvying her about a bit, and she obviously thought that she was mated to a lunatic. However, he persisted in his strange desire to breed in the Spring, pursuing her tirelessly from end to end of the aviary until finally she took refuge in the nesting log. However, if she cherished any hopes of being permitted to indulge in a nice quiet moult inside the log, both her hopes and her privacy were rudely shattered, for if the cock Redrump suspected her of idling her time away while out of his sight, he hurried into the log and routed her out afterwards chasing her about again until she went back again and showed some sign of taking her duties seriously.

In the end his persistence (and I had specially chosen him for this quality) was rewarded, and four eggs were laid, three of which were duly hatched and reared. All three were fine specimens, and turned out to be cocks, being in appearance exactly what one would expect this cross to look like. We sold these young hybrids, and I believe they frequently appeared on the show bench.

The following Spring I allowed the cock to do his usual chivvying and chasing until he had at last induced the hen to enter the nesting log, whereupon I removed the cock Redrump, replacing him by the hen's original Hooded husband. They showed every sign of pleasure at being together again, and the result was a very nice brood of young Hooded which were among the very few ever to be bred in this country, and I think quite the first aviary-bred specimens ever to leave the nest at the proper time of year.

The chief difficulty, of course, was the exact timing, for I was very much afraid I might leave the cock Redrump in the aviary just too long, so that the hen Hooded would have already been fertilized by him before the return of her proper mate.

Ringnecks and Cockatiels were bred, and of the Grass Parrakeets, Turquoisines, Bourkes, Blue-wings, and Elegants were successfully reared. Turquoisines and Elegants, however, were only moderately successful, but, on the other hand, nine young Bourkes were reared by two pairs, and the same number by a single pair of Blue-wings.

During the season we obtained our first true pair of Golden-mantled Rosellas, and also—too late to breed—two pairs of birds of outstanding interest, namely Yellow-fronted New Zealand Parrakeets and Splendid Grass Parrakeets in each case loaned to the farm for breeding purposes by the then Lord Tavistock. Both were extreme rarities, which had not been seen in European aviaries for upwards of thirty years.

Yellow-fronted New Zealands I had never seen before, though, as it

happened, I had already seen Splendids, as a pair had been presented to H.M. King George V, from Australia, and on arrival were looked after for him by Mrs. Fetherstonhaugh, who asked me to go over to Royal Lodge, Windsor Great Park, where she then lived, to advise as to their housing and treatment. I shall always remember, as one of the major avicultural thrills of my life, the moment when Mrs. Fetherstonhaugh took me up to the large flight cage in which they were housed, and I first beheld a pair of the fabulous Splendid Grass Parrakeets in the flesh!

Malabar Parrakeets did not breed, the cock being newly imported and unable to fly, and pairs of Yellow-rumps, Pennants, and Crimson-wings were all too young to breed.

It may be of interest to note here that we never bred Pennants, and finally gave up keeping them altogether because of their exasperating habit of promptly biting off their own tails as soon as they had grown them again after the moult. Curiously enough, exactly the same thing happened with a pair I had had years before at my old home, which is not far from the farm, and one or two of our customers told us that they had experienced the same trouble with Pennants.

One might have expected the very hot summer to produce unusually good breeding results among the Finches, but this unfortunately was not the case, and the numbers reared were in almost every case below our usual average.

We noticed that on the more stiffling hot days the sitting hens were inclined to come off their eggs for long periods, and one could hardly blame them, because the sunbaked southern slope on which their aviaries were situated could be—in those days, when we really did have proper Summers—almost unbearably hot. Some hens, however, seemed to stay off much too long, which was doubtless the cause of the many addled eggs.

Bichenos did fairly well, and quite a number were reared. There are two distinct races of this very charming little miniature rather owl-like Finch, one with a black and the other with a white rump, known respectively as the Double-banded Finch and the Ringed Finch, and it is interesting to note that a brood of "hybrids" reared here between the two races *all* had white rumps.

Young Bichenos when they first leave the nest are probably easier to sex than they are later on, as, although they are mainly grey, young cocks usually have a faint but perceptible suggestion of a black band across the breast.

Even Zebra Finches did only moderately well, their average dropping to five young per pair, and Hecks and Long-tailed Grass-finches decided to give the summer a miss, nesting in Spring and again in the Autumn. Fortunately the latter was unusually mild, enabling the parents successfully to rear their late broods.

For various reasons, *Ruficaudas* did badly. Two of our best breeding hens died in the Spring, and two others laid but refused to sit, and in the end the only young reared were from eggs foster-parented under Bengalese.

Cherry Finches did worst of all, and what with the small number of young ones reared, and the previously noted tendency of adults to die suddenly, our stock was much reduced.

A fair number of young Bengalese and Diamond Doves were reared.

Four pairs of Red-headed Parrot Finches reached the farm in June, having been kindly brought over for us by a friend who had visited their remote native island of New Caledonia. Three of the pairs at once started to moult, but the fourth went to nest almost as soon as they were given an aviary to themselves, laying first a clutch of unfertile eggs. These were removed, and they immediately laid again, this time rearing four young ones, which left the nest in September. The parents ate quantities of seed, flowering grass, and millet sprays, and also mealworms. The latter have to be very carefully rationed to those Finches that will take them when breeding, as they seem to be a very rich food, and if too many are supplied in the early stages, the parents become over-stimulated and throw their young ones out of the nest in their desire to breed again. The number given daily should be very gradually and systematically increased as the brood matures.

This pair of Parrot Finches chose to nest in a Budgerigar box, but some pairs have the tiresome habit of ignoring the inside of the box and building abortive nests on top of it. We found the only way to overcome this was to give them specially made boxes with such steeply shelving lids that any nesting material placed on top promptly dropped off, and they eventually grew tired of this and nested inside the box instead.

Young Red-headed Parrot Finches are very unlike their brightly coloured parents, being sombre little dark green birds with faint tinges of red on the forehead and tail. At this stage the upper mandible is black and the lower one straw-coloured.

I always think they are about the most vivacious of all Finches, being indeed hardly ever still for a moment but, while lethargic birds are certainly dull, this perpetual motion also has its drawbacks, for in an aviary of any size it is next to impossible ever to have a proper look at these Parrot Finches.

Of all our Finches, Gouldians did best this year, the high spot being the rearing of thirteen youngsters by two pairs, and this in spite of the fact that the parents as usual refused to go to nest until late in the Summer. Of these, five were reared by one pair, the remaining eight all being fully reared by the other pair in a single nest! They were given a lamp in the shelter, and although they were not fledged

until November, twelve of the thirteen were excellent young ones, the remaining one (the only runty specimen in the brood of eight) dying about a week after it left the nest.

We tried Lovebirds in a new type of aviary, which proved unsuitable for Peachfaces, but a number of Blackcheeks, Nyassas, and Fischers were reared.

Among the thousands of Budgerigars of an ever increasing variety of colours bred annually at the farm, my partner had been concentrating on establishing and maintaining a really buttercup yellow strain of yellows, instead of the greenish yellow birds which were at that time only too common. Mr. Seth-Smith, I remember, was particularly struck by these birds when he visited the farm, and gave them special mention in the September number of the Magazine, and during this season a number of young ones were reared from the small original stock and were of equal richness and purity of colour as their parents.

The two breeding results of outstanding interest during the following season of 1934 were of Yellow-fronted New Zealand and Splendid Grass Parrakeets, and the parents, and, if I remember rightly, the young ones as well, were seen by Monsieur Delacour, Mr. Ezra, Dr. Hopkinson, and Mr. Seth-Smith, when they paid a visit to the farm partly to see these very rare Parrakeets.

The Splendids in particular were plagued with the usual vicissitudes that are visited upon one's rarest and most cherished birds.

The pair arrived the previous Autumn, and spent the Winter in an aviary with a heated shelter. The following Spring they soon went to nest, and seven eggs were laid. When the hen had been sitting for about ten days, however, the wings and feet of the cock suddenly became completely paralysed, and, although he eventually recovered, we were confronted with the immediate problem of what to do with the seven eggs, as if all or even most of them hatched it seemed unlikely that the hen would rear them single-handed. Eventually we decided to take them away, and they were distributed between a hen Bourkes and a hen Turquoise, both of which had fortunately started to sit about the same time as the Splendid.

All seven eggs hatched, but it seemed just too good to be true that they should all be successfully reared, and so it proved.

Disaster first overtook those under the Bourkes, whose nesting log split from end to end, hurling the almost newly hatched young Splendids to the ground where, of course—the tragedy conveniently taking place at night—they all perished. Needless to say several other logs, incidentally all cut from the same hollow tree trunk, but containing less precious broods, remained intact.

Then it was the Turquoise's turn. Just as the hen had ceased to brood the young ones at night there came a sudden Buchan's cold

spell, and for several days the weather was arctic, killing all but two of the young Splendids, both of which were eventually fully reared and fine youngsters. In the end, of the seven young Splendids hatched, three were reared, the third by a pair of Nyassa Lovebirds, which had been given an egg mistakenly supposed to be one of the Bourkes', but which turned out to be a Splendid's !

Meanwhile the cock Splendid had recovered, and been returned to his mate, who again went to nest, a nice brood of young ones being hatched at the beginning of August. All went well to begin with, and then all but two of the young ones died in the nest, but the two survivors were successfully reared.

The final result, therefore, was not so black as at first seemed probable, as we started the season with two Splendids, and ended it with seven. After that, until the war broke out, we maintained a fine breeding stock of this most beautiful of the Grass Parrakeets, and in 1939 we had, as far as I can remember, either five or six breeding pairs.

(To be continued)

* * *

COLOUR PREFERENCES OF BIRDS

By A. H. SCOTT

There is, presumably, a reason for everything. It is fairly evident, for instance, that if most birds and animals have turned brown, from whatever colour they originally were, it is for the same reason that most soldiers have turned brown, to the sorrow of nursemaids and others, after glittering for centuries in scarlet, or green and gold. But why is it that some birds have remained or become gloriously conspicuous, in flat defiance of the great principle of Safety First? If there were not some other cause at work, all creatures would be brown (except in snow-bound regions), or, in some cases, green. It is really a little too simple to explain everything on the basis of the survival of the fittest, and there must be in nature an impulse towards beauty, however it may have originated ; for beauty has no survival value, and is sometimes a handicap. " Il faut souffrir pour etre belle " ; crests, wattles, tufts, and all such departures from streamlined utility garments do but give a tooth- or claw-hold to the enemy.

The science of genetics has progressed for fifty years by leaps and bounds, and we now learn that there are genes whose special function it is to cause variations ; but when the mechanics of heredity have been demonstrated to the last detail we shall be no nearer to understanding why the myriad inhabitants of the earth strive after beauty, or, if you prefer it, have produced variations of which beauty has

usually been the result. This matter being too profound for the present writer, and, perhaps, for the present reader, I will merely give some account of the reactions which I have observed in birds when confronted with mates of an abnormal colour or appearance. Apart from the matter of choosing a partner, however, I may mention in passing that nesting Sparrows will pick all the white feathers from a mixed bundle before touching the dark ones. They will also collect strips of white paper—or tear up white sheets—in preference to brown. For this there may be a practical reason. When we have a very dark room we paper it with white, and at once every corner is visible. Sparrows have a dark nest and must, when feeding their young, sometimes block most of the entrance with their bodies, though I notice that they usually go right in, and then stand sideways during the first few days after hatching. Whether their great discovery was made by luck or cunning may perhaps some day be more certainly demonstrated.

As Sparrows collect white feathers so assiduously, I thought that a young female completely covered with them should excite at once the greatest enthusiasm. But such was not the case. There was never any indication that albinism or any other abnormality of colour, caused either attraction or repulsion; and this remained true whether it were the cock or the hen that was unconventional in appearance. The "sports" included Blackbirds, Thrushes, Starlings, Chaffinches, Redstarts, Robins, Whitethroats, Goldfinches, Bullfinches, and a great number of Sparrows and Greenfinches.

First came the Robins, about thirty years ago. They were guaranteed to be an albino pair, and as I did not then know that all wild albinos are hens, I was surprised when they both built and laid in the same aviary. The only cause for surprise is that they never quarrelled. However, I happened to hear at that time of a young Robin, bred in an aviary, which at the age of a few months, set to work and killed both its parents and all its brothers and sisters. Such a charming picture for a Christmas card! "A Robin in a cage," according to Blake, "puts all heaven in a rage," but the fury of the angels can be no greater than that of the Robin if any other bird is allowed to enter his private abode, of which, in fact, he is as proud as a gipsy in a Council house. No more unsuitable bird could easily be found for breeding experiments.

My albino Whitethroat was dangerously tame, and unfortunately was trodden on before she had time to breed, while the Redstart hen did nothing for two seasons, and then died. I attributed the failure, at the time, to lack of vigour. There was no difficulty at all about breeding the other species mentioned, and it seemed permissible to assert that birds are not sexually interested in colour, so that the Peacock must dress up to please himself, or to glorify his Creator.

This last season, however, my opinion was a little shaken, for I was unable to get any hen Bullfinch to accept a most beautiful cock which rejoiced in a pink head, neck, and breast, white wings and tail, and a pale lavender body. This bird was uncommonly virile and enterprising, insensitive to snubs, and to the human eye most attractive. Yet six hens in turn, from March to July, refused firmly his most assiduous attentions, and the seventh merely encouraged him to feed her, but allowed no liberties. He endured with patience a white marriage which lasted long enough for the hen to build two nests and lay ten infertile eggs, keeping close to her and feeding her frequently, though she remained inflexible to the end.

This cock is spending the winter in a large cage with two new hens bred last spring. If they in turn refuse his attentions, I propose to dye his feathers, so that he may, as far as possible, look like an ordinary Bullfinch. If he is then accepted, it will be fairly strong evidence that to some birds at least, colour is important. It is noticeable, that in all the species which mated quite freely with strange partners there is normally little or no difference of colour between the sexes. Chaffinches must be excluded from the argument, for in fact there were many failures, though of little significance, since they occurred with normal as well as with abnormal mates. A blue-breasted Japanese cock Bullfinch mated, in isolation, with an ordinary British hen, and a cinnamon hen with a normal cock. As hen Bullfinches have produced hybrids with Canaries and with various Finches, one might think that they care neither for colour nor shape; but the sexual instinct when frustrated leads to far greater aberrations than these. I have a completely tame and strangely devoted cock Sparrow which courts me in the breeding season with all the usual excited display and finally goes through the copulative process against the palm of my hand. Similar occurrences have been recorded. The significance of the cases mentioned before lies in the fact that often there was a free choice between plain and coloured, and sometimes in a large aviary there were as many as six pairs of Sparrows or Greenfinches, some being ordinary, and some so extraordinary that often people familiar with birds could not guess to what species they belonged.

Some birds are very 'choosey', and this may explain many failures with single pairs. The Mexican Hooded Siskin has not been easily bred in this country, but I understand that a Swedish colleague was highly successful with them because he placed a number in a large aviary and parted them in early spring after noting their preferences.

We cannot expect to discover the cause of these preferences. A Sparrow of nondescript colour, with a ragged tail and only one leg, competing with others in a large aviary found a husband without difficulty. Mammals also have their preferences and the attraction

may well be based on character and temperament to a considerable degree, but throughout Nature physical attraction has probably "something to do with" chemistry, which some day will reveal its secrets.

* * *

RESULTS OF THE ORNAMENTAL PHEASANT CENSUS, 1949

By GEORGE A. J. WEAVER

There has been a very satisfactory increase of 50 per cent in the Pheasant, Peafowl, and Junglefowl population of this country since the 1947 count, roughly 1,800 birds comprising thirty-five species being recorded as against the previous figure of 1,200 birds of thirty-three species, and although there have been considerable fluctuations with certain species it can be seen that there is a genuine attempt by fanciers to build up stocks. A few of the rare species have declined in numbers or vanished entirely, those lost to us including the remaining examples of Copper, Blyth's Tragopan, Bulwer's, Malayan Argus, and all but two Palawan Peacock Pheasants. Five additional species have come to light; a pair of Malayan Crestless Firebacks, six Sonnerat's and two Javan Junglefowl, seven Cheer, and six Koklass Pheasants, but perhaps the most important news to date is the arrival from Calcutta of twenty-one Impeyan and three Nepal Kaleege (this consignment also included the Cheer and Koklass). These birds are on deposit at the London Zoo and it is to be hoped that some at least will find their way to our major breeding establishments where the fresh blood will be invaluable for rearing strong healthy chicks. Of the less common kinds it is pleasing to report that the Reeves' and Swinhoe's have doubled their numbers and the familiar Golden, Amherst, and Silver Pheasants have more or less done likewise. Elliot's are still on the danger list although two hen birds now appear on our records, and there are still a few at liberty at Woburn, so that with care this species may survive. A male Bronze-tailed Peacock Pheasant was reported, but not confirmed, and so is omitted from the list. That beautiful bird, the Specifer Peafowl, has now increased to three males and five females, so that there is a chance that this species may again become established. It will be noted that the Common Peafowl shows considerable increase and it should perhaps be explained that this is in part due to the inclusion of a large number not previously recorded. As these birds are at large it was impossible to give accurate details of numbers and sex and so an approximate figure of 100 was given and for record purposes must go under "unsexed". Before I receive requests for Peafowl may I point

out that the owner of this large collection does not wish to dispose of any and in fact aims to build up his stock to many times this number. Very few unsexed birds of any species are shown this time, the reason being that this census was taken later in the year when the youngsters of that season had either been sexed or disposed of prior to the count. This fact may also be taken into account when comparing the numbers of Mikado, Edwards, and Impeyan, with those of 1947 and which now show a decrease, and it is presumed that many young birds may have gone to individuals of whom we have no record, for I am convinced that there are more birds of these species in the country than those recorded. I do hope that owners will supply details if they have not previously done so. It will be seen that the only Bel's hen has gone, but at the same time a male bird makes an appearance. If this latter bird had been reported in 1947, steps may have been taken to arrange a mating which would, perhaps, have kept the species going until such times as fresh blood could be introduced. Alas! It remains but a show-piece. The Eared Pheasants have remained more or less static, and the reason for this may be attributed in part to the conditions under which these species are kept. As most fanciers know, both these and the Impeyan spend much of their time digging with their powerful beak and consequently they must either be housed in spacious enclosures or given access to fresh soil at frequent intervals, otherwise they will quickly succumb to disease. Such was the case with a pair of Impeyans which I was instrumental in obtaining for Dudley Zoo, and a Blue Crossoptilon also died in similar circumstances.

An important fact has been revealed during the taking of this census regarding the health of our Pheasants, and it is estimated that at least 90 per cent of birds in captivity in this country are in first-rate condition. I feel that this may be largely due to the present-day feeding programme, for readers may remember that I previously advocated a more varied diet and suggested that grain was to my mind overrated. The variety of foodstuffs now in use is astounding and includes the following: kitchen scraps, poultry meal, screenings, broken nuts, wild berries, biscuit meal, sunflower, soaked bread crusts, currants, sultanas, bananas, balanced poultry pellets, insects, cabbage, lettuce, apple, carrot, chickweed, mealworms, gentles, roots, maple peas, pigeon mixture, buckwheat, groats, wheat, oats, barley, maize, canary seed, and greenstuffs not included in the above list. The corn content does not appear to be of very great proportion in the daily diet, and in fact only 45 per cent of fanciers record using grain of any description, a high proportion of whom mention only screenings or third-rate corn.

With regard to fertility, the average for Goldens, Amhersts, and Silvers is about 75 per cent, although there are one or two outstanding examples of 100 per cent reported. Four Golden hens belonging to one

fancier laid thirty-six eggs each in 1949, all of which were fertile, and another hen is recorded as laying twenty-four eggs of which twenty-three hatched. Details regarding other species are scanty, nevertheless from information received Edward's are reported as being prolific, as are also Peafowl and Red Junglefowl. One or two instances of over-fatness have occurred and this has led to infertile eggs. An example of this is a Temminck's Tragopan which in 1948 laid and hatched four, and in 1949 laid four with negative results. Whilst on the subject of eggs an interesting fact regarding the packing of these for sending away has been mentioned. A prominent poultry fancier and exhibitor tells me that he always packs his eggs in a natural position on their sides, and claims that this lessens the strain on the yolk sac and the cords holding it, and the hatching results have so far been good. This has been particularly noticed in eggs recently exported, and as the usual practice is to pack on end it would be interesting to know if any Pheasant breeders have tried this experiment, and if so, with what result. With the present-day efficient air freight it would be possible to have eggs from our Continental or American friends flown here and put under a broody within twenty-four hours or so of being laid, and when the import restrictions are lifted it may be worth trying this method of packing.

The various species are distributed more or less the same as in 1947 and there are very few newcomers to the Registry with collections of note. There are perhaps one or two worthy of mention, of which there was no previous record. A representative collection owned by the Hon. Peter Strutt comprises twenty-three birds of seven species, including Goldens, Amhersts, Silvers, Swinhoes, Edward's, Reeves', and Blue Crossoptilons. R. H. Carpenter, of Budleigh Salterton, has twenty birds, the most interesting being Swinhoes, Reeves, and Mikados. At the Carnegie Dunfermline Trust there are twenty-one birds and here a male and four female Swinhoes are of special interest. We are sorry to learn that Capt. Scott-Hopkins, for many years a leading figure in the Pheasant world, has disposed of his birds, which at one time comprised the second largest private collection in the country. I understand that the majority of these birds have been acquired by Mr. Russell-Parsons, of Swanage, where, it is hoped, they will flourish. This gentleman has about forty-one birds at the moment. Mr. Ezra, Terry Jones, and Mr. Hirst still maintain their large stocks and there are roughly the same species represented at Regent's Park and Whipsnade. A number of Reeves', Elliots, and pure Amhersts are still at large at Woburn, together with various Kaleege of mixed ancestry.

One or two Continental breeders and institutions have sent details of their Pheasant collections which may be of interest to fanciers in England. Mention should first be made of Mme Malisoux who,

in spite of uncertain health and also of the amount of work which the new O.P.S. has involved, finds time to look after some thirty or more birds. Amongst her collection will be found Palawan Peacock Pheasants (5), Blyth's (5), Satyr (6), Chinquis (4), one pair each Mikado, Impeyan, and Amherst, and two pairs of Koklass. The latest news from here was on 11th April, when Mme Malisoux mentioned two young Chinquis hatched fifteen days previously. Mr. Reventlow has kindly supplied figures for the birds in the Copenhagen Zoo, of which there are about forty-five. Most notable are Temminck's, Blue Crossoptilons, Grey Peacock Pheasants, a Koklass, and a number of White Peafowl. Two well-known figures in Dutch Pheasant circles are Mr. P. Duyzend of Zeist and Dr. Vallen of Blerick-Venlo. The former has eighty-seven birds in his collection, including the usual common species, together with two pairs each White-crested Kaleege and Swinhoes and one pair each Impeyan, Cheer, and Brown Crossoptilons. There are also some 1,000 or more game Pheasants of three types at this establishment. Dr. Vallen has perhaps a more representative selection, his seventy-two birds embracing some nineteen species. Here the Pheasant enthusiast will find such gems as Satyr Tragopans and Siamese Crested Firebacks, whilst there are also two pairs of Elliot's, four species of Kaleege, Swinhoes, Edward's, Reeves', Mikado, Impeyan, Cheer, Blue and Brown Crossoptilons, and in addition to the above figure a number of interesting hybrids are to be seen. The party visiting Clères may like to know what Pheasants are to be seen there, and the following is a brief account compiled from information supplied by Mr. Fooks. There are approximately eighty-two birds of this family to be seen, and here will be found the only representative of the Imperial Pheasant that I can trace in Europe, a species introduced alive for the first time to aviculture not so many years before the war by M. Delacour. In addition to the usual species, there are Bel's, White-crested Kaleege, Swinhoes, Edward's, Reeves', Elliot's, Mikados, Impeyan, Cheer, Temminck's Tragopan, one Siamese Crested Fireback, Brown and Blue Crossoptilons, Germain's Peacock Pheasants, and the four different Peafowl. There are also some Red Junglefowl and a single Sonnerat's and for those interested in mutations, a pair of Black-throated Golden Pheasants.

In conclusion I should again like to thank all who have contributed information to this Registry. Many exchanges and sales have been arranged which it is hoped will still further the propagation of many species, and whilst it has not been possible to help everyone, all requirements are noted for attention as and when stock becomes available.

Correction.—Since compiling this registry I have been informed by Mr. Webb of the London Zoo that the recently imported Pheasants referred to in this article have with the exception of one pair each

Impeyan, Koklass, and Black-crested Kaleege, all been forwarded on to Antwerp. This will be a great disappointment to those who keep and admire Pheasants, particularly as they are wild caught birds and would have been invaluable for breeding purposes.

PHEASANT REGISTRY, 1949

<i>Species.</i>	<i>Male.</i>	<i>Female.</i>	<i>Unsexed.</i>
Golden Pheasant (pure)	209	199	8
„ „ (impure)	24	10	—
Lady Amherst (pure)	95	115	5*
„ „ (impure)	7	1	—
Silver Pheasant	93	105	20
Bel's „	1	—	—
Lineated Kaleege	1	2	—
Horsfield's „	5	10	—
White-crested „	3	2	—
Black-crested „	1	—	3
Swinhoes	16	23	—
Edward's	27	26	—
Reeves'	27	56	—*
Elliot's	3	2	—*
Mikado	12	12	—
Impeyan	12	12	21
Cheer	—	—	7
Temminck's Tragopan	20	24	—
Cabot's „	—	1	—
Satyr „	3	2	—
Malayan Crested Fireback	1	—	—
„ Crestless „	1	1	—
Brown Eared Pheasant	7	8	—
Blue Eared „	15	13	9
Germain's Peacock Pheasant	5	1	—
Grey „ „	10	7	—
Palawan „ „	2	—	—
Crested Argus	—	1	—
Indian Peafowl	52	43	103
Specifer „	3	5	—
Black-shouldered Peafowl	31	40	—
White Peafowl	4	2	—
Koklass Pheasant	—	—	6
Sonnerat's Junglefowl	2	4	—
Javan „	—	2	—
Red „	49	52	112
Hybrids	5	4	7

* A number of these are running loose at Woburn, together with some Kaleege of mixed ancestry.

* * *

AMERICAN AVICULTURE 1949

II. CALIFORNIAN AVIARIES

By JEAN DELACOUR

(Continued from page 66)

The mild and equable climate of the West Coast makes bird keeping vastly easier than it is in Central and Eastern North America, even than in North-Western Europe. Most species can be kept there outdoors all the year round with the simple help of a cold shelter. Frost and snow, which create difficulties in colder countries, can be discounted; when they come by accident they never last long enough to cause trouble. As far as small birds, Parrakeets, Doves, and game birds, are concerned, California is practically the ideal country to keep and breed them. It is not so satisfactory for waterfowl, as grass is very poor and water scarce; also the abundance of birds of prey and vermin makes it practically impossible to keep birds in parks and gardens, they have to be protected by a roof of wire netting.

Aviaries have been built by the hundred during the last thirty years all over California. There are a great many bird and game farms, most of them more or less completely commercial, as well as lots of private collections kept for the pleasure and interest of their owners, who simply sell or exchange young birds.

I spent less than three weeks in California in 1949, from the last week of September till the middle of October, attending the annual meeting of the American Pheasant Society and visiting friends. I could only see some of the most outstanding collections in such a short time, and I greatly regret to have missed a number of interesting ones.

A. NORTHERN CALIFORNIA

I stayed several days with my old friends Mr. and Mrs. Eric Kinsey, at Manor, some twenty miles north of San Francisco. They both are the essence of bird and plant lovers. The Kinsey collection is famous for its almost complete series of native passerine birds, Woodpeckers, Owls, small waders and a few others. It is quite unique in the country and perhaps in the world.

Mr. Kinsey has a wonderful knowledge of Californian birds at liberty, and on account of the thorough study that he has long been making of their food, breeding, and other habits, he holds a permit to capture and keep the protected species. In the care of the birds, he and Mrs. Kinsey are outstanding. The most difficult birds, such as the various American Wood-Warblers, Tyrant Flycatchers, Woodpeckers Tits, Nuthatches, etc., are kept in perfect condition. They are housed

in a dozen compartments, most of them thickly planted, each with a good shelter ; a large aviary with a roomy house for Warblers and Vireos ; a larger one for Troupials, Grackles and other strong birds ; several others for Woodpeckers, Owls, Jays, and Magpies, and an enormous flight, 50 by 25 feet, 20 feet high, with a heated house and many indoor compartments, where many species of small birds live and nest.

In the house are cages for particularly delicate birds and pets : Phainopeplas, Clarinos, Black Phœbes, Canyon Wrens, etc., and in some orchid houses, small glass cages for Humming-birds. All the accommodation is carefully planned, fitted with every sort of modern improvement and meticulously kept, which is the answer for their unusual success in keeping the most difficult birds. Many breed there : California Woodpeckers, Mountain and Western Bluebirds, Yellow-breasted Chats (*Icteria virens*) among others.

The only exotic birds at Manor are some Indian Shamas, Mexican Clarinos, and some very old Black-chinned Yuhinas.

To the south of San Francisco, near Palo Alto, another friend, Mr. A. Isenberg, also possesses a fine collection of small birds, but mostly exotic ones kept outdoors in two very large garden-flights and many smaller ones. The more delicate species live in several compartments of a greenhouse.

Mr. Isenberg practically only keeps softbills and fruit-eaters. He has many Thrushes and Robins, Babblers, Bulbuls, Jays, Motmots, Toucans, Touracous, Tanagers. In the tall bamboos of his largest aviary a flock of Chinese Zosterops have been breeding for years, and under a shelter a female Mexican Solitaire (*Myadestes obscurus*) mated to a Clarino (*M. unicolor*) has reared nearly a dozen young during the last two years. There are Shamas and Dyals, Rifle and Regent Birds, Bower-birds, Australian Pittas, Honey-eaters, Sacred Kingfishers, and Quetzals. A large and beautiful collection, set in a pretty subtropical garden, full of wild native birds, where Chinese Hoamis, or Spectacled Babblers, have been established. The climate of Palo Alto is even, mild, and very favourable. The greatest difficulties there are attacks by hawks and the depredations of the minute Argentine black ants, which kill young in the nest. Game farms are numerous around San Francisco, some very remarkable, which I never fail to visit.

Mr. J. W. Steinbeck is no doubt the most successful and experienced breeder of Doves and Pheasants in California, and he has recently added Grassfinches and Waxbills to his collection. His house stands on a hill near Concord, which is some distance from the ocean and therefore hot in the summer. His aviaries consist of several long rows of large compartments, all fitted with deep and wide shelters along the entire back and planted with trees. There are many pairs of Pigeons and Doves, large and small, in each of them, but only one of

each species, and often also a pair of Pheasants, of which he keeps only the rarer kinds—Satyr and Temminck's Tragopans, Germain's Peacock Pheasants, Monals and a few others. As an example of his success, about 40 Tragopans, 15 Peacock Pheasants, and many Monals and Eared Pheasants were reared in 1949. But Doves are Mr. Steinbeck's speciality. He rears many hundreds each year. He has all the best known species, including European Wood Pigeons and Turtle Doves, and also unusual ones: Philippine Cuckoo-doves, Brush, Squatter, and Smith's Bronzewings, Mountain Witches, Luzon and Bartlett's Bleeding-hearts, Australian Greenwings, Jobi, Grayson's, Martinique, Peruvian, Pigmy, Ashy and other Ground Doves, and Nicobar Pigeons. Never have I seen so many Doves breeding so successfully in the same aviary. A special mention must be made of the lovely Australian Plumed Doves, several breeding pairs of which live in various pens. In a row of about 20 compartments, 10 feet deep and 3 feet wide and 6 feet high, are kept as many pairs of domestic Ringed Doves. The Plumed Doves lay abundantly, but seldom incubate; so their eggs are entrusted to the Ringed Doves, which rear the squabs perfectly. Contrary to previous experience they feed them readily after their early departure from the nest. Over 50 have been raised last summer.

Mr. and Mrs. Steinbeck, of course, exercise a constant and keen watch on their birds and they leave nothing to hazards. For instance, they remove the first hatched chick of some of the more difficult species, hand-feeding it for a day or two, until the second egg hatches, as otherwise the second chick would not survive. The first one is put back into the nest afterwards. This requires much care and skill. Mr. Steinbeck, alone in California, has for many years made a living out of his birds, of which he is, however, as fond as any amateur I know.

There is at Pleasanton, in the same neighbourhood, another good bird farm belonging to Mr. C. J. Van der Storm, a retired Dutch bulb grower from Oregon. Mrs. Van Storm was always fond of birds and kept a few pheasants. They now have a fine collection of these birds, of Quails and Doves, and also some Australian Finches and Parrakeets. There were lots of excellent young Brown and Blue Eared Pheasants, Firebacks, Edward's, Elliots, and Germain's, Cockateils, Lovebirds, etc.

I had unfortunately no time to visit Mr. Thierry, near Oakland, who breeds a few of the rarer Pheasants and has several pairs of the White Eared Pheasant and Palawan Peacock-Pheasants, nor several other excellent breeders, but I saw at leisure the two largest collections in Northern California, both in the vicinity of Napa: those of Mr. R. H. Gibson, at St. Helena, and of Mr. Claude Hooke, at the Circle H Ranch.

Mr. Gibson owns a great deal of land, mostly vineyards, and a very

important wine business. Birds are a hobby with him, although he sells his surplus birds. During the last few years he has built spacious and beautiful aviaries near his house. There are first two rows of large flights, with a wire-covered path between them. They are planted, contain small ponds, and are inhabited by Demoiselle, Stanley, and Crown Cranes, various waterfowl (among which figure Emperor Geese, Eyton's Tree-ducks, and Ruddy Ducks), Pheasants and Pigeons. A little further stands a huge block of aviaries, consisting of large pens in the middle, surrounded by a double row of compartments separated by roofed-over paths, forming a vast rectangle. There are all sorts of game birds, Doves and Pigeons, Lovebirds, and some Parrakeets. The most remarkable are Victoria Crown Pigeons, Vulturine Guineafowls, Siamese, Malay and Bornean Firebacks, White Eared Pheasants, Nicobar and Wonga-Wonga Pigeons and Mountain Witches. Many young have been reared, particularly Edwards, Blue, Brown, and hybrid Blue \times White Eared Pheasants, Chiloe Wigeons, Carolina and Mandarin Ducks, Malay and Siamese Firebacks, Crested Tinamous, Mexican Curassows. Most species are represented by several pairs and, on the whole, the collection is outstanding, the accommodation elaborate and excellent.

Away in the high hills and far from any town, the Circle H Ranch is beautifully situated among forests of redwoods, California laurels and other interesting native trees. The game farm is large and it contains the finest collection in America to-day. There are hundreds of pens for adult and young Pheasants and Peafowls, rows of raised cages for Quails and Partridges, which must be kept off the soil on wire netting, many coops and raising runs for chicks. A high flight is dedicated to Ducks. There were also many Doves and Parrakeets, Ostriches and Emus, but to-day only the latter remain, as it was found too difficult to take care adequately of so many birds. The Circle H Ranch is also used as a school to train war veterans in the art of game breeding. All the species of Pheasants kept in captivity to-day are represented, among them the only pair of Great Argus in America, and the last female Rheinart's Argus; an excellent pair of Imperial Pheasants, reared at Clères many years ago, which produced this year over a dozen young, two pairs of White Eared Pheasants; Satyr and Temminck's Tragopans; Germain's and Grey Peacock Pheasants; Berlioz ("Bel's") and Horsfield's Kalijs. Three Ocellated Turkeys and dozens of Sonnerat's Junglefowl were also reared in 1949.

Mr. Hooke gathered this exceptional collection during the last ten years, buying the totality of the stock of the late Leland Smith, of Mr. Howland and Mr. F. Johnson, which were among the best in the country. His enthusiasm is remarkable and American aviculture is much indebted to him for his keen spirit and enterprise. I have just

passed to him the presidency of the American Pheasant Society, and it could not fall into better hands.

B. SOUTHERN CALIFORNIA

The region around San Francisco is the best for Pheasants and Doves, but that of Los Angeles, warmer and dryer still, is more suitable yet for the delicate birds. Consequently most of the large collections and breeding establishments of Parrakeets and Finches are situated in Southern California. They are very numerous, but I could only see a few of them last October.

My old friend Mr. W. J. Sheffler keeps most of his Lories and Parrots, of which he has a wonderful collection, in Arizona, at Salome; many Cockatoos, Macaws, Lories, and Lorrikeets breed there regularly. In his garden at Los Angeles, his fine round aviary, with many fan-shaped compartments and a central shelter, contains an excellent collection of Australian Parrakeets, Doves, Quails, and small birds, both insectivorous and seed-eaters. There were nice young Barnards and Rock Peplars when I was there. His collection is the most varied in Southern California, and his near-by museum is well filled with skins and eggs, some exceedingly rare, gathered around his ranch in Mexico and in the course of several expeditions to that interesting country.

The veteran bird fancier, Mr. F. H. Rudkin, now nearly 90 years of age, is still as active and devoted to his birds as ever. It was a great pleasure visiting him once more. His large aviaries were still full of excellent birds, with many young. The old Macaw, which lives at liberty, greeted me as it first did fifteen years ago. Mr. Rudkin keeps lots of Parrakeets, including the best—such as the Pileated (*spurius*), the Scarlet-chested, or Splendid, and the Turquoise. There were many young, including dozens of Blue Masked Lovebirds, a beautiful variety now common in California; also lots of Gouldians and other Grassfinches, some Quails and Hemipodes, Spicifer Peafowls and many Pheasants. I counted nine young Monals and two Temminck's Tragopans. Mr. Rudkin knows his birds so well and he is so gentle with them that they are all tame, and it is always a treat to go with him through his aviaries. In the near-by town of Fillmore, Mr. Rudkin's son showed me his rare Parrots, which are kept in aviaries built around his pretty garden. He was just back from England, where he had had an excellent time. There were four young Leadbeater's Cockatoos, two Shining Lories (*L. garrulus*), several Eclectus Parrots, King and Queen Alexandra Parrakeets reared last summer.

Another excellent breeder of rare Parrakeets is Mr. David West, whom I had not yet met. Before reaching his twentieth year, he has already achieved great success. Last season he reared a couple of dozen Splendid Grass Parrakeets, and also Turquoise, Bourke's and Elegant; some Queen Alexandras, Barnards, Stanleys. Mr. West is

hard-working and very enthusiastic about birds and plants. He has the right spirit and methods, and I was delighted to meet such a promising young aviculturist.

But there are also Pheasant and waterfowl breeders in Southern California, and I was pleased again to spend an evening at Paramount with Mr. W. J. Parsonson, whom I have known since he was also a very young and enthusiastic beginner. His principal interest is waterfowl, of which he has a fine collection housed in large wired-over pens. I noticed particularly Versicolor Teal, Golden-eyes, Ruddy Ducks, and Maned Geese, eight of which were reared last summer, as well as three Cereopsis. He keeps also a number of game birds, including Sonnerat's Junglefowl and Spicifer Peafowls.

Mr. D. W. Rich, of San Gabriel, an experienced and keen veteran breeder, also possesses interesting waterfowl and Pheasants, among which Black-necked Swans, perfect Lineated and Horsfield's Kalijs, and Java Green Junglefowls are conspicuous.

No trip to California, however, can be complete without a day or two at the San Diego Zoo. I always enjoy a visit there with my old friend Mrs. B. Benchley, the very able secretary of the Society. The personnel, headed by the curator, Mr. Ken Stott, has a wonderful spirit, and nowhere are creatures better studied and taken care of. The equable climate of San Diego permits to keep practically everything out of doors. The accommodation is always neat and practical, and breeding results excellent, as much with the very numerous and rare species of mammals and reptiles as with the birds. Among the latter, a pair of Ocellated Turkeys produced last summer 16 young through artificial insemination, a notable event, and there were young Victoria Crown and Nicobar Pigeons, a hybrid Macaw (*ararauna* × *chloroptera*) and, for the third time, a young Andean Condor, to mention only the rarest. Hornbills were trying to nest. Curassows and Guans breed every year, as well as Emus, Sarus and White-necked Cranes. The Parrot collection is probably the best in the world, and I noticed Quetzals, both species of Cocks of the Rock, an Australian Rifle Bird, a Burmese Roller, a pair of Rothschild's Mynahs and many rare Fruit Pigeons and Doves.

It is a great credit for the organizers and trustees of the Zoological Society of San Diego, a town of some 200,000 souls, to have built up such a wonderful establishment, which compares favourably with any other in the world.

* * *

AUSTRALIAN PARROTS IN CAPTIVITY

By ALAN LENDON, Adelaide

(Continued from p. 92)(36) SWIFT PARRAKEET (*Lathamus discolor*)

Synonyms.—Swift Lorikeet, Swift-flying Parrakeet, Red-shouldered Parrakeet.

Distribution.—Although Tasmania is the stronghold of this species, it is widely distributed along the coastal parts of the south-eastern corner of the continent, and has been recorded as far north as the Dawson River in central Queensland, and as far east as Adelaide.

Description.—The prevailing colour of this species is green, relieved by a forehead and facial mask of red with a narrow yellow border. There is some blue on the crown, cheeks, and wing margins, and the under wing feathers are scarlet, as are a variable number of feathers on the sides of the breast. The subcaudals are red, with a green edging which varies in extent, the tail is an unusual blue, tinged with red, and there is a small patch of cherry-red at the point of the shoulder. Individual adults are none too easy to sex, but I think most males are brighter, with more red flecking on the breast and little or no green on the subcaudals. The iris is said to be yellowish-orange in the male and brownish-yellow in the female. Immatures are duller generally, with the under tail coverts showing very little red, and the iris is dark in colour. Tavistock states that they undergo a partial moult with assumption of brighter plumage when a few months old, full adult plumage being attained in the following autumn.

Variations.—No valid subspecies appear to exist, but individuals show considerable variation, especially in regard to the amount of red flecking on the breast.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 468) is quite good, and the plate in Greene (vol. ii, p. 33) is even better. There is also quite a good plate by Rutledge in Cassell's *Book of Birds* (p. 444).

Field Notes.—I have only met with this bird on a few occasions during its autumn visitations to South Australia. It is usually found in company with various Lorikeets feeding on flowering eucalyptus and its presence is made apparent by its very distinctive, warbling call notes. It is generally assumed that the species migrates from Tasmania to the mainland, but the evidence is doubtful, to say the least.

Aviary Notes.—Although occasionally brought over from Tasmania before World War II, this species has always been a rare one in

captivity in this state, and I have myself possessed only eight specimens in all. The first four of these did not survive very long, some of them dying suddenly, although apparently in good condition, a characteristic which appears to be not uncommon in recently trapped individuals that have not become accustomed to a captivity diet. Early in 1939, I obtained a fine male from a friend in Melbourne, and a little later I secured a female locally. These birds were noticed feeding in November of the same year, but were not segregated at the time, being housed in a mixed collection without nesting facilities. The following year a different hen was mated to the cock, but it was not until December, 1944, that they began to take an interest in a nest log. One egg was laid on 20th December, and a second some days later; of these only one proved fertile and on 9th January a dead young bird, with an empty crop, was found in the nest. For a short time thereafter, I thought they would nest again, but no further eggs appeared. The following season two eggs were laid in October, but they disappeared, probably owing to the activities of an unmated hen Naretha, who was sharing the aviary, and subsequently appropriated the nest and laid therein. On her removal, the Swifts laid another egg early in January, but it was deserted after about ten days incubation, and was found to be clear. The next season they appeared to be in breeding condition earlier than usual, but did not lay till just before Christmas; on this occasion, both eggs were clear, and soon after this both birds managed to escape. Since then, only a single aged cock of this species has been in my possession.

The only successful breeding recorded in South Australia is that of Mr. R. E. Lewitzka, who reared one young bird in January, 1935; a detailed account of this achievement, which gained the bronze and silver medals of the A.S.S.A., is given in Cayley's *Australian Parrots* (p. 289). There do not appear to be any other recorded successes in Australia, although the species has been bred on many occasions in England and Europe; it is interesting to note that both colony breeding and polygamy have been practised on occasions.

(37) BUDGERIGAR (*Melopsittacus undulatus*)

Synonyms.—Shell Parrot, Warbling Grass Parrakeet.

Distribution.—Australia generally, but rarely found in the southwestern corner of Western Australia or in coastal eastern Australia. Not found in Tasmania.

Description.—Too well known to warrant detailed description, the wild birds being of the colour known to Budgerigar fanciers as light green. The main difference between the sexes of the adults lies in the colour of the cere, which is bright blue in the male and varies from brown to dirty white in the female. Immatures are duller in all

respects, with the facial spots less clearly defined and the barring of the back of the head extending on to the forehead ; the cere is at first a pinkish-violet shade. Adult plumage is obtained by a moult which is usually completed when the bird is about four months old ; the sex has usually become obvious earlier by the changes which have occurred in the colour of the cere.

Variations.—No valid races appear to exist amongst wild birds. The number of artificially produced colour varieties is, of course, legion.

Coloured Plates.—Good plates of the wild green bird are quite numerous. To instance but a few, that by Roland Green in Mathews (vol. vi, p. 475) depicts two adult males, whilst Greene's plate (vol. i, p. 111) is a reasonably good representation of a pair. There is also a good plate by Bailey appearing as the frontispiece to volume ii of Butler's *Foreign Birds for Cage and Aviary*, but the shade of green is too dark.

Field Notes.—I have observed this species in the field on many occasions. In dry seasons it is quite common in the vicinity of Adelaide and on one such occasion I remember noticing the birds breeding in hollows in fence posts near the Seaton Golf Links. In good seasons it is seldom seen in the coastal areas.

Aviary Notes.—I first bred this species when a schoolboy during World War I, and still vividly remember my pleasure in successfully rearing five young birds from the first nest. Soon afterwards I was given two yellow cocks, the only mutation known in South Australia at that time, but I never succeeded in breeding from them, although other fanciers were breeding them quite freely then. Since my resumption, in 1935, of avicultural activities, I have frequently kept pairs of Budgerigars, mainly wild greens, for the sake of completeness of the collection, and have bred a number of young, but I have never interested myself in the breeding of colour varieties.

The species is now so thoroughly and widely domesticated, and so many books have been written about it, that I feel it would be presumptuous for me to deal with it at any great length.

(38) GROUND PARRAKEET (*Pezoporus wallicus*)

Synonym.—Swamp Parrakeet.

Distribution.—Tasmania is the stronghold of the species at the present time, but it also occurs in coastal southern Australia from Fraser Island in south Queensland to the vicinity of Perth, and possibly Geraldton in Western Australia. It is probable that it formerly occurred in suitable country throughout the whole of this mainland range, but that it is now restricted to small isolated pockets. In Western Australia it has not been recorded since 1914, and it is

probable that it is restricted to the south coast, if it still survives. It is still fairly plentiful in a few areas in southern Victoria, and until a few years ago a colony existed in the extreme south-east of South Australia; this area has, unfortunately, since been cleared. In Tasmania it is said to be quite common in suitable localities.

Description.—The prevailing colour of the upper parts of this bird is a bright grass green, with each feather marked with black and yellow fleckings in a pattern very reminiscent of the marking of some quails. The breast is of a duller green shade with small black flecks on the centre of each feather, and the abdomen is of a yellowish shade with pronounced black barring. The long, pointed tail exhibits the same colour combination, the upper surface being mainly green, whilst the under surface shows much yellow. There is a narrow frontal band of an orange shade. I have never been able to ascertain any reliable sexual differentiation from a study either of living birds or of skins, but it is stated the shade of green is darker on the head of the female. The immature plumage is said to be only slightly duller than that of the adult, but the frontal band is absent, and the above-mentioned sexual difference is said to be more apparent. I have no information as to the age at which the frontal band is acquired.

Variations.—Western Australian birds are stated to have more yellow on the abdomen, whilst those from Tasmania are described as being darker generally.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 486) is extremely lifelike, and that in Greene (vol. i, p. 121) is quite adequate. There is also a reasonably good plate by Lear in Selby's *Parrots* (pl. 29).

Field Notes.—I have not been fortunate enough to see this species in the wild state, although I spent a morning last month (January, 1950) tramping through a swamp at the mouth of the Glenelg River in south-western Victoria, where five birds had been observed a couple of weeks previously.

Aviary Notes.—The only recent observations on this species in captivity are those of Manfield (*AVICULTURAL MAGAZINE*, 1941, pp. 172-4) and Webber (*AVICULTURAL MAGAZINE*, 1948, pp. 41-5), and the reader seeking detailed information is referred to these two interesting and valuable articles.

I have never possessed an example of this species, and my knowledge of its habits are the result of oft-repeated observation of the three birds kept for a long period in the Adelaide Zoo and a couple of brief visits to the collection of Mr. A. Leer, at Manly Vale, near Sydney. The birds in the latter's possession always seemed extremely timid, but those in the Adelaide Zoo soon became quite fearless. It was always thought that the first and third of these to be acquired were probably males, and the second possibly a female, but on this bird's

death in 1949, it was found to be a male, whilst the other two, which fell victims to rats some year or so earlier, were so mutilated that their sexes were not ascertained. Even if there was a pair amongst these three birds, they never showed any signs of wanting to nest, although I never considered that the enclosure in which they were housed was either sufficiently roomy or well planted enough to encourage them to do so.

There seems little doubt, from the observations of both Manfield and Webber, that this bird has a feeble call-note, resembling that of the Grass Parrakeets; I was never fortunate enough to hear it. The Zoo birds never perched in the strict sense of the word, although, as the photograph reproduced herewith shows, they occasionally sat on branches placed on the ground. Furthermore, they were never observed to climb the wire-netting of their enclosure, though they would hang awkwardly to it if frightened sufficiently to make them fly, a procedure which was discouraged in the early stages of their captivity by wing-clipping.

(39) NIGHT PARRAKEET (*Geopsittacus occidentalis*)

Synonyms.—Spinifex Parrot, Western Ground Parrakeet.

Distribution.—Northern South Australia and the adjacent portion of Central Australia, with extensions into central Western Australia, and possibly into north-western Victoria, appear to have constituted the known range of this bird.

Description.—Although superficially similar to the preceding species, this bird differs in its much shorter tail and duller plumage generally, with more yellow on the abdomen and the complete absence of a frontal band. There is no record of any difference in the plumage of the sexes, nor is there any description of the immature plumage that I am aware of.

Variations.—Mathews states that skins from Western Australia are duller than those from South Australia.

Coloured Plates.—The plate in Mathews (vol. vi, p. 495) by Roland Green is very good, as also is that by Cayley in *The Emu*, vol. 23, pl. 40.

Field Notes.—The only notes of much value are the oft-quoted ones of Andrews, which are reproduced in Cayley's *Australian Parrots* (p. 308); these stress the nocturnal habits of the species. All expeditions in search of this bird in the present century have proved unsuccessful, although feathers have been obtained.

Aviary Notes.—A specimen was presented to the London Zoo by Dr. Ferdinand Muller, but it apparently did not survive for very long. The statement attributed to Brisay that the species was bred by Russ on the Continent in 1877, would appear to call for considerable credulity. There do not appear to be any records of this species being kept in captivity in Australia.



Copyright]

GROUND PARRAKEET.

[the late R. R. Mischke

To face p. 126.



Copyright]

[E. A. d'Ombain

FEMALE PALM COCKATOO.

To face p. 127.

(40) PALM COCKATOO (*Probosciger aterrimus*)

Synonym.—Goliath Cockatoo.

Distribution.—As far as Australia is concerned, this species is only found in the northern part of Cape York Peninsula, Queensland, but a similar, probably identical, bird occurs in New Guinea and in the Aru Islands.

Description.—A large Cockatoo of a slaty-black colour with a long thin crest, an enormous beak, and a patch of dull red bare skin on the side of the face. The female is said to be a little smaller than the male, and the size of her upper mandible is quite appreciably less than that of her mate. Immatures are said to have the feathers of the under parts barred and tipped with pale yellow, a feature which disappears at the first moult.

Variations.—The Australian birds appear to be identical with those found in the islands to the north, although possibly a little smaller.

Coloured Plates.—Goodchild's plate in Mathews (vol. vi, p. 77) is of that artist's customary high standard, whilst that by Lydon in Greene (vol. iii, p. 125) is reasonably good, although the bare area on the face is of a purple shade, a colour which is reputed to denote ill health.

Field Notes.—Donald Thomson, in *Birds of Cape York Peninsula*, says that this species is usually found in small parties in scrub or jungle country, from which it ranges into surrounding savannah in search of seeds being especially fond of the fruit of the pandanus palm.

Aviary Notes.—Most of my knowledge of this bird has been derived from a study of the specimens in the Adelaide Zoo, where three, out of a consignment of six obtained just over twenty years ago, still survive. A pair of these birds have nested there on several occasions, laying a single egg each time, and twice a young bird has been hatched, but in neither case has it survived for more than a few days. At the time of writing (March, 1950) the hen of the pair of birds referred to is again incubating an egg. As is apparently the case in the wild state, the birds make a rough nest of pieces of bark and sticks, on which they lay the egg.

This Cockatoo is quite unlike its relatives in its behaviour and habits generally. Its main call note is a shrill, quite indescribable whistle, it has a peculiar habit of stamping one foot when excited or alarmed, and the colour of the bare facial patch becomes brighter with the same emotions.

(41) RED-TAILED BLACK COCKATOO (*Calyptorhynchus banksi*)

Synonym.—Banksian Cockatoo.

Distribution.—Widely distributed over most of the Continent, especially the more northerly parts, and said also to occur on King Island in Bass Strait, but not in Tasmania. As far as the southern

parts of Australia are concerned, the bird is rare in south-western Australia, and is also found in small numbers in western Victoria and the adjacent parts of south-eastern South Australia. It is also found in parts of Gippsland, eastern Victoria.

Description.—The general colour of the adult male is black, with a slight greenish gloss, and there is a broad band of scarlet on all the tail feathers except the central pair. The adult female is of a brownish-black colour, and most of the feathers of the head, back, and wings show a small yellow spot, whilst the feathers of the breast and abdomen are margined with yellowish-orange. The tail band is a mixture of yellow and red, interspersed with black barring and mottling. The beak is whitish horn as opposed to black in the male. Immatures resemble the adult female, and males take four years to acquire the adult plumage, becoming progressively less spotted at each moult, and the tail feathers gradually becoming less speckled and barred. My observations suggest that young males are always less heavily spotted than young females.

Variations.—At least three fairly well-defined races occur. The Eastern Australian birds, which range from about Port Denison, in Queensland, down through New South Wales into the eastern extremity of Victoria, may be considered the typical race, and are sometimes referred to either as *magnificus* or *stellatus*. They exhibit a long crest and the tail bar of the female shows more red than yellow. The northern race (*macrorhynchus*) is not very different in size, and crest shape from the foregoing, but the females have very little red in the tail bar, which is consequently mainly yellow mottled with black. The birds from the south-west of Western Australia, correctly designated *naso*, and frequently and incorrectly *stellatus*, are smaller than the typical birds, with smaller beaks and shorter, more rounded crests. To which described race, if any, the birds from south-eastern South Australia and western Victoria belong, I am quite uncertain; the only bird derived from that area that I have observed is a hen, and she exhibits narrow red bars on the tail, which extend nearly to the tips of the feathers.

Coloured Plates.—The only relatively easily accessible plate that I am aware of is a beautiful one of a pair of the northern race (*macrorhynchus*) by Goodchild in Mathews (vol. vi, p. 100). Reichenow also figures a pair in his book (pl. 12, figs. 6 and 7), but this work is rare, in Australia at any rate.

Field Notes.—I have never seen this bird in the wild state. In the south-east of South Australia and adjacent parts of Victoria, they are said to occur in small parties which mingle with flocks of the Yellow-tailed Black Cockatoo, but they do not appear to have developed the taste of the latter for the nuts of the introduced pines. In Western Australia, the species is said never to associate with flocks of the more

plentiful White-tailed Black Cockatoo. In Northern Australia, the birds are quite common, and are said to congregate in very large flocks.

Aviary Notes.—This species is by far the best known in captivity of the Black Cockatoos, the young birds being usually taken from the nest and hand-reared, an extremely tedious and laborious procedure. When so treated, most males become very tame and well-disposed towards humans, and will often display to them; in such cases, they will seldom become friendly with birds of the opposite sex. Hand-reared females, on the other hand, usually lose their friendliness as they become independent of human feeding.

This species was apparently first hatched in captivity in 1939, in the collection of the then Marquess of Tavistock, and the young bird was ultimately hand-reared by one of his aviary attendants. According to the brief account in *AVICULTURAL MAGAZINE* (1940, p. 136), incubation would appear to have lasted approximately two months; however, Mr. E. J. L. Hallstrom, of Sydney, who has now bred a number of young birds of this species in his collection, informs me that the incubation period is twenty-nine days, and it would therefore appear probable that one of the months referred to in that account is incorrect.

In 1945, two pairs of this species nested in the Adelaide Zoo, and each successfully reared one young bird; although eggs have been laid in the Zoo, both previously and subsequently, no other results have eventuated. The first pair consisted of a male of one of the large races, which was in adult plumage when acquired in July, 1913, mated to a female obtained from the south-east of South Australia in 1936 or 1937. Two eggs were laid, the date not being recorded, and one of them proved to be infertile. Incubation was carried out by the hen only, and a young bird was first seen in the nest on 3rd February. It flourished, and was observed looking out of the nesting log on 12th April, but it did not leave the nest until 10th May; a total period of ninety-six days since hatching. It was first noticed feeding itself on 8th September, four months after leaving the nest! This bird was from the first regarded as a male, and it attained full adult plumage late in 1949, by a series of gradual incomplete moults.

The second pair were relatively young birds obtained from Western Australia a few years previously, and belonging to the subspecies *naso*. Their first egg was laid on the floor of their aviary, and was broken. About a month later, another egg was laid in a hollow scooped out in the ground in a corner of their enclosure. This egg was incubated, and hatched on 5th April; the young bird was easily observed and appeared to grow very quickly, and after a time it began to roam about the floor; consequently, bricks were placed around its corner to prevent this. This bird eventually flew to a perch on 18th June, when seventy-five days old, and it was first noticed feeding itself on 13th October, again approximately four months after leaving the nest.

From the first, this bird was correctly considered to be a hen, being much more heavily spotted and barred than the other young bird; time proved this to be correct, its plumage having altered very little over the years. The parents of these birds were fed on a mixture of sunflower seed, hulled oats, and boiled maize; in addition, lettuce was supplied and a few pine nuts were relished whenever available.

The display of this Cockatoo consists of the crest being erected and the feathers of the cheeks puffed out, so as to hide the beak, and the tail being fanned to show the red bar; a soft, almost purring, note is uttered at the same time.

(42) GLOSSY BLACK COCKATOO (*Calyptorhynchus lathami*)

Synonym.—Leach's Black Cockatoo.

Distribution.—Little is known of the exact range of this species. It is said to extend as far north in central Queensland as the tropic of Capricorn, having been recorded from the vicinity of Rockhampton. In New South Wales it is said to be fairly plentiful in the neighbourhood of Forbes and Parkes, and it was formerly common near Sydney, and also in the Illawarra district. It seems to be extremely doubtful whether it has ever been recorded from the state of Victoria, but it was apparently reasonably plentiful in the Mount Lofty Ranges in South Australia in the last century. Nowadays, its South Australian range is certainly restricted to the western end of Kangaroo Island, and it is almost probably quite rare there. It seems certain that this bird and the Banksian are frequently confused with one another, and this may account for the paucity of the records of this species.

Description.—The descriptive name, Glossy, is singularly inappropriate. The adult male is a smaller edition of the previous bird, with the same scarlet tail band, but it differs in that the whole of the head is of a brownish shade. The adult female resembles the adult male, except that she has the red tail band crossed with black bars and speckled to some extent with yellow; she differs markedly from the female of the preceding species in not being spotted and barred on the body feathers. Adults of both sexes in many instances show an irregular marking with orange-yellow feathers on the head and neck; this peculiarity appears to be more common in females. As in the preceding species, the beak is black in the adult male and whitish in the female. Immatures resemble adult females, but it is not known how long the young males take to assume the uninterrupted red tail bar.

Variations.—The Kangaroo Island birds do not differ appreciably from those from eastern Australia.

Coloured Plates.—There is an excellent plate of a male by Goodchild in Mathews (vol. vi, p. 125), and quite a good representation of a female (wrongly designated *stellatus*) by Lear in Selby's treatise on the

Natural History of Parrots (p. 134). Reichenow also figures the species (pl. 12, fig. 1) under the name *solandri*.

Field Notes.—I have never met with this species in the wild state, and very few notes have been published regarding its habits. Its principal food appears to be the seed of the Sheoak (*Casuarina sp.*).

Aviary Notes.—This species is practically unknown in captivity, the only example I have ever seen being a single bird in the collection of Mr. E. J. L. Hallstrom, of Sydney. This gentleman, who has been remarkably successful with the rearing of nestling Black Cockatoos of the other three species, has found the Glossy extremely difficult and the bird referred to is the only survivor of several young birds taken from the nests with a view to hand-rearing.

Some years ago, a bird of this species was kept in captivity by the ranger at Flinders Chase, Kangaroo Island. It was later liberated, but has become famous because of the oft-repeated statement, almost certainly erroneous, that it had a red crest.

(43) YELLOW-TAILED BLACK COCKATOO (*Calyptorhynchus funereus*)

Synonym.—Funereal Cockatoo.

Distribution.—The range of this species extends from central Queensland down through eastern New South Wales and most of Victoria to King Island and Tasmania, and also westward into the south-east of South Australia and the Mount Lofty Ranges. It is also found on Kangaroo Island and on the southern part of Eyre's Peninsula.

Description.—The general colouring of this bird is a brownish-black with slightly paler edgings to most of the dorsal feathers; the under surface is of a somewhat browner shade, and the feathers have fairly broad yellowish margins. The ear coverts and tail bar are yellow, the latter being spotted with black to a variable extent. The sexual differences have seldom been emphasized, but they are well marked. The beak is black in the adult male, and whitish in shade in the female; the ear coverts are dull yellow in the male and bright yellow in the female, and the skin of the eyelids is pink in the male and black in the female. In addition, the yellow tail bar of the male tends to become clearer, and less flecked with black as the bird gets older, whereas in the female it always remains moderately speckled. Immatures closely resemble the adults, and can be sexed when nestlings by the shade of yellow on the ear coverts. Their beaks are horn-coloured and those of the young males slowly darken.

Variations.—The Tasmanian birds were originally given specific rank (*xanthonotus*), they are said to be smaller with less speckling of the tail bar; it is, however, extremely doubtful whether they constitute even a valid sub-species. The conferring of subspecific rank (*whiteae*) on the Kangaroo Island birds, is even more ridiculous as they have

been observed passing across the strait to and from the adjacent Fleurieu Peninsula.

Coloured Plates.—The only coloured plate that is reasonably easily accessible is an excellent reproduction of a female by Goodchild in Mathews (vol. vi, p. 138).

Field Notes.—This species is still common in many parts of the Mount Lofty Ranges, and I have observed it there on numerous occasions, usually feeding on the nuts of various introduced pines. It frequently congregates in quite large flocks, and its distinctive, wailing cry can be heard from a considerable distance.

Aviary Notes.—This species has always been rare in captivity, probably on account of the time required to induce young birds taken from the nest to feed themselves; once established, it appears to be just as hardy and as long-lived as the Red-tailed species.

Several of these birds have lived in the Adelaide Zoo for a good many years past, and it is from a study of these that most of my observations have been derived. These birds have laid eggs on several occasions, but only once in a nesting log, and even then incubation did not follow. The species does not appear to have been bred in captivity either in Australia, or elsewhere. Pairs of this species never appear to be as well-disposed towards each other as do pairs of the Red-tailed Black Cockatoo. The display, consisting of erection of the crest and fanning of the tail, is much the same as in that species; on such occasions, the relative shortness of the crest feathers is easily observable.

(44) WHITE-TAILED BLACK COCKATOO (*Calyptorhynchus baudini*)

Synonym.—Baudin's Black Cockatoo.

Distribution.—Confined to the south-western corner of Western Australia, extending as far north as the Murchison River, and eastward to the vicinity of Esperance.

Description.—This species closely resembles the previous one, the upper parts being blackish-brown with the same paler edges to the feathers, whilst the under surface is browner with whitish margins to the feathers. The tail band and ear coverts are white and, unlike the previous bird, the former is not flecked and speckled with black to any great extent. The sexual differentiation is much the same as in the preceding species, namely, beak black in the male and whitish in the female; ear coverts dirty white in the male and clear white in the female, and eyelids pink in the male and black in the female. Immatures are sexable as nestlings by the colour of the ear coverts and the beaks of the young males gradually darken.

Variations.—The inland birds are said to have broader, shorter beaks than those found nearer the coast.

Coloured Plates.—A female of this species is beautifully depicted by

Goodchild in Mathews (vol. vi, p. 134) and there is also a good plate of a female in Lear's *Illustrations of Parrots* (pl. 6).

Field Notes.—On a visit to Western Australia in August, 1948, I observed this species in several parts of the south-west, and on one occasion watched a pair flying around in the vicinity of the Museum, in the heart of the city of Perth, greatly to the discomfiture of the pigeons living thereabouts ! A very large flock was seen at the Canning Dam, and it was noticed that the birds kept very largely in threes, which consisted of a pair of adults and, by its behaviour, a young bird of the previous nesting season, which continually called to its parents for food.

Aviary Notes.—The first time that I ever saw this bird alive was when an overseas dealer passed through Adelaide not long before World War II, with a lovely specimen in his possession. Subsequently, two young birds were obtained by the Adelaide Zoo but, although they survived for several months, they never appeared to be in very good condition. Mr. E. J. L. Hallstrom, of Sydney, had quite a number in his collection when I last visited it in June, 1949, and he informed me that they had laid eggs on occasions. They appear to be very like the Yellow-tailed Black Cockatoo in their habits, as indeed would be expected, as they are obviously very close relatives.

In life, the plumage of this bird gives the impression of a rather greyish shade, as opposed to the more brownish tinge of the Yellow-tailed.

(45) GANG-GANG COCKATOO (*Callocephalon fimbriatum*)^{*}

Synonyms.—Red-crowned Cockatoo, Helmeted Cockatoo, Galah (erroneously).

Distribution.—Found principally in Victoria and eastern New South Wales, the northern boundary of its range in the latter state being unrecorded. It is said to be plentiful on King Island in Bass Strait, but is very rare in Tasmania, and probably only accidental thereto. In south-eastern South Australia, it occasionally transgresses the Victorian border in the vicinity of Naracoorte.

Description.—A unique little Cockatoo, with an unusual crest of disintegrated feathers, the tips of which are curved forward so that it gives the impression of never being completely lowered. The adult male is mainly of a grey colour with each feather exhibiting a paler margin and with a greenish tinge on some of the outer wing-coverts ; the whole of the head and crest is red. The female differs in that the head and crest are grey instead of red ; in addition, the wing-coverts are differently marked with broader whitish edgings, and the feathers of the breast and abdomen are barred with orange-red and greenish-white. The sexes of immatures are distinguishable from the time they leave the nest, young males resembling females except for the

crest feathers being tipped with red, and there being some red feathers on the forehead. Adult plumage is said to be acquired by the young males at the age of about one year.

Variations.—The shade of red on the head of the males varies considerably, some being bright scarlet, and others quite a dull red shade. Old females occasionally develop a few scattered red feathers on the head.

Coloured Plates.—The plate in Greene (vol. iii, p. 131), presumably by Lydon, is quite good of a male. That by Roland Green in Mathews (vol. vi, p. 153) is accurate as regards colouring, but the hen is depicted showing the crest quite flat, a position that is not generally assumed.

Field Notes.—I have seen this species on several occasions in hilly country in Victoria; their flight is silent and owl-like, but they draw attention to their presence, both in flight and when feeding, by their very unusual and quite unmistakable calls. They feed largely on the seeds of wattles, and have also developed a liking for hawthorn berries, at times coming into the suburbs of Melbourne to feed on these.

Aviary Notes.—Always a rare bird in captivity and one to which I have always been greatly attracted. Unfortunately, it very frequently becomes addicted to feather-biting, and good specimens in captivity are quite exceptional.

The first specimen that I ever possessed was a cock in perfect plumage which the late Mr. Wachsmann, of Sydney, sent to me in October, 1937. The following month, I obtained the loan of a very tame hen that was in a deplorable state, not only as regards her body feathers, but also her wings and tail. The two birds were placed in adjoining small Parrot cages, and it was immediately apparent that it was a case of love at first sight. They were allowed together in a medium-sized Parrot cage a few days later, and the plumage of the hen soon began to improve with the onset of a moult, the new feathers not being interfered with. By March of the following year, she was in very good condition, only a few of the flight feathers not having been replaced, and in April the pair were released in an aviary. Within a few days her feathers were in almost as bad a state as they had been when I obtained her, and the breast feathers of the cock were also showing signs of unwelcome attention. I was so disgusted that I returned the hen forthwith to her owner, and let him have the cock as well. This pair of birds are still in captivity in this state, and the cock remains in tolerably good feather most of the time, but the hen is always in a semi-nude and flightless condition.

In December, 1948, I acquired another cock, a tame bird in very good condition, and capable of saying a couple of words. This bird I kept for nearly a year and it became very friendly, enjoying having its crest scratched and always performing its quaint display, consisting of a purposeful advance along the perch, culminating in a

hop with the crest erect, whenever spoken to. However, it was an inveterate shrieker in the early morning, and whenever alarmed, and I eventually parted with it with considerable regret.

In addition to the oft-quoted breedings by Lecallier in France (vide Cayley's *Australian Parrots*, pp. 88-90) and Tavistock in England (*AVICULTURAL MAGAZINE*, 1938, p. 258), Gang-gangs have been bred in South Australia by Miss S. Merrifield, of Jamestown, a success which gained the A.S.S.A. bronze medal, and also the silver medal of the Society for the outstanding breeding achievement of the 1945 season. Miss Merrifield's birds were kept in a relatively small aviary, and two eggs were laid in a hollow log. Both parents incubated, and the young hatched on about 20th November, the incubation period not being known. The first young bird left the nest on 11th January, and the second six days later; both were cocks, and they were independent in about another three or four weeks, having been fed by both parents prior thereto. The parents were fed on sunflower seed, boiled maize, and sweetened bread and milk; in addition, green food, such as lucerne, was provided, also bunches of eucalyptus leaves and a little mutton suet occasionally. The birds showed a preference for the sunflower seed and bread and milk whilst rearing the young. I am given to understand that Miss Merrifield's birds have had further successes in subsequent years.

Mr. Hallstrom, of Sydney, has also bred this species in his collection within the last few years.

Acknowledgment.—The plate of the Palm Cockatoo is reproduced from *The Emu*, by kind permission of the Editor and the photographer, E. A. d'Ombra.

* * *

SOME NOTES ON BARBETS

By K. A. NORRIS

Reference to *Capito aurovirens* in the March issue of the Magazine prompts me to record that I received a male of this species from Mr. W. J. C. Frost in February, 1936.

My notes, made at the time, are somewhat brief but I believe this bird was originally imported by Mr. Jean Delacour from the Equadorean Andes.

The call was very similar to that of the better known Asiatic species but given in a rather high pitch and each "spasm" was of comparatively short duration.

The trivial name then used was the "Golden Green Barbet", a literal translation of the proper name which gave a very fair impression of the bird's general appearance. In addition to the golden-yellow of the breast feathers, the whole of the back, scapulars, tail,

and flights were brownish-olive with a distinct golden sheen which was very apparent in good light.

I have had a number of different species of Barbets and am familiar with several in their wild state and in every case the call note has been in a minor key. The name "Plaintive" would certainly be appropriate to any one.

I have found the Barbets to make excellent subjects for aviculture, being long lived and entertaining in their habits and easy to keep in condition, and I was somewhat surprised to learn recently that some aviculturists consider them to be "difficult".

They do appear to be rather sensitive to draughts and cold damp atmosphere and consequently are more suited to cage life in a bird-room than to open aviaries and even in a cage they appreciate the provision of a hollow log, into which they may retire at night, this apparently being their normal habit in a wild state.

Their natural food consists almost exclusively of fruits and berries, particularly those of the various species of *Ficus*, which are of a dry and fibrous nature. Fruits and berries of this kind are to be found on the trees practically throughout the year and it would hardly be an exaggeration to say that in India "every Peepal Tree has its Barbet".

They undoubtedly take some insects, particularly during the short season when fruit and berries become scarce and also when feeding young, and Salim Ali states (*Book of Indian Birds*, p. 180) that the Coppersmith (*Xantholema*) "occasionally captures moths and winged termites, launching ungainly and ludicrous aerial sallies from a branch in their pursuit".

My own birds of the Indian and African species displayed little enthusiasm for live insects but *Capito aurovirens* was an exception and was always ready to accept mealworms, earwigs, and small beetles which confirms Mr. Delacour's statement (*Aviculture*, vol. ii, p. 340) that the American species are far more insectivorous.

They all show keen appreciation of soft sweet fruit, such as grapes and pear, and over indulgence in this form of feeding may, I think, account for the lack of success experienced by some aviculturists in keeping them in confinement.

Barbets are somewhat gross feeders and require food of a more sustaining nature and also plenty of roughage to help their digestive system and counteract the effect of lack of exercise resulting from close confinement.

They will hammer away contentedly at the hardest apple, cut in half and hung in their cage and this, together with hawthorn and mountain ash berries, privet berries, dried sultanas, and currants (soaked overnight), chopped dates and dried figs and a little insectivorous mixture moistened with grated carrot has always given most satisfactory results in my own experience.

Naturally, one would allow for the size of the species being kept and adjust the mixture accordingly but they appear to be able to swallow and digest, without serious inconvenience, fruits of surprisingly large size.

A particularly tame Blue-throated (*Cyanops asiatica*) which I had for over nine years and which was regularly allowed the freedom of my birdroom, once to my intense anxiety swallowed two whole dates before I could cover the box from which it was greedily helping itself. This occurred early in the morning and the bird certainly looked a little uncomfortable when I had to leave shortly afterwards. In the evening, however, it was as lively as ever and the two date stones were lying in the bottom of the cage, cleaned and polished almost to the texture of ivory!

* * *

BRITISH AVICULTURISTS' CLUB

The twenty-second meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 10th May, 1950, at 6 p.m., followed by a dinner.

Chairman : Mr. D. Seth-Smith.

Members of the Club : R. M. Adamson, Dr. M. Amsler, Miss P. Barclay-Smith (Vice-Chairman), H.G. the Duke of Bedford, Miss K. Bonner, Captain A. Clarence, O. E. Dunmore, A. Ezra (Patron), J. F. M. Floyd, Mrs. W. O. Gilbert, H. J. Harman, H. J. Indge, Miss E. Maud Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, G. S. Mottershead, S. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), R. C. J. Sawyer, E. N. T. Vane, H. Wilmot, S. A. Wright.

Guests : James Bailey, Count Bobrinsky, G. S. Cansdale, Mrs. G. S. Cansdale, N. Chaffer, Mrs. N. Chaffer, G. N. Clark, Mrs. G. N. Clark, J. O. Gilbert, Hans Johansen, D. Mc. Inerny, Mrs. D. Mc. Inerny, Miss A. J. Monier-Williams, Mrs. S. Murray, Mrs. D. Seth-Smith, Dr. N. Van Dorp Van Vliet, H. F. Vinall, Mrs. H. Wilmot, Mrs. S. A. Wright.

Members of the Club, 24 ; guests, 19 ; total, 43.

The Chairman, opening the meeting, said the Club was pleased to welcome as visitors Mr. and Mrs. Norman Chaffer, from Australia, Dr. N. Van Dorp Van Vliet, Holland, Mr. Hans Johansen, Denmark, and Mr. H. F. Vinall, Curator of the Aquarium, London Zoo.

In the short time at his disposal Dr. Van Dorp Van Vliet was only able to describe briefly his feeding experiments with biological foods for fish and birds. A full account will be given in a future number of the AVICULTURAL MAGAZINE. Dr. Amsler, E. N. T. Vane, and G. S. Cansdale took part in the discussion that followed.

After thanking Dr. Van Dorp Van Vliet for his interesting talk, the

Chairman called on Mr. Norman Chaffer to show his coloured films of Australian birds. The first, "Where Bower Birds Play," taken in North-West N.S.W., was a remarkable pictorial record of the courtship and display of the Spotted Bower Bird; in addition, there were close-ups of the Black-faced Wood Swallow, Soldier Bird Honey-eater, Ground Cuckoo-Shrike, Crested Pigeon, all with their nests and young ones. The second film, "Woodland Sanctuary," near Sydney, showed us the Rufous Whistler, Sacred Kingfisher, White-throated Warbler, Mistletoe Bird, White-browed and Masked Wood Swallows. The remaining film was of birds in the Sydney area, and amongst the twenty shown were Bee-eater, Yellow and Red-capped Robins, Painted, Scarlet, and Yellow-winged Honey-eaters, Spur-winged and Banded Plover, Wrens, Flycatchers, and Pheasant Coucal.

The Chairman, thanking Mr. Chaffer on behalf of the Club, said he could not recollect seeing a better series of films of birds. Very great patience and much care had been necessary; they were technically perfect.

The audience showed by its warm applause that it fully appreciated Mr. Chaffer's efforts.

H. J. Indge exhibited a Japanese Blue Flycatcher.

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

PERSONALIA

Dr. Edward Hindle, Scientific Director, Zoological Society of London, has just returned from a flying visit to Pakistan, where he represented Great Britain at the Scientific Congress.

The *Country Life* International Exhibition of Wild Life Photography was held at the Central Hall, Westminster, 20th March to 1st April, 1950.

Members of the Society were well to the fore. The Organizing Secretary was Miss P. Barclay-Smith, and Herbert Calkin was mainly responsible for arranging the exhibits.

Amongst the exhibitors were R. A. H. Coombes, K. S. Dharmakumarsinhji, K. A. Norris, Lieut.-Col. Niall Rankin, Peter Scott, and C. S. Webb. Films were shown by Peter Scott, *Expedition to the Canadian Arctic*, and C. S. Webb, *Wild Life in the Tropics* and, for François Edmond-Blanc, "*Abubu*," the *Story of a Gorilla Hunt*, and *African Paradise*. Dr. Dillon Ripley's *Wild Life in Assam* was also shown.

News from correspondents :—

David West, U.S.A., writes : "I note Mr. Seth-Smith expresses

surprise there is no record of Many-coloured Parrakeets being bred in the U.S. (1950, 45). Nevertheless, they have not yet been bred. There are still some females here, and maybe some day we will get some males."

H. M. Borbidge, Victoria, writes : " My main success this year has been in breeding the Painted Finch (*Emblema picta*). One pair laid four eggs, hatched four young. When nearly reared one died, but the other three are in the aviary now. I have never bred them before, but they seem to breed freely, and I think a number of pairs will breed together as a colony. The three young have proved to be two hens and one cock ; so with one other cock, bought for £1, I have now three pairs, and will see how they get along next season. Their nesting time commences about October here. No live food was given to them, and they seem as hardy as Zebras."

Dave Bush, N.S.W. : " Mr. Turner and I arrived back safely with the Père David Deer, lutino Ring-necks, Ultramarine Lorys, etc., all in good health. We had it very hot through the Suez Canal. Remember me to all the members I met in England, and tell them if they are at any time in Australia to be sure and let me know.

" I have recently inspected the two following hybrids, which are new to me (i) Corella (short-face) \times Galah, (ii) Many-colour \times Blue-bonnet.

" My brother has again bred three nice young Little Lorikeets ; the last two young went to America."

E. J. Hallstrom, Sydney, writes : " In regard to the unnamed Parrots I procured in New Guinea. I found one had been previously named Double-eyed Dwarf Parrot, and another Alpine Parrot. One very nice bird may be described as a new variety of *edwardsi*—I think a very much prettier one—and belongs to the family of Fig Parrots. At present no previous record of this particular bird has been found, so if it is not identified it will probably be called *hallstromi*. In regard to the breeding of these birds, I am afraid there is a lot to learn. The small Parrots choose a very small tree of soft timber, about the texture and hardness—or should I say softness—of Balsa wood. They cut a perfectly round hole into an upright tree, and then descend about four inches where their eggs are deposited on some fine chips. On a number of occasions young have been produced, but each time, after some slight disturbance, they have killed them. They need a great deal more privacy, and shortly I hope to have erected what I believe will be suitable aviaries for this class of bird."

Members are requested to endeavour to increase the membership of the Society. The Society needs as many new members as possible, thus assuring funds for the continued issue of the Magazine at its present size.

A. A. P.

REVIEWS

FOREIGN BIRDS FOR GARDEN AVIARIES. By ALEC BROOKSBANK. Published by *Cage Birds*, Dorset House, Stamford Street, S.E. 1. 10s. 6d.

Reading this book has brought back many happy memories. I was always very fond of the foreign birds that could be kept in captivity, but infinitely preferred to keep them in aviaries rather than cages when this was possible, and no garden seemed to me quite complete that did not possess an aviary where one's birds could be kept and watched under more or less natural conditions. An aviary of this kind gave one enormous pleasure and, although I cannot keep birds myself now, I well remember the joy of discovering that one's treasures, belonging perhaps to a species that had never bred in Great Britain, were building their nest, and the excitement of the first appearance of the nestlings. These were experiences not easily forgotten, though I must admit that I had forgotten, until Mr. Brooksbank reminded me, that the successful breeding of the Yellowish Finch first took place in my aviary. One had terrible disappointments at times, but these only made one keener than ever to succeed eventually.

It is a long time ago that I first commenced to keep foreign birds and, although I did once succeed in breeding Cockatiels in a large cage, I soon found that few birds were so accommodating and one could not do without aviaries, preferably out of doors. And how glad I should have been in those days to have possessed Mr. Brooksbank's book. It is true that there were a few books on foreign bird-keeping, but the information they contained left much to be desired, and one soon realized that one had to learn much from one's own bitter experience.

No one is better qualified than Mr. Brooksbank to write a book such as this, for he and Mr. Edward Boosey are co-directors, and the originators of the Keston Foreign Bird Farm, where many kinds of foreign birds have been kept and bred in garden aviaries since 1927. Besides being an expert on the keeping and breeding of birds, Mr. Brooksbank is a skilled photographer, and has formed the collection of portraits of his birds with which his book is illustrated, some sixty pictures being reproduced; in fact the text may be said to be written around the illustrations which are placed in alphabetical order.

Although the species dealt with include the majority of the foreign birds kept by aviculturists, one rather misses others which might have been included in the text, even though no photographs were available.

It is not easy to secure really satisfactory photographs of brightly coloured birds, but in most cases Mr. Brooksbank has been very successful, and produced pictures that can be easily recognized for

what they represent ; there are only two that I could not spot without looking at the printed name. These were the Sydney Waxbill (p. 183) and Golden-breasted Waxbills (p. 75). I could not at first understand why the "Yellow Bunting" was included in the book, for I have always considered this name to belong to the Yellowhammer, but soon found that it here referred to the Red-headed Bunting. The author considers the latter name inappropriate, as the bird has not, strictly speaking, a red head, but it is just as appropriate as that of the Black-headed Gull which has a brown head, and it is a pity to alter long established vernacular names.

I cannot agree with the author that the so-called "Silver Zebra-finch" is "a great improvement on the normal bird", though, of course, this is only one's personal opinion. I am probably old-fashioned, but it seems to me a pity to produce these artificial varieties with a view to improving upon Nature. The normal type of the Zebra Finch is a charming and beautiful bird, which I far prefer to these present-day fakes.

Full advice is given upon the building and furnishing of the aviary, the most suitable types of nesting-boxes and the plants to grow in the flight ; and there is an important chapter on common ailments and their treatment and, lastly, a complete index.

D. S-S.

NATURAL HISTORY : MAMMALS AND BIRDS. By DAVID SETH-SMITH. "Reason Why" Series. Herbert Jenkins, London. 7s. 6d. net.

This book, which is composed of three hundred and twenty-four questions and their answers most interestingly and lucidly explained contains all those points of information which one so often finds one just does not know and which search in the usual textbooks fails to provide. One hundred and forty of the questions and answers deal with birds and include such great variation of subject as How do Pelicans Catch fish—Why is the Secretary bird so named—Where do Parrots come from and what are their chief peculiarities—Why does the male Hornbill imprison his mate in her nest—or does he?—Why does the Toucan have so large a bill—When was the Canary first domesticated? A clear and comprehensive index is included.

This is a book that will make a very wide appeal and certainly no one who is interested in natural history will be able to resist the expenditure of the necessary 7s. 6d. to procure it.

P. B-S.

NOTES FROM THE LONDON ZOO

By C. S. WEBB

At the time of writing (24th April) it is still rather early for new arrivals, but we have been fortunate in getting a few things of note.

A pair of Purple or Green-backed Gallinules (*Porphyrio madagascariensis*) arrived from the Jardin des Plantes, Paris. These birds, known also as Reed-hens and Porphyrios, are rather like gigantic Moorhens but of much more vivid coloration—being purple on the under parts and olive-green on the back, with the face and throat azure blue.

Although not uncommon in the wild state in favourable situations, they are seldom seen because of their skulking habits. Their favourite haunts are the reed-beds bordering lakes and swamps in Africa and Madagascar. In the latter country, whence our specimens came, they are particularly numerous in the vast reed-beds skirting Lake Alaotra, but few of the local Europeans have ever seen them at liberty. These Gallinules rarely move far from their safe retreats among the huge beds of Papyrus reeds, the very edges of which supply much of their natural food in the way of water-lily tubers and water-lily seeds. They do not appear to swim.

Still harder to detect is the smaller Allen's Porphyrio which might be considered a rare bird, even by a keen observer, but natives will produce both these birds by the dozen by setting traps in the reeds.

It seems probable that Gallinules wishing to change their abode do their flying at night. Both Allen's and the Martinique Gallinule have been picked up on ships at sea.

A hen Sonnerat's Junglefowl from Clères has made a welcome addition to our existing stock.

A pair of recently arrived Stanley Cranes from South Africa was presented by Mr. Alfred Ezra.

An interesting collection of Penguins, including Ringed, Gentoo, Maccaroni, and a young Emperor Penguin has been presented by the Falkland Islands Dependencies Survey. The Emperor is new to Great Britain.

Regarding Zoo happenings, we have bred for the first time here three European Eagle Owls (*Bubo bubo*). They are at present merely large animated balls of fluff. Previous broods were always abandoned or destroyed because of interference—a problem not easy to overcome where birds are on exhibit to thousands of visitors. This time the birds were screened off and left to their own devices.

The Wattled Starling male has commenced his seasonal change of head-dress, and by the time these notes appear it should be complete. This seasonal transformation is, I think, unique among birds. In the

winter the sexes can hardly be distinguished, but in the spring the male develops long wattles on the chin and erectile wattles on the forehead and crown ; the head feathers disappear, and the skin of the head then becomes yellow in colour. In the reverse season the wattles shrink and disappear, and the head becomes fully feathered again.

It is probable that these changes will be illustrated in a future issue of the AVICULTURAL MAGAZINE.

Many of our Pheasants have laid, and I hope to publish results in the next number.

A word on longevity. A Condor that died recently had been here for thirty-nine years. The larger birds of prey, like the Parrots, have a long expectation of life, but it is surprising to what ages some of the smaller birds will live. A Royal Starling that came with an importation of birds from Abyssinia in 1923 is still going strong.

Other long-lived Starlings are a Glossy (21 years), a Red-winged (22 years), and an Amethyst (23 years).

A Trumpeter Hornbill that I captured myself as an adult bird twenty-one years ago in Portuguese East Africa is as fit as ever.

An Adjutant Stork lived here for forty-three years.

Against these figures it is interesting to read of the expectation of life of some birds in the wild state.

David Lack in his monograph of the Robin estimates the average length of life as 10·8 months, and John Buxton in his monograph of the Redstart, estimates that this bird's expectation of life is 9·3 months. A large percentage of these birds, especially the young and inexperienced, are wiped out by predators.

* * *

NOTES

CORRIGENDA.

The titling of upper illustration on plate facing page 72 should read "Gouldian Finches" not "*Young* Gouldian Finches".

Volume 55, page 117, third paragraph, for "typical" read "atypical".

ACKNOWLEDGMENT.

The Editor is greatly indebted to E. Boosey and A. Brooksbank for presenting the colour plate which forms the frontispiece of this number.

SEVENTEENTH CENTURY TOUCANS.

Reading through the old county natural history books, I have noted two rather curious items connected with Toucans.

In the *Natural History of Oxfordshire*, by Robert Plot, LL.D., late Keeper of the Ashmolean Museum and Professor of Chymistry in the University of Oxford, first published in 1676 (second edition, 1705), we read on page 182 : "In the year 1644 the *Pica Brasiliensis*, or Toucan, whose beak is near as big as its whole body, was found within two miles of Oxford, and given to the Repository in the Medicine-School, where it is still to be seen ; which argues it a bird of a very rank wing, there

being a necessity of its flying from America hither, except we shall rather say it might be brought into England by ship, and afterwards getting away might fly hither."

And in the *Natural History of Lancashire, Cheshire and the Peak, in Derbyshire*, by Charles Leigh, Doctor of Physick, 1700, we find a plate depicting six birds, one of which, a Toucan, is described on page 195 as: "The Brasilian Magpye; this was driven upon the coasts by the violent hale-storm, described in Mr. Burgher's first plate, and found dead upon the sea-coasts in Lancashire."

Mr. Burgher's plate "shews the flashes of lightning, the largeness of the hail-stones that fell in that storm and the hares and birds that were kill'd by them". The storm was in 1697, and great damage was done by the hail, "several stones were nine inches in circumference, others were six, seven and eight."

A Toucan in those days must surely have been a bird of very considerable rarity, and it is a little surprising that the owners of the birds now mentioned failed to take better care of them.

A. A. P.

* * *

CORRESPONDENCE

BIRD SHOWS

May I reply to your correspondent, Derek Goodwin's letter regarding Bird Shows.

As one who has been attending, organizing, and on a small scale, exhibiting for a great number of years, I entirely disagree with Mr. Goodwin's remarks and conclusions.

To say that Shows do not gain recruits to bird keeping is just plain rubbish. That the person who objects to the keeping of birds in cages will not be converted by attending exhibitions is quite probable, but I suggest that the lay public generally are greatly interested in the various exhibits, and that many do take up our fascinating hobby can be proved by any Show manager or secretary.

The next point I challenge is that the birds exhibited would be left peacefully in their aviaries "had their owners cared more for their birds than for their own aggrandisement", and that this would be a good thing for the birds. That one gets pleasure from winning a prize I do not deny, but as far as most of my friends who exhibit foreigners is concerned, their first thought is for the birds.

I imagine that your correspondent has never exhibited birds, because I can assure him that the excitement of Shows is certainly beneficial to most birds, always providing they are not sent to too many Shows, and that birds that are temperamentally unsuited to Shows, as some are, are excluded.

All wild birds in their natural surroundings have to be in a state of alertness to the many dangers that beset them from the time they leave the nest to the time they die. Birds in captivity soon learn to ignore their normal enemies beyond the wire, and thereby also tend to lose their natural tenseness, and I have proved, at any rate to my own satisfaction, that the keying up of a bird's nervous system by the excitement of being exhibited is definitely beneficial to its health.

That there is a certain type of person who considers bird keepers sadists, etc., is certainly true, and I do most heartily agree that aviculturists can, and I think do, combat this ignorance (for that is what it is) by inviting these people to see their birds and aviaries. I have been amused on many occasions by the interest and surprise of field ornithologists when viewing my birds, and their obvious contentment in captivity.

I suggest that bird keepers can and should explain to the public when visiting Shows what the birds are, where they come from, and any peculiar habits they have in the wild, and I can assure my bird keeping friends they will be surprised and pleased at the interest shown and the friendships that can come from these casual chats.

In conclusion, I trust that aviculturists will support the Shows to their utmost, so that we may see those feathered treasures that would otherwise be unknown to the great majority, and that one of the happiest gathering places for those who want to

meet their fellows who have the same interests and to exchange experiences and pass on knowledge, are kept going.

Improve the Shows and Show conditions ! Yes, by all means. Abolish them ! Never.

OSCAR E. DUNMORE.

22 KINGSWAY ROAD,
LEICESTER.

BIRD SHOWS

Mr. Goodwin would presumably class me as one who never exhibits a bird as having so much feeling for my birds that I would not subject them to the degrading cruelty of a show. That would not be correct. I do not show birds because I am only interested in breeding them in captivity and studying the conditions which are essential to their health and well being. My season is Spring and Summer, the show season is Autumn and Winter. No bird can be at the peak of its condition for twelve months of the year ; I try to bring mine to this point in the breeding season, and rest them during the show season.

That friend of Mr. Goodwin's who would like to stamp out bird keeping is, I fear, far too common a type to-day. Having been reared and weaned on austerity and controls, they have a mania for interfering with other people's business or pleasure. They have an infinite capacity for fault-finding in others, and completely lack the grace or ability to consider their own shortcomings. I have frequently been nauseated by records of the exploits of many big game hunters and museum collecting expeditions in the pursuit of scientific knowledge (to their way of thinking), but I have not yet raised a banner " Ignorance rather than wholesale slaughter "—perhaps it is time some misguided fool did.

Bird shows have an enormous educational and stimulating effect both on the " lay public " and the average enthusiastic aviculturist. They provide an opportunity for the latter to gather from widely distributed areas to compare notes and renew friendships. They encourage the competitive spirit—a point to which our " friend " above is doubtless fundamentally opposed—I am all in favour in spite of being a non-exhibitor.

E. N. T. VANE.

" RIDGEWAY,"
JOEL STREET,
PINNER, MIDDX.

Although a lot of words have already been spilled on the above subject, I should like to add simply : Let the Avicultural Society adhere to avicultural matters and leave out ornithology ; it will be better for all concerned.

H. J. INDGE.

TRIMSTONE,
THORPE,
EGHAM, SURREY.

(I entirely disagree with the views expressed in the above letter. Aviculture has an important part to play in the science of ornithology, and to this end the AVICULTURAL MAGAZINE has always striven. The amount of valuable data that has been lost by aviculturists who have failed to record their observations on birds in captivity is deplorable.—EDITOR.)

DIAMORPHIC DOWN PATTERNS

Mr. Terry Jones' letter regarding the dimorphism noted in his Ross Goslings was of interest to me, as I bred young from three different pairs of Ross during the last few years before my collection at Wallingford, Conn., was dispersed.

All were identical in colour of down when hatched. A soft shade of yellow, almost primrose, surrounded the eyes, and extended almost to the top of the head, which shaded into a light grey, the back of the neck this light grey, deepening somewhat on the back, and lighter grey underneath, with the throat yellowish. The primrose

colour faded after the first few days, to a light yellow-grey. This may be an awkward description, as I cannot qualify as an expert either on colours or descriptive ability, but I think it will give an idea of the coloration of the newly-hatched Gosling.

One pair (the first to breed) were both wild-caught birds. Surprisingly they were exceedingly tame, and the female nested in a small building, and acted always much like a domestic Goose. The other two pairs were made up of females from the wild-caught pair, and two wild-caught Ganders obtained in California. The females of the latter two pairs both nested in their second year.

In dispersing my birds, the Ross were sold or given to various people. Of these, I have had the opportunity of seeing resulting progeny only from the pair given to Mr. John E. Deeter, of Millbury, Mass. I gave him a female raised in 1945, and one of the wild-caught California males in the Spring of 1946. Because Mr. Deeter's conditions are not of the best for breeding, this pair did not produce young until the 1949 season, when four eggs were laid, and three young hatched and raised to maturity, one of the young later being found dead. The newly-hatched Goslings were identical in down colouring to those which I reared.

I obtained a hand-reared Ross female from Europe before ever being so fortunate as to breed any, and although mated to a wild-caught male, she never nested. This female was much larger and coarser in head and conformation than the wild-caught birds I owned, and the young from them, and it is possible she may have been a sterile bird which might have accounted for her marked difference when compared with the wild-caught birds. It would have been interesting to have compared her progeny with those from the wild-caught birds, had she ever nested, as they might have shown a different colour pattern as mentioned by Mr. Jones.

So far as I am able to ascertain, there are not more than three persons breeding the Ross Geese at the present time in this country, in spite of the fact that over a period of several years quite a few hand-reared young were sold to wild fowl fanciers in various parts of the country. The Ross is such a lovely little Goose and becomes so tame and friendly, it is a delightful addition to any waterfowl collection.

C. L. SIBLEY.

SEVENFIRES,
NANTUCKET, MASS.

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* * *

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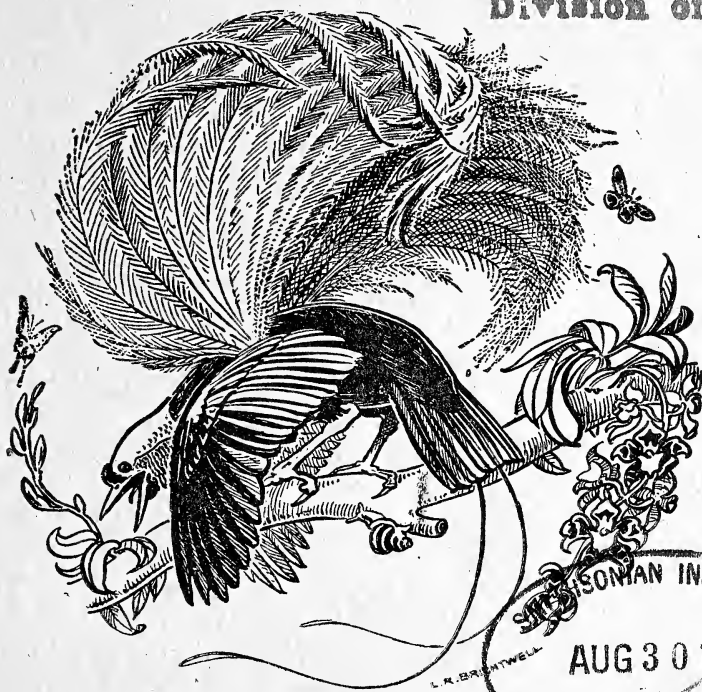
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CUBAN FINCH
(*Tiaris canora*)

From a colour photograph by Alec Brooksbank.

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
AVICULTURAL SOCIETY

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JULY—AUGUST, 1950

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY
(Continued from page 108)

In writing of the Yellow-fronted New Zealand Parrakeets it would perhaps be as well to start with a short description of the bird, as such is their rarity that even such an authority as Mr. Seth-Smith told us that the ones at Keston were the first living specimens he had ever seen.

Their prevailing colour is green, paler on the breast ; a band just above the beak and a patch on the flanks bright red ; fore part of the crown golden-yellow ; some blue on the lower edge of the wings ; bill a pretty silver shading to black at the tip ; length 9.6 inches. The birds' eyes are particularly striking, the iris being brilliant ruby red. They can easily be sexed by their size, the cocks usually being considerably larger than the hens, and this is even apparent as soon as they leave the nest.

The Yellow-fronted New Zealand is one of the smallest of the Cyanorhamphus Parrakeets, a family which in many respects differs entirely from all other members of the Parrot tribe.

Their voices, for instance, resemble in miniature the bleating of a sheep—surely the most improbable sound for a Parrakeet to utter ! Then, too, they have the very un-parrakeet-like habit of scratching in the ground like chickens, this action being facilitated by their long legs, which also enable them to run and jump with remarkable speed. They have, too, the curious habit of running rapidly *down* wire netting from top to bottom. All this makes them very fascinating to watch, in fact as time-wasters when you are busy they are only equalled by Swainson's Lorikeets when in playful mood !

The first bird we had of this species was a solitary hen which, in lieu of a husband of her own kind, we mated to a cock Blue-winged Grass Parrakeet, and though all the eggs proved to be clear, it certainly looked at first as though there might be a brood of the most unique hybrids, as they were a devoted couple, the cock continually feeding the hen.

The first male Yellow-front to arrive here was not a particularly good specimen, and the hen would have nothing whatever to do with him, and again laid a clutch of unfertile eggs. Then, by a great stroke of luck, we were able to obtain two fine males and mated the largest of them to the hen, who at once fell for him in a big way. She soon laid again, six eggs this time, and not only did all hatch but the whole brood of six were successfully reared. They seem to go in for large families, for on another occasion a brood of seven was successfully reared. Indeed, so prolific and such excellent parents did they prove to be that there seemed, at first, no reason why they should not eventually become quite common as aviary birds, in fact, far more so than in their wild state.

Alas, we quickly discovered that any dream one might cherish of working up a really large breeding stock of these charming little Parrakeets was foredoomed to failure, for it all too soon became apparent that the ease with which they can be bred is only equalled by the ease with which they die, at any rate in aviaries.

So impossible, indeed, did it prove to keep alive either the imported parents or their aviary-bred offspring for more than, at most, eighteen months or so, that we were eventually forced to give them up altogether. Before reluctantly doing so, however, we tried them under a variety of conditions and diets. In unheated outdoor aviaries ; in aviaries with a heated shelter ; in large flight cages in a heated bird room ; with bread and milk and mealworms (both of which they refused to sample), and with and without hemp seed, of which they were inordinately fond. But always, sooner or later, with the same discouraging result.

That there is some very real, though at present unexplained difficulty in keeping these birds alive for any length of time was further proved by the fact that Lord Tavistock's experience with them was—as he has recorded in the Magazine—precisely the same as ours, and though he bred them freely, so great was the mortality among them that he, too, eventually decided to give them up as a bad job.

One does not like to be "beaten" by a bird, and though there does not now seem the remotest chance of my being able to do so, I should dearly love to have another shot at Yellow-fronted New Zealands.

We had a bad season with Manycolours, possibly because of a spell of exceptionally cold weather when the young were in the nest and before they were properly feathered. Three pairs hatched between them no less than seventeen young ones, yet of these only three were ultimately reared.

Barrabands, also, did none too well. Certainly the old pair reared a brood of five, but another pair let all their six young ones die in the nest at varying stages of development.

One pair of Rosellas reared nine young ones in two nests, and a pair

of yellow Redrumps had a clutch of ten fertile eggs which one can hardly blame the hen for not attempting to finish incubating.

Incidentally, all the yellow Redrumps now in aviaries (and a surprisingly large number were recorded in the recent Parrakeet Register) must be descendants of our old original hen, since she was the first and only yellow Redrump ever to reach Europe.

We had recently managed to obtain several fine pairs of reputedly wild-caught Stanley Parrakeets, and this season fifteen young ones were reared.

These charming little Broadtails had always been particular favourites of mine, and partly for this reason we decided to make a concentrated effort to re-establish them in this country as easily obtainable aviary birds.

The extent to which this effort eventually succeeded was strikingly shown by the large number of these Parrakeets which appeared in the last Parrakeet Register, for it should be borne in mind that when we obtained our original breeding stock from Australia, Stanleys—except for an occasional small degenerate aviary-bred specimen—were practically unobtainable and it was from then on that the Stanley population in this country gradually increased until they achieved their present satisfactory numbers.

After the fifteen reared in 1934 we annually reared and marketed young Stanleys right up to the outbreak of war, in ever-increasing numbers, meanwhile continually increasing our breeding stock by retaining one or two young pairs each season.

We are now trying to work up a good breeding stock of them again but are somewhat hampered by not being permitted to obtain some badly-needed fresh blood from Australia, although the few pairs we still have continue to produce young of excellent quality.

For various reasons neither Elegants nor Turquoisines were reared here during 1934, but on the other hand, Blue-wings and Bourkes both did extremely well, three pairs of Blue-wings rearing fifteen young ones, and four pairs of Bourkes twenty-one.

It was during this season that a fine brood of Hooded Parrakeets was reared, details of which rare event I have already given.

Swainsons and Red-collared Lorikeets as usual went plodding along, producing excellent young ones at long intervals and in small numbers.

Pairs of Barnard Parrakeets, Mealy Rosellas, and Rock Peplars were obtained too late in the season for breeding, while a "pair" of Crimson-wings turned out to be a fully adult cock and a young one not yet in colour.

Mention of these two Crimson-wings which behaved at first so much like a pair, reminds me of a bird problem that has always puzzled me, namely whether one bird recognizes the sex of another through

instinct or whether this recognition is purely visual and is entirely dependent upon the colours displayed in the other bird's plumage.

At first I thought it must surely be mainly a matter of instinct, but after many years' observation of birds in aviaries I am more and more inclined to doubt this.

At any rate, certain it is that the "pair" of Crimson-wings alluded to above lived in perfect amity until the young cock started to acquire his black mantle and crimson wing patches, after which he began to be so relentlessly persecuted by his adult companion that they had to be separated. All of which I think points to the fact that sex recognition in birds is almost entirely visual, and that instinct plays small, if any, part in it.

I noted that the previous autumn we had obtained from India a consignment of ten almost nestling Plumhead Parrakeets, all, of course, quite unsexable. Later on it seemed likely that three of these might be hens, but in the end I think only one or two of the whole consignment proved to be females, thereby rather exploding the long held belief that hen Plumheads are quite as abundant in a wild state as cocks, but that, solely because of their more brilliant plumage, only the latter were ever sent over. Whatever the cause of this scarcity of hens, it is a thousand pities that this most elegant and beautiful little member of the Palæornis family, whose head really does appear to have the matchless purple bloom of an untouched plum or grape, has so seldom been propagated.

Plumheads, again, are one of those birds which in times past seem to have had the reputation of being easy to breed, but I can only say that we never found them so, and I imagine other aviculturists didn't either, otherwise they would never have been allowed to die out as completely as they have.

During the ensuing years and right up to the outbreak of war the farm continued to expand rapidly, and in addition we opened premises in London and also started publication of *The Foreigner*. As a result of all these increased activities I am afraid my annual breeding records became more and more scrappy, so that for the rest of this article I shall have to rely mostly on memory.

The shop proved a useful London link between the farm and its customers, but we found it quite impossible to keep the birds in really first rate condition in a London shop, and most people preferred to buy their birds direct from Keston.

The Foreigner, about which we had a good many qualms when we first started it, eventually proved most successful; so much so that though at first it only appeared quarterly, it was finally, owing to repeated requests, issued as a bi-monthly. I think a great measure of the credit for its success must be given to my partner, Alec Brooksbank,

both for his very able editing of it and also for the fine quality of his bird photographs which appeared in it.

One of our chief "headaches"—as I feel our Editor will probably agree—was the great difficulty of obtaining suitable copy. Each volume contained an earnest exhortation to subscribers to submit articles and photographs for publication, but the response was meagre to a degree. The reason for this is, I suppose, the unfortunate inferiority complex about their birds which seems to afflict so many aviculturists, and persuades them that unless their aviaries are replete with specimens of the utmost rarity, nothing they write can possibly be of the slightest general interest. Actually I believe quite the reverse to be true, for I am certain that many people enjoy reading articles and mentally "comparing notes" about birds which they themselves have kept, as an occasional contrast to reading articles about rarities which they have often never seen and in most cases are never likely to possess.

Now to return to the actual bird breeding activities of the farm.

We continued annually to breed most of the species already mentioned, and among finches an additional success, namely that of the rare Australian Painted Finch (*Emblema picta*) must be recorded. They proved to be very little trouble, and though they were attractive in their rather sombre way I can never for the life of me see why they were christened "Painted" Finch, a name far more suitable for a Gouldian.

At one time we had about six pairs of Royal Parrot Finches which were always to me the perfect example of how unattractive even a brightly-coloured bird can be unless its richness of colour is accompanied by an elegant figure, and—for lack of a better word—charm.

Our Royal Parrot Finches were certainly beautiful though their blue is of a shade that does not light up particularly well. But their untamable wildness had to be seen to be believed! We tried them in large cages; in small aviaries; in large planted aviaries, and always the result was the same. They dashed madly about if one went anywhere near them, usually ending up dangling, helpless, and panting with their toe-nails caught in the wire netting, until they were released.

I managed to endure them for about eighteen months, after which we parted with them. During their period in a planted aviary furnished with numerous nest boxes, two of the latter were found to be partly filled with unfinished nests made chiefly of dead leaves, but there was no sign of eggs.

Pintailed Nonpareils also failed to breed successfully, but were beautiful and much less wild and of a far more elegant shape than the Royal Parrot Finches.

Though I have no actual record of the date, I think it was this year that I turned out a pair of the charming and diminutive Cuban

Finches into my planted aviary, where, though their brief trilling song was frequently heard, little was seen of them as the aviary was at that time much overgrown with a thicket of Snowberry. However, when they did eventually appear it was with two recently fledged young ones, and as I had not actually realized they had gone to nest, the surprise was all the pleasanter.

At various times we bred King Parrakeets, Bauers, Crimson-wings, and Princess of Wales's Parrakeets. The latter are, I think, a very typical example of the "rogue" stock which often used to be sent over to this country before the war, thereby gaining a bad breeding reputation for a particular species of bird. On all hands one heard, and, to a lesser extent, still does hear, complaints that Princess of Wales's are inveterate egg-smashers. This cannot, however, always be the case, as is proved by the very large number that have been reared in confinement at the Adelaide Zoo, South Australia.

Of the various pairs we had at Keston, all but one either ate or smashed their eggs, the exception being a pair, the hen of which seemed incapable of producing more than two, or at most three eggs in a clutch, of which usually one was fertile and successfully hatched and reared.

Finally, just before the war, I conceived a passionate desire to thwart some of these infuriating egg-smashing females. I therefore provided one of them with the usual grandfather clock nest box that she was accustomed to, but replaced the filling of decayed wood on which she normally laid, with a concave wooden saucer with a hole in the middle just large enough for the newly-laid egg to drop through immediately on to a drawer filled with sawdust beneath. In this way I managed to collect a full clutch of—for once—unbroken eggs, and a pair of Redrumps which were given three of them hatched and fully reared three of the finest young Princess of Wales's I have ever seen.

About 1937 the well-known American aviculturist, Mr. Eastham Guild, personally brought over a number of pairs of the extremely rare and beautiful little Ultramarine and Goupil's Lories for Lord Tavistock who asked us if we would meet them in London for him and house them in flight cages in our heated acclimatizing room during the winter. This we did, and I was very pleased to have the opportunity of studying these great rarities.

The Ultramarine is a tiny enchanting little Lory about the size of a Lovebird, simply but effectively coloured deep navy blue and white set off by red legs and beak; yet, lovely as is the Ultramarine, I think the rarer Goupil's Lory, with its colour combination of pure white, Cobalt, and deeper blues, and peacock green, is an even more exquisite little bird.

While they were at Keston we fed them exactly as Mr. Guild had

during the voyage to England, namely on a considerably watered-down edition of the ordinary Lorikeet nectar, and never had any trouble with them. When they were sent to Lord Tavistock in the spring, however, he decided, if I remember rightly, to give them the same food in greater concentration, but this proved a mistake, and there were several losses from liver troubles until they were eventually put back on to the original diluted mixture. As far as I can remember he succeeded in breeding both the Ultramarine and Goupils.

(*To be continued.*)

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"JAVA SPARROWS—A LIVELIHOOD"

By WILLIAM GRIFFITHS

It was on my visit to India in 1933 that I first became interested in birds, and it happened quite by accident.

Strolling down the streets one fine day in Calcutta, I beheld an old man whose face was cracked with wrinkles, similar to the furrows on arable ground after a plough has done its day's work, and he beckoned to me. Curiosity overcoming my timidity, I went up to him and inquired what he wanted of me. At first I thought he was a beggar, quite a common sight, and was about to offer him some money, when he said, "Tell your fortune, sir?" I was thoroughly amused, and told him to go right ahead, proffering my open hand, which he disdainfully refused, but uncovered instead, a small cage, in which were two birds—two very pretty birds.

I became, indeed, very interested, and ere long I was surrounded by at least twenty inquisitive Indians, of all ages and creeds, probably as curious as I was. Through sheer embarrassment I was about to leave but, never ever hearing of a man's fortune being told by the aid of birds, I reluctantly remained.

Out of his right pocket the old emaciated man withdrew some envelopes, which he lay on the pavement before him. He then gently opened the door of the cage and the two birds hopped out and then flew on to his shoulder. Delving low into his other pocket he drew out a few grains of paddy, and scattered them over the envelopes. Immediately the birds flew on to the ground, hopped up to the grain and ate avidly. When there were just two grains left each bird picked up with its strong bill an envelope each, on which lay the last grain. These they carried to their master, who opened them and drew out a slip of paper from each. What was written thereon was my fortune, and that, gentle people, is *my* secret.

I gave him a rupee, and then got into conversation with him. The tameness and utter fearlessness of these birds absolutely thrilled me,

and I there and then made up my mind to obtain them. I offered him quite a large sum of money, but he merely smiled, and said, "Sahib! How can I sell you my livelihood?" Nothing would weaken him, so I decided to get others instead. Their lovely rose-pink bills, blending with the soft grey colouring of their body plumage, added to my admiration. He mentioned that the *full black-headed* one was the female, and the other, with a black head and white ear coverts, was the male.

On inquiring how he tamed them, he said that he first cut their wings, installed them in a small cage, and then starved them. He would occasionally throw one grain of paddy at a time to them, which was greedily eaten. Gradually he started holding a grain between his thumb and index finger, and would offer same to the birds through the wire bars. This they soon learnt to take, and after a time became tame, always eating grain in this manner. "It was very hard work," he said, but they are his main support now. He mentioned also that at the time he had six others at home which were undergoing training, as he always had to have some standby, in case of any deaths.

A few days later, going to the bird market, I beheld a large wire cage with nearly a hundred of these birds and, to my utter amazement, I saw *no females*—not one full black-headed one in the lot. Asking the shopkeeper why the shortage of females, he smiled derisively and told me that there were plenty of both sexes in the cage. Feeling he was lying to me, I angrily walked out of the shop, for did I not see only a few days ago a black-headed female with the fortune-teller?

On going to another shop, a few stalls away, I saw yet another large cage with even a greater number of these birds, and again *no females*. The bird man, getting communicative with the prospect of a sale, informed me that the birds were Java Sparrows. Asking him about a full black-headed one, he said that these were very few and far between, and that they were rarities. He seemed sincere, but I still had my doubts. Anyway, I purchased four, bought a wire cage, had them put in, and with two seers (4 pounds) of paddy under my arm, I hailed a passing taxi. Very soon I was home with my cherished possessions. No! I did *not* intend reading fortunes, nor was I going to undertake the very difficult task of taming them.

I had the cage hung up in the veranda, but the marble flooring below, always getting wet—how these birds loved a bath—and littered with husks, I proposed having an aviary erected in the compound. Within a week, and at a very reasonable cost, I had a beautiful aviary, 12 feet by 8 feet by 6 feet, erected by an Indian carpenter, and released therein my four Java Sparrows.

To learn more about my birds, I purchased a book, and then only learnt for sure that the fortune teller had misinformed me. I was still, however, worried about the full black-headed one that I saw.

At long last I was enlightened when I got a copy of *Frank Finn's Manual on Cage Birds*. Well, after fourteen years in India, during which time I have seen thousands of these birds, I never saw one to match that which the fortune-teller had.

My next move was to try and breed them. Accordingly, I ordered two long baskets to be made. They were 6 inches diameter at the bottom, gradually tapering to 2 inches at the opening. I loosely shoved some dried "dupe" grass in both, and had them hung up horizontally—one at each top corner of the aviary—furthest from the entrance door.

It was not long ere investigations and a lot of fighting was going on in the aviary, and then I observed one go inside. I was full of excitement, and had some more dried grass collected, which I had thrown on the aviary floor. My sweeper rushed to the back of the house and came back with some small soft feathers of chickens, which he carefully gathered from the fowl runs, and these were also strewn on the floor. These were soon being carried by one of them, and then I knew I was nearing my goal. The nest must have been soon completed, for I discovered one missing, and another sitting on guard near by. The other two birds were getting on my nerves with their repeated attempts at investigation, and when they came too near the sentry would literally hurl himself at the one nearest his domain. This caused me great anxiety, and I was determined to remove the two intruders, but how? They all looked alike to me, and I was scared lest I removed the wrong ones. At last! An idea struck me.

At night I had my sweeper remove the seed vessel. I was going to starve them, and I smiled as I thought of the fortune teller. Early next morning I carried their old wire cage and placed it on the floor of the aviary, and on the tray I placed some paddy. I then tied some string to the spring door of the cage, threaded it through the wire netting of the aviary, and then, going out, I carried the string to the veranda, where I patiently sat on a chair. Pulling on the string, the spring door opened, and thus I waited. One of the birds flew down, another followed, and very soon all four were hungrily hopping around in search of food. Nearing the cage, one peered in and then hopped on to the tray, and was eating heartily. The other three soon joined in, and then I slowly slackened the string, and the door gently closed, imprisoning the lot.

I hurried into the aviary with a pair of scissors, followed closely by my sweeper, whose face was wreathed with a smile of satisfaction. The sight of the scissors gradually changed his smiling face to one of utter amazement. "What are you going to do now, Sahib?" said he. I told him, and he shuddered, but that was what I never did. Anyway, I made him catch one bird at a time. I was not going to trust those dangerous-looking bills—and with my scissors I went to work.

The first one's tail was cut to a point, the next one's in the shape of a "V", and the third's circular. The last one was released without any undue damage to its tail feathers. Thus my means of identification now was faultless. The cage was then removed, and the seed vessel returned. Very easily now I detected the two intruders by their tails. The same means of catching them was adopted. The true pair was released and the other two carried away in the small cage and given to my sweeper.

The pair successfully reared four healthy youngsters and had another nest of four eggs, but this time only three were reared—one egg being clear. This success led me to go in for birds in a big way, and ere I left India in 1947 I had three large aviaries and boasted some real avian gems. Apart from many Indian and African Finches, my greatest treasures were from Australia, and these included 11 Gouldians, 7 Redheads and 4 Blackheads, 8 Chestnut-breasted Finches, 7 Double Bar Finches, 17 Zebra Finches, 5 Painted Finches, one pair Crimson Finches, and, last but not least, a pair of Pictorellas—my prize birds—not because they were particularly pretty, but because they were unique in the sense that they were the first pair to arrive in Calcutta after an absence of twenty-five years. So the shopkeeper informed me. It broke my heart to part with my Australians, and I am not ashamed to say that it was with tears in my eyes that I sold the birds I really began to love.

I have often wondered whether I would have ever taken to birds had it not been for the old fortune-teller, or is this love for avian life born in people? If it is, then I owe the old fortune-teller in India nothing. If not, then I do owe him a debt of gratitude which I will never be able to repay, but I can at least say "God bless him".

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THE KING OF SAXONY'S BIRD OF PARADISE

(*Pteridophora alberti*)

By CHARLES STONER

Of all the bizarre and many-plumed types that form the remarkable family of the Birds of Paradise, none is stranger, or for that matter, less known, than the King of Saxony's Bird of Paradise. First described some seventy years ago, it is even now among the rarest of birds in museum collections, and no Zoological Gardens has ever had a specimen in its cages. It is consequently regarded by ornithologists as something of a myth, and it was with but faint hopes of seeing the bird in the field that I first set foot in New Guinea.

It is a small bird, no larger than our Song Thrush, and rather soberly coloured, grey-brown on the back, and yellow below, with a head

and neck of the velvet-black so characteristic of the Paradise Birds. From the head of the male spring two amazing plumes ; some ten inches in length, and made up of a row of sky-blue enamel-like flanges along a slender shaft. There is nothing comparable to these plumes either among the Birds of Paradise or in the whole group.

We might well imagine such a bird as a dweller in the dense tropical forests with their myriads of creepers, orchids, and pitcher plants such as cover so much of the lowlands of New Guinea. It is not here that the King of Saxony's bird must be looked for, but in the dank, gloomy moss forests of the high mountain ranges, along the backbone of the sub-continent. It was my good fortune to be sent to this very area, and I wasted no time in inquiring as to where the bird might be seen. I was taken out to a large stretch of forest at nine thousand feet above sea-level, where for an hour or more my native guides led me through dank undergrowth, and along slippery paths ankle-deep in mud. Birds were few and far between, and there was something uncanny in the lack of life—such a forest would teem with wild life in our own country ; once, however, we were rewarded by the sight of a small party of Princess Stephanie's Bird of Paradise (*Astrapia stephaniæ*) feeding on a berry-laden tree, and heard in the distance the curious barking call of the Great Sickle-Billed Bird of Paradise (*Epimachus fastosus*). Finally, a local head-man stopped and pointed ; far up in the topmost branches of a forest giant was a small and apparently insignificant bird. I got the glasses on to it, and made out the two great plumes of the King of Saxony's bird, carried for convenience along the back as their owner fluttered from branch to branch in search of small insects or fruits.

Subsequently I had many opportunities of studying it in the field, and found it to be an inhabitant of the tree-tops, seldom if ever coming anywhere near ground-level. It is also a solitary bird, and it seems unknown for more than a pair to go together. The call-note is a dull screech. I have once had a glimpse of the display, which has also been seen many times by Mr. F. Shaw-Mayer. The bird starts with a whirring-churring call reminiscent of the African Weavers, and flits from tree to tree, the great plumes thrown from side to side forwards and backwards all the time. The display is solitary and never seems to be communal as with the Great Bird and some others.

A few specimens have been in captivity, caught by Mr. Shaw-Mayer, and I saw them temporarily housed in the aviaries of the Hallstrom Fauna Trust in the mountains. Unlike most Paradise Birds, which are shy, aloof cage-birds, the King of Saxony's becomes very tame and confiding, and seems of a more alert and intelligent disposition than its relatives.

AVICULTURAL SOCIETY OF AMERICA

By PHYLLIS BARCLAY-SMITH

The Avicultural Society of America has been reorganized, with Mr. F. H. Rudkin, Senior, as President Emeritus, and Mr. Jean Delacour as President. Such strong leadership augurs well for the future of the Society, and the first issue of *Aviculture*, the journal of the Society, edited by Mr. Ken Stott, Junior, is indicative of its activity. The articles are on subjects ranging from "Peafowl" to "Psittacidae feeding notes", and there is no doubt that this magazine will become more and more valuable. The issue under review opens with a message from Mr. Delacour as follows:—

"Keeping birds in confinement is more than a delightful hobby or a profitable enterprise. It is an art and a science. True to say, nothing can be more enjoyable for a genuine bird lover than having ready at hand, close to one's home, such beautiful and attractive live objects to watch. It is a source of intense pleasure and constant interest. Also, clever aviculturists, who devote all their skill and patience to the care of their birds, can ordinarily propagate them in such a way as to make their work pay. But aviculture has a higher meaning.

"Behaviour studies are considered increasingly important by modern biologists. Their significance is taking a higher and higher value every day as are various experiments in genetics, which implies aviculture. Field studies have greatly expanded during the last three or four decades, and the techniques of bird watching in the wilds have made considerable progress. Nevertheless, they seldom can supply evidence so easily gained from birds that are living near the observer, therefore at his disposal at all times.

"In aviaries that are properly planned and fitted, or at semi-liberty in gardens and parks, the whole life cycle of a species can be witnessed through every phase of its development, and detailed records kept. Thus aviculture, when well understood, is one of the best mediums for behaviour studies. It will reveal the bird's life, including food, song, display, and reproductive habits, nests and eggs, the laying rhythm, the growth of the chicks, their changes of plumage, the parental care, and many other important points, many of them still little or not at all known.

"Another special aim of aviculture is the maintenance by controlled breeding of species threatened with extinction in their natural haunts, either because of wanton persecution by men, or as a result of the destruction of their necessary habitats. Such threats are more serious to-day than ever before.

"All lovers of birds, who keep them in captivity in an intelligent

way, have a duty to perform, and that is to report their observations, however commonplace they may sound to them. They are probably much more original and valuable than they suspect them to be. Surprisingly little has been published on the habits of the majority of species which have been long kept and reared in aviaries. While writing comprehensive works on birds, such as my recently completed *Pheasants of the World* and *The Waterfowl of the World*, on which I am now working, I continually come up against a complete lack of information on the nests, eggs, incubation period, chicks, moults, and various plumages of many species, some of which have continuously bred in captivity. A number of aviculturists possess a complete knowledge of them, but they have neglected to record them.

“Here is where an Avicultural Society and its magazine come on the scene. During the nineteenth century, most records were registered in general periodicals on zoology, such as the *Bulletin de la Societe d'Acclimatation de France* and the *Proceedings* of the Zoological Society of London until, with the spread of the natural sciences specialized journals came into being. The best of them and the only one still existing to-day, has been the AVICULTURAL MAGAZINE, the organ of the Avicultural Society of London. The wealth of information, not only on bird keeping, but also on bird behaviour, to be found within its 55 volumes published since 1894, is almost incredible.

“In 1929 an attempt was made to produce a similar publication in America. Our magazine, *Aviculture*, started off brightly under the clever editorship of the late C. T. Metzger. But bad luck soon came to the Avicultural Society of America. Unforeseen financial complications thwarted our efforts. We slowly got out of trouble, thanks to the devotion of some of the members, particularly the late Andrew Orear, and we made a new start which, although less ambitious, nevertheless was successful. Under the able editorship of Mr. H. Sedley, an interesting magazine was issued for many years. Personnel difficulties, however, gradually interfered with our Editor's work, and he finally had to reluctantly abandon his function.

“To-day we are trying to unite the efforts of all North American aviculturists in an earnest endeavour to establish our Society on a firm basis, and to publish a magazine of the high standard that befits our great continent. We have succeeded in securing the services of prominent personalities who are the qualified representatives of the various branches of aviculture in the different parts of the United States and Canada. The list of officers and directors speaks for itself. All have promised their complete help.

“We now face the task of publishing regularly a good magazine and of building up a large membership. We beg all members to send to the Editor every year at the least, or better, every time they think that they have something to report upon, an account of what is

happening in their aviaries. I can assure them that they will be rewarded for their work and trouble ; during more than forty years I have written about my live birds and those of others, and it has given me a lot of fun. Don't be shy ; the Editor, and those who help him, including myself, are perfectly ready and willing to help with the redaction of notes and articles. But do give us the facts, and tell us what your birds are doing, and what you are doing to them. Do not hesitate to ask us questions ; our Secretary and Assistant Secretary will answer them. Also please make your friends join—a large membership is an essential condition for success.

“ More birds are now kept and reared in confinement in the New World than in Europe, where our friends are working at present under difficult conditions. Let us make good use of our stock, in propagating it and, still more, in observing it. We owe it to ourselves and to the world to publish a fine aviculture magazine which, while entertaining and attractive, will be truly scientific ; anything is scientific as long as it is accurate. Aviculture constitutes an important branch of ornithology. Let us try to equal the old *BRITISH AVICULTURAL MAGAZINE* ; and, who knows, we may even do better. We won't compete with it, as there is plenty of public and plenty of potential copy for both publications. Each journal can keep its readers informed of what is happening across the Atlantic, while more detailed accounts of special achievements can appear in their respective parts of the world.

“ I have been for many years an assiduous contributor to the *AVICULTURAL MAGAZINE*, and I intend to remain one as long as I live. But, at the same time, I have also contributed to *Aviculture* and to other periodicals in Europe. Others can do the same thing. The more that is written on aviculture, the more will follow, and our beloved art and science will progress all the better.”

It is certainly to be hoped that the closest and most friendly co-operation will be maintained between the two Societies and the two journals, for as Mr. Delacour rightly says, there is plenty of scope for both.

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AUSTRALIAN PARROTS IN CAPTIVITY

By ALAN LENDON, Adelaide

(Continued from p. 135.)(46) SULPHUR-CRESTED COCKATOO (*Kakatoe galerita*)

Synonyms.—White Cockatoo, Greater Sulphur-crested Cockatoo.

Distribution.—The coastal belt of the continent, from St. Vincent's Gulf in South Australia, round the south-eastern, eastern, and northern seaboard as far as the Fitzroy River in the north-west of Western Australia. It also follows the River Murray and its tributaries inland for several hundred miles and, further, is found on King Island and in Tasmania.

Description.—A large white Cockatoo with the inner webs of the flights and tail feathers yellow, as also is the long crest. There is also a suspicion of yellow on the ear coverts but it is never pronounced. The beak is black and the bare skin round the eye is white. Males are usually a little larger than females and invariably have an almost black iris. Some females show a very obvious reddish-brown iris, but I do not think this is a constant feature and I am uncertain whether birds exhibiting it come from any particular district. Immatures closely resemble adults, except for the light colour of the beak, which, however, soon darkens.

Variations.—This bird shows remarkably little variation other than in size throughout its extensive range. The closely allied Triton Cockatoo of New Guinea is larger with a longer crest and very pale blue skin round the eyes.

Coloured Plates.—These are singularly few in number, considering that the bird is so well known. Roland Green's plate in Mathews (vol. vi, p. 170) is very good, and the species is also figured in Lear's *Illustrations of Parrots* (pl. 3) and in Reichenow (pl. 4, fig. 5).

Field Notes.—I have observed this species in several parts of both South Australia and Victoria, and most recently in large flocks near Naracoorte, in the former state. It is an extremely noisy bird and is destructive to crops, but there is no gainsaying the beauty of the sight of a dead tree covered by a flock of the birds.

Aviary Notes.—Very commonly kept as a cage bird in Australia, birds taken from the nest being always in demand as pets and usually making good talkers. Birds so treated are often very long-lived and are almost invariably remarkably tame and gentle, seldom exhibiting the desire to bite people which is only too evident with most of the other species. However, the bird has one great disadvantage, its raucous screech, and the number of these birds presented annually to the

Adelaide Zoo is evidence of this failing, as many of them are talented talkers. In that institution they are all housed together in a large flight aviary, which usually contains between forty and fifty birds, and they agree quite amicably and constitute a great attraction to visitors. Several birds in this aviary have laid eggs, but they do not often remain in pairs as do most of the other members of the genus, and it is difficult to pick out a mated pair with a view to their segregation.

I have no record of this species having been bred in captivity in Australia, although I consider that it is highly probable that it has occurred. Abroad, it appears to have been bred on the Continent during the last century and in England by Whitley, in a state of semi-liberty, during World War I. There does not appear to be any record as to whether both sexes incubate, but I should consider it probable that they would.

I have owned a few of these birds for short periods, usually captured strays, but they have never been kept for long on account of their vocal propensities. There is no doubt that, apart from this failing, they make attractive and entertaining pets.

(47) LEADBEATER'S COCKATOO (*Kakatoe leadbeateri*)

Synonyms.—Pink Cockatoo, Major Mitchell Cockatoo, Weejuggler, Cocklerina.

Distribution.—A bird of the interior, occurring throughout most of Western Australia except the south-west corner and the extreme north of that state. Its range also extends through most of north-western South Australia and down into the Murray Mallee and thence into north-western Victoria. It is also found in western New South Wales and south-western Queensland.

Description.—The upper parts of this bird are white, whilst the face, neck, and under-parts are pink, as also are the inner webs of the tail and flight feathers. The long crest feathers are white at the tip, followed successively by bars of red, yellow, and red. The adult male has the iris a dark brownish-black, whilst in the female it is quite a light reddish-brown colour. In addition the crest of the male contains more red and less yellow. Immatures are only slightly duller than the adults.

Variations.—Some adults exhibit a much brighter shade of pink colouring on the breast than do others, but this does not appear to be constant from any particular part of the bird's extensive range.

Coloured Plates.—These are fairly numerous. Roland Green's in Mathews (vol. vi, p. 190) well depicts a male of the highly coloured variety and the plates by Lydon in Greene (vol. i, p. 13) and in

Russ' *Speaking Parrots* (p. 149) are both very good. Another adequate plate is that by Boosey in Tavistock (p. 120).

Field Notes.—I have never seen this bird in the wild state. It is said never to assemble in large flocks like the other members of its genus, but to remain in small companies of a dozen or so birds. It is also said that its range and that of the Bare-eyed Cockatoo practically never overlap.

Aviary Notes.—Always rather a rare bird in captivity and although extremely decorative, it is not as popular as the other Cockatoos as it seldom becomes a talented speaker. It does not screech to any great extent but it has an extremely irritating, plaintive, cry which it utters frequently when alarmed. I have kept two of these birds during my avicultural career, both being hens, and the most recent example laid several times, but I have never had suitable aviary accommodation to warrant trying to breed from them.

The species has been bred a number of times in captivity, both in Australia and abroad, the first occasion apparently being by Mrs. Johnstone in England in 1901. In South Australia the A.S.S.A. medal was awarded in 1936 to Mr. R. F. Bellchambers, of Humbug Scrub, for the first recorded breeding. His notes state that four eggs were laid and that incubation commenced on 11th September, and that by 11th October three young had hatched. In accordance with other observers, he found that the male incubated by day and the female by night and that both parents fed the young, the food provided being mainly wheat, peas, green broad beans, almonds, and thistle. Two young had left the nest by 8th December, the third young bird not being reared.

The Adelaide Zoo succeeded in breeding the species in 1941, three young being reared. That institution has found that, unlike the other Cockatoos of the genus, this species cannot be kept in communities and that two males will seldom live long in the same aviary without one setting upon and eventually killing the other.

(48) BARE-EYED COCKATOO (*Kakatoe sanguinea*)

Synonyms.—Little Corella, Blood-stained Cockatoo.

Distribution.—Mainly an interior bird and widely distributed through northern and central Western Australia, Northern and Central Australia, north-eastern South Australia, western Queensland, and western New South Wales, and possibly northern Victoria. In South Australia, it is also found along the creeks and rivers emptying into the eastern sides of Spencer's and St. Vincent's Gulfs.

Description.—General colouring white, with yellow on inner webs of flights and tail feathers and red bases to feathers of head, which show most prominently on the lores. The crest is short and white and the

naked skin round the eyes is slaty-blue, being more extensive and more prominent below the eye. The sexes show no appreciable difference in the colour of the iris, but females are possibly a little smaller as a rule. Immatures leave the nest with the naked skin round the eye the same slaty-blue colour, but practically circular in shape; the normal adult configuration of this area rapidly develops. In all other respects immatures are facsimiles of adults.

Variations.—None, apart from those of size, have been described but the only two birds that I have seen that came from northern Australia showed less red about the lores. The original birds described and figured by Gould show the naked skin round the eye circular and white in colour; it seems possible that these may have been examples of Goffin's Cockatoo from the Tenimber Islands.

Coloured Plates.—This Cockatoo has been neglected by bird artists. There is, however, an excellent plate by Roland Green in Mathews (vol. vi, p. 198) showing very clearly the difference between the adult bird (lower figure) and the immature (upper figure). The species is also figured in Reichenow (pl. 32, fig. 4).

Field Notes.—I have observed the small flock of this species living in the vicinity of Buckland Park, some twenty miles north of Adelaide, on many occasions, and have also seen the bird further north in this state. It is not nearly as noisy a bird as the Sulphur-crested Cockatoo, which is sometimes found in the same localities.

Aviary Notes.—A very common bird in captivity and one which has a good reputation as a talker. I have never possessed an example of this species but have watched them on many occasions in a large flight aviary in the Adelaide Zoo, where they are kept together with several other species of Cockatoos. The birds of this species usually keep in pairs and appear most devoted to their mates; I well remember one bird which, when given a peanut, would immediately fly back to its mate and allow it to take half of the nut.

The Bare-eyed Cockatoo nested successfully in the Zoo at Regent's Park in 1907, and in the collection of Mr. F. E. Blaauw in Holland in 1926 (vide *Ibis*, July, 1927). The only Australian success that I am aware of is a very recent one, as late in 1949 two pairs nested in the Adelaide Zoo. The first pair, which were segregated, hatched their young but failed to rear them. The second pair nested in a log in the large flight aviary previously referred to, containing some thirty to forty various Cockatoos, and successfully reared one young bird which left the nest in mid-January, 1950. Owing to the similarity of the sexes, it is too difficult to be certain whether both birds incubate; in the case of the segregated birds, both were frequently in the nest simultaneously. However, Blaauw records that only the female incubated in the case of his pair of birds, but I consider that this statement requires verification.

(49) SLENDER-BILLED COCKATOO (*Kakatoe tenuirostris*)

Synonyms.—Long-billed Cockatoo, Corella, Dampier's Cockatoo (the western race).

Distribution.—This bird is found scattered through many parts of the western district of Victoria and comes into the south-east of South Australia in the vicinity of Naracoorte. It also occurs in the Riverina district of New South Wales. The western form is confined to the south-west corner of Western Australia, extending as far north as Geraldton.

Description.—The eastern form is a white Cockatoo with yellow inner webs to the flights and tail feathers and with a very short white crest. There is a considerable amount of pinkish-red about the base of the crest, eyes, lores, and chin, and a well-marked crescent of the same colour on the throat. The upper mandible is greatly elongated and the naked skin around the eye is eccentric and bright blue in colour. The iris is brownish-black in both sexes and there is no obvious sexual difference that I am aware of. The immatures closely resemble the adults but I am not able to say whether there is any variation in the shape of the skin round the eye when they first leave the nest.

Variations.—The western form (*pastinator*) is, in my opinion, worthy of specific rank. It differs from the eastern bird in that the red crescent on the throat is lacking and there is considerably less red about the head generally. The naked skin round the eye is slaty-blue and, apart from the elongated mandible, it could easily be mistaken for a somewhat large Bare-eyed Cockatoo, to which species I consider it is more closely related.

Coloured Plates.—An excellent plate of the eastern bird is that by Roland Green in Mathews (vol. vi, p. 214). In the same author's *Supplement to the Birds of Norfolk and Lord Howe Islands* (p. 24), there is a plate by Frohawk of the western race but it shows the skin round the eye of too light a shade of blue and makes the bird's plumage look very dirty. There is also a fairly good plate of the eastern bird by Lydon in Greene (vol. i, p. 27) and it is figured in Reichenow (pl. 4, fig. 7).

Field Notes.—I have not seen either form of this bird in the wild state, although I recently spent an afternoon in the Naracoorte district searching for them in places where they had been seen in numbers only a week previously.

Aviary Notes.—Always a rare bird in captivity in this state but more plentiful in Western Australia and in New South Wales, the bird shops in Sydney often having them for sale. It is said to make the best talker of all the Cockatoos and also to be the most savage.

I have never possessed an example of either race of this rather ugly bird but have often studied the specimens in the Adelaide Zoo, where there have been a fair number of examples of the eastern race in recent years and but four of the western. Neither variety appears to me to

differ appreciably in its habits in captivity from the Bare-eyed Cockatoo.

I do not know of any record of either variety having been bred in captivity anywhere in the world, though it seems probable that such an event may have occurred in some part of Australia and have never been recorded.

(50) ROSE-BREASTED COCKATOO (*Kakatoe roseicapilla*)

Synonyms.—Roseate Cockatoo, Galah.

Distribution.—Australia generally, but confined principally to the inland areas and not often found close to the coast. The species appears to be undergoing a cycle of expansion in South Australia and within the last couple of decades it has colonized the more settled, southern areas. Introduced accidentally to Tasmania.

Description.—The back, wings, rump, tail, and under tail-coverts are grey, the head and short crest are a very pale pink and the breast and abdomen are deep rose-red. The naked skin round the eye is a pinkish-red and the iris in the male is brownish-black, and in the female reddish-brown. Immatures are duller with the breast feathers showing grey edges ; I think adult plumage is acquired at the age of a few months.

Variations.—The birds found in Western Australia can be easily distinguished by the deeper pink colouring of the head and crest. There is also a good deal of individual variation in the depth of the breast colouring in a number of birds from the same locality. A mutation in which the grey colouring is replaced by white is very beautiful and not very uncommon ; I have also seen another mutation in which the grey colour is retained but the pink is replaced by white.

Coloured Plates.—The plate by Roland Green which formed the cover of AVICULTURAL MAGAZINE (Jubilee Number, May, 1935) is excellent. The same artist's plate in Mathews (vol. vi, p. 225) is also very good of the Western Australian race. Lydon's plate in Greene (vol. i, p. 21) makes the underparts much too vivid a red. The species is also figured by Rutledge in Cassell's *Book of Birds* (p. 427), and in Reichenow (pl. 12, fig. 3).

Field Notes.—This bird is nowadays very common in the suburbs of Adelaide and roosts in trees in the parklands surrounding the city. There are few more beautiful sights than a flock of these birds, but they are a serious menace in agricultural areas and also take a heavy toll in almond orchards.

Aviary Notes.—This is a very common cage bird throughout Australia, although it seldom makes a very good talker. It is, however, the least offensive of the genus as regards screaming. I have possessed several birds of this species at different times but have never attempted to breed them.

The first breedings of this Cockatoo appear to have occurred in 1922 in both England and France ; since that date it has been bred on a number of occasions abroad. The A.S.S.A. deemed the Galah ineligible for its medal, presumably because it was known to have been bred in South Australia. In October, 1937, a lady, who was not a member of the Society, wrote to the Secretary stating that a pair of Galahs in her possession had hatched four young birds, but there is no record as to whether they were reared. Both parents incubated in this case.

In the Adelaide Zoo Galahs were successfully reared in 1940 in a large flight aviary containing a number of Cockatoos of several species and they have been bred there subsequently. They do well in communities in association with other members of the family.

(To be continued)

* * *

A VISIT TO CLÈRES

By E. N. T. VANE

The unique collection of birds at Clères have often been described in the past by individual visitors. It was not until this year, however, that any organized visit by the Society was attempted when our Secretaries and Editor undertook and carried out most successfully a task which would have dismayed lesser mortals. On the principle that what is worth doing at all is worth doing well, a most interesting if very full week-end was planned to include a trip into Paris to inspect the bird market, the Vincennes Zoo, and the Zoo in the Jardin des Plantes ; two most delightful dinners were arranged, at which continental aviculturists from France and Belgium met those from Great Britain, the size of which was curtailed by the limited accommodation available in the village. The British contingent consisted of Miss Barclay-Smith, Miss Bonner, Mr. B. Chadwick, Mr. B. Dulanty, Dr. E. Hindle, Mr. F. Grant, Mr. G. T. Iles, Mr. P. Maxwell, Mr. G. S. Mottershead, Mr. A. A. Prestwich, and Mr. E. N. T. Vane.

Meeting at Victoria on Saturday morning, the party proceeded via Newhaven to Dieppe, reaching Clères by private coach about teatime. Embarkation took place with an air of a school outing ; teacher asked everyone how much pocket money he had, then explained that we must keep our sixpences to spend on the way back and must not spend more than one shilling in French money whilst in France ; to give the officials their due they were very polite and efficient in carrying out their irritating task. Being on a French boat we were at last able to enjoy one of those continental feasts about which we had heard so much from the lucky people who now travel to the continent annually for their vacation. A sardine, a piece of cold

sausage, one slice of indifferent salami and a lettuce leaf comprised the hors d'œuvre, followed by an anæmic slice of beef, some wet greenfood, and a spoonful of greasy dehydrated potato, rounded off with some tasteless cheese !!! What a repast, and what a disillusionment. I am convinced you can get meals in England as good as any you can obtain in the world if you are prepared to pay the price. There is no need to travel for that, although the meals we had in France were very appetising, and there were no annoying restrictions or rationing, if I were making the Newhaven-Dieppe crossing again, I would most certainly take some sandwiches.

Why our conveyance from Dieppe to Clères was known as an Isobloc luxury coach I have not yet discovered. To the average Englishman it was a third-rate charabanc with hard seats and no rest for the head, to an American it could only have been a truck. The driver was very capable, if his technique was a little crude. Once started, his foot went down as far as possible and the horn—one of those ear-piercing pip-pip things so dear to the heart of the Parisian taxi driver—was in constant operation, which was in fact electrical in action.

On arrival at Clères, after a preliminary tour of the park, we dined with the French and Belgian aviculturists, many of whom are well known at the dinners of the Avicultural Club in London. From Belgium there were Madame J. Derscheid and Monsieur J. P. Derscheid, Monsieur Max Elsen, President of the Société Royale de Zoologie d'Anvers, and Mademoiselle Therese Elsen, with Monsieur Walter Van den bergh the Director, and Madame Van den bergh, Monsieur G. Danhier, President of the Cercle Ornithologique de Belgique, and Madame Danhier, Colonel Dufour, Monsieur W. Friling, Monsieur Jan Jacobs, Monsieur Raymaekers, and Madame Malisoux, with two members of the recently re-formed O.P.S. Dr. P. G. van Tienhoven from Holland was also present. Monsieur Delacour, in welcoming the representatives of the three nations present, said how happy he was to be able to receive them at Clères again. Monsieur Danhier replied for the Belgian aviculturists, Miss Barclay-Smith, speaking on behalf of the British, paid tribute to the great work of Mr. Fooks in re-establishing the collection at Clères, and Dr. van Tienhoven stressed the value of international gatherings.

The leisurely meal continued for several hours, and it was evident that the food, the wine, and the company were all good. It is very apparent that there is a strong following in Belgium to-day, many of whom have good collections of all kinds of birds.

Although we sat late over dinner, an early start was made on Sunday morning. At one hotel the French could not have been all that was desired as the party was aroused at five o'clock in mistake for six. After a continental breakfast of coffee and rolls, to which

after considerable effort a "couple of œufs" were added, we started off in the luxury coach for Paris. Despite the hour, the horn received the same use as before, possibly the driver was afraid of overcharging his batteries, and decided to provide a safety valve through the hooter. One thing that was noticeable was that the French people were up much earlier on Sunday than most people over here, and moreover they were all hard at work: their Unions cannot be nearly so effective as ours.

Passing up the Seine valley the scenery was varied and interesting, war damage could be seen in most towns and at bridges, particularly in Rouen, but Nature had quickly obliterated most scars in the countryside. After a brief halt in Vernon, we continued our journey straight into the Paris bird market.

Hopes of acquiring a few birds out of the usual were not realized, none were on view that are unobtainable in this country, since importations have been permitted once more. There were a number of stalls spaciouly arranged with a general air of cleanliness sadly lacking in our own counterpart. All the cages were clean, but the size of the boxes in which most of the birds were displayed would have earned a multitude of stripes for an enthusiastic inspector of the R.S.P.C.A. Prices were much the same as those ruling here too. Starting with Red-eared Waxbills at 400 francs a pair, there were many Senegals ranging from this figure up to 1,600 francs, approximately 8s. to 35s. One unfamiliar bird among these was a Blue-billed Fire Finch, other exhibits included Pekin Robins, Glossy Starlings, a few Zebras, one or two American Buntings, and an odd Cuban Tanager, probably the only bird not obtainable here at present. Definitely a disappointment as a market, but it saved our precious francs.

The Vincennes Zoo is most compact and well planned. The animals are displayed in artificially constructed "natural surroundings" separated from the public only by moats or ditches. The houses or sleeping quarters are enclosed in what appear to be huge masses of rock, so large that many of these buildings are more commodious than large areas are set apart for the public to enter and see the inmates inside. The interiors are very well lit from skylights, they are also provided with excellent heating and ventilating systems where required, and the light is nearly always arranged to show the animals to advantage and leave the visitors in the shadier parts where they are least disturbing. The construction has been executed most artistically, the rocks look the genuine article, only close inspection revealing that it is rendered concrete.

A feature of this Zoo is a very tall rock several hundred feet in height, in which an express lift conveys passengers to the top for 5 francs, or 10 francs return; presumably one is given the choice of

walking down the hundreds of steps inside or throwing oneself off the top if only five francs are available. The panorama of Paris and the Eiffel Tower from the top is magnificent, one could look down also on the well-planned Zoo, and appreciate the clever use that has been made of the artificial rocks to conceal the enclosed quarters of the houses.

Some of the party were in favour of making the ascent before lunch, but others preferred to wait until afterwards before rising to such dizzy heights, considering the time that had passed since our scanty breakfast it was a wise precaution. There was much to see of great interest in this Zoo, and some lagged behind, reluctant to leave which rather curtailed our visit to the Jardin des Plantes. This though perhaps considered more "old fashioned" than the Vincennes Zoo, has a great charm and a most excellent collection of birds. Breeding success is at a high level, for many birds particularly the geese and ducks, were nesting.

On return to Clères in the evening a further dinner was held, in which, to the great pleasure of all, Mrs. Benchley, the Director of the San Diego Zoo, joined. Mrs. Benchley is so well known by name to many members of the Avicultural Society, that it was greatly appreciated by those present to be able to meet her personally. At this dinner speeches were made by the youngest members of each contingent, M. J. P. Derscheid speaking on behalf of the Belgians and Mr. G. T. Iles for the British—Dr. van Tienhoven said that being over seventy he was delighted to be able to claim that he was the youngest, as he was the only representative of Holland present.

The following morning—our last—was devoted to a proper inspection of the Park at Clères, under the very kind guidance of M. Delacour, Mr. Fooks, and his daughter. Obviously, the Chateau was chosen with great care for its purpose. Situated in a secluded wooded valley completely surrounded by trees, and containing many paddocks with gently sloping southern aspects, a river and ornamental lake, copses and coverts all combine to provide ideal natural conditions for birds. The design of the enclosure boundaries has been so skilfully evolved that there is a permanent impression of viewing the birds in a perfectly natural state, all are an integral part of the background. Chilian and European Flamingoes stalk gracefully through the shallows of the lakes, Cranes—Crowned, Demoiselle, Sarus, and Australians dance on the lawns. Innumerable geese and duck—swans too—ornament the lakes and water, and in spite of their numbers each species appears to have sufficient space to avoid others and no overcrowding is apparent where natural pugnacity might lead to disaster in confined conditions. The river has been partitioned to provide enclosures for some pairs, but so cleverly have the boundaries been camouflaged



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[E. N. T. Vane

CHÂTEAU DE CLÈRES

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Left to right:—Mr. A. A. Prestwich, Monsieur Delacour, Miss Bonner, Mr. B. Dulanty, Mr. G. T. Iles, Mrs. Benchley, Mademoiselle Therese Eisen, Mr. B. Chadwick, Mr. P. Fooks, Mr. Fooks.

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that no netting is visible at a casual glance. There were Black Swans also Black-necked Swans. Snow Geese, Red-breasted, Barnacle, White-fronted, Bar-headed, and several others, three Sheld-Duck, Muscovies, and over a score of surface feeding and diving duck.

Emus, Rheas, Peafowl, and Turkeys paraded the paddocks through which visitors passed without disturbing the birds or even noticing that their freedom was controlled in any way. In addition to all the commoner Ornamental Pheasants, specimens still survive of such rarities as Bels, Mikado, Elliots, Cheers, also Firebacks, Monals, Tragopans, Crossoptilons, and Peacock Pheasants in the breeding pens beyond the formal aviaries. These are situated close to the Chateau in a beautifully kept garden surrounded by yew hedges and trees. Of steel structure, they have lasted well, but like most of our own aviaries are in need of general overhaul when materials become available once more. Among the many birds housed in these flights, I noticed pairs of Kings, Crimsonwings, Princess of Wales, Mealy Rosellas, several Lovebirds and Budgerigars, a number of Doves, Pigeons, and Quail, several species of Starling, Wydahs, Weavers, Finches and Waxbills, etc. Returning to the Chateau, one passes along a tree sheltered walk along one side of which is a continuous range of perches for Macaws and Cockatoos, its present occupiers were Blue and Yellows and Red and Blue Macaws. On the other hand a pair of Amazons shared an aviary with a small Senegal Parrot. Immediately adjoining the house itself were a few Owls kept and several Budgerigars still breed behind the site where the tropical flights used to be. Birds are not the only inhabitants of the Park, however, there are several monkeys, wallabies, deer, and other mammals, not many cats were in evidence though.

Before closing these notes, I would like to express the appreciation of all concerned for the efforts of Mr. Prestwich and Miss Bonner, and of Miss Barclay-Smith, M. Delacour, and Mr. Fooks for arranging and organizing the week-end. The weather was most kind, only during the night of the first evening did we experience any rain, and in Paris it was really hot, the crossings were also delightful both ways apart from the food and the unfortunate sequel when some of the party went sightseeing in Dieppe and returned to the quay to see the boat well away.

Finally, it was some thirty years ago that Jean Delacour having lost his home and extensive avicultural and zoological collection in the 1914-18 war, courageously set about the creation of an ideal. Twenty years of patient endeavour resulted in the largest and most valuable collection of rare Pheasants, Waterfowl, and other birds in the world being established under utopian conditions, only to be dispersed once again, first by the disastrous fire in 1938, and finally by another enemy invasion. What we were able to see remaining of this magnificent

effort therefore, in 1950, speaks volumes for the tenacity and courage of M. Delacour—a case most aptly envisaged by Kipling :—

If you can dream—and not make dreams your master,
 If you can think—and not make thoughts your aim,
 If you can meet with Triumph and Disaster
 And treat these two imposters just the same ;
 If you can hear the truth you've spoken
 Twisted by knaves to make a trap for fools,
 Or watch the things you gave your life to, broken,
 And stoop and build 'em up with worn-out tools :

Yours is the earth, and everything that's in it,
 And—which is more—you'll be a Man, my son !

* * *

AVICULTURAL REMINISCENCES

By DR. MAURICE AMSLER

I feel convinced that I am the doddery old gentleman Mr. Edward Boosey had in mind when he gave us the very interesting notes on Keston in the current January–February issue. There are several articles in this number which recall the past, so will you kindly afford me space over which I may “ pore ”.

First, may I congratulate Mr. Vane not only on his notable success, which in better times would probably have brought him a medal in silver, but more especially on his detailed and well-written description of his Macaws' breeding.

The Society's Medal was first issued in order to promote knowledge in ornithology not as a bait to be a “ first-timer ” in breeding any species—rare or common.

Of late years there has been a sad falling off of notes on breeding results, doubtless this is partly due to a shortage of young stocks (Methusalahs cannot be expected to reproduce their species), but when a success is attained we should surely have something more than the bald facts that the birds built, laid, and brought off their young in a certain number of days or weeks. The picture of seven Noble Macaws all flying together takes me back to the year 1916 when I bought a pair of winning Red Rosellas from the late John Frostick.

The following spring they were given a small aviary only 12 feet long by 3 feet deep—this included a shelter 3 feet by 3 feet. The first clutch consisted of ten eggs all of which hatched. At the advice of the then Marquess of Tavistock I provided a second nest box when the young were about three weeks old. The hen soon took to this and left the cock to finish off the chicks, ten of which shortly appeared.

The poor cock had the job of feeding this huge family and also the hen who was now on seven eggs. These all hatched out and grew rapidly

so that by the end of the season I had nineteen Rosellas flying about in a little 12 ft. aviary. They were certainly not Noble Macaws, but they were a gorgeous sight.

The next year only seven were reared and after that I parted with them to Madame Lecallier, near Rouen, where they never attempted to breed at all; the same thing happened to a pair of Swainson's Lorikeets which I sold to her.

These birds are worthy of a note on account of their perpetual breeding.

They also came to me in 1916 and tried to breed that winter in a store cage in which they were first housed.

There was no nonsense about their feeding. No canary seed, of course; a war was on, and one could not get much sugar or honey, bananas or grapes. In fact, they got none of these luxuries. Their daily diet then and for the next two years was two tablespoonsful of ground rice mixed with boiling milk, to which I added a lump of "honey-sugar", a by-product of Garton's in the manufacture of sugar.

In the spring they were given the aviary next to the Rosellas—this was equally narrow but 15 feet long. Two large nest-boxes were provided and were immediately inspected, both were used in turn. To cut a long story short, the hen laid her two eggs with the utmost regularity and almost always hatched both.

She soon tired of her babies, left them to her spouse, and laid in the other box. As far as I can remember the young left the nest at about four weeks and so this went on month after month the whole year round for two years. I have records of 14 and 20 degrees of frost which seemed to have no effect whatever on parents or young. That my diet suited the birds is proved by the fact that the chicks on leaving the nest were always very large and well feathered. In a few days they would only be distinguishable from the adults by a slight dullness in the colour of their beaks.

A reference to my old notes has just reminded me what delightful pets these Lorikeets make. It was always difficult to walk out of the aviary without one or more sitting on one's shoulder as they do not like being held in one's hands when lifted off, but one couple which I hand-reared would have fascinated any lover of birds.

I could walk anywhere with them on my shoulder, where they constantly chattered and very gently nibbled my ears. It was, in fact, almost impossible to get rid of them when it was time to return to the aviary.

These "honey-feeders", however, have a great drawback in that they are so messy, and anyone keeping a tame pair should always wear a suit of overalls!

There was one mystery about all my Lorikeets which I never

fathomed. Do they ever moult? When clearing out the aviary a few odd feathers were usually to be seen but nothing more, and there was never a day when they could not have won a first prize, at any rate, for condition.

Possibly their love of water was one reason for their immaculate plumage, for they had a 3 ft. long zinc bath quite 8 inches deep in which their behaviour was that of otters rather than of birds.

They would perch at one end of the bath as soon as it was filled, dive right under water, and emerge at the other end; this would be repeated two or three times, after which they would stop in the middle, where, in fact, they were out of their depths, and have a tremendous splash, then by a great effort they would fly to the nearest perch. As they were almost amphibious it was always necessary to empty this bath before dusk.

Why is it such a pleasure to watch one's birds taking a thorough bath? After the departure of the Swainsons I went in for a pair of King Parrakeets. The hen caused me considerable annoyance by behaving like a broody fowl in that she persisted in sitting in a scrape on the floor of the shelter and would not look at either of the two nest-boxes so beloved by the Lorikeets. Finally, she laid one egg on the ground, which was broken. After this I built her a sort of tunnel by means of a bent piece of corrugated iron fixed in place by a few bricks with a good supply of peat-moss for a nest. She soon laid a full clutch, and reared two young; at the end of the season she produced two more.

Having achieved my aim in rearing this species which in those days was not commonly bred, I am ashamed to say I sold them to our President, but in self defence I must say that he absolutely refused them as a gift. Many of us have to thank him for his advice, help, and generosity, but I feel sure that I must stand high in the list of those who remember his kindness with gratitude.

It was, in fact, thanks to Mr. Ezra's advice that the Zoological Society presented me with a pair of the much coveted Blue Robins, of which I have written so much and so often; even now when I have no collection I still long for those days when I could see one or even two pairs of these quite exquisite birds flying loose in my garden. A reference by Mr. Boosey to sprouted seed takes me back to the Budgerigar boom in 1924. I think it was I who originally discovered the value of sprouting seed in the avoidance of rickets, French moult, and such horrors. I well remember my annoyance when a big breeder of Budgerigars to whom I had imparted this method of feeding published it a month or two later as his own discovery. It no doubt gained him some publicity and an added share of customers, though the latter were more a nuisance than an acquisition in those boom days, when it was difficult to keep a few

breeding pairs for oneself. I was constantly pestered by dealers, many of them Japs, who seemed to have bottomless purses.

My best achievement was £120 for a pair of Cobalts, then known as "Royal Blues", and in the course of three years I made a clear profit of nearly two thousand pounds after paying all Mr. Allen Silver's seed bills for my rather large collection of birds, my fowls, and even my dog foods.

Many of my avicultural friends were inclined to sneer at me for commercializing our science—but after all, the breeding of budgies is hardly aviculture, to my mind it is merely a fancy, like the keeping of Canaries, fancy mice, and such like, and it was not only exhilarating but rather fun to feel one was able to earn a considerable income at the cost of a few minutes' attention each day. The man who had five or six pairs of blues in 1924 was lucky.

As is well known, most of these birds went to Japan, and it was not long before the Japanese flooded our market with blues and other colours of their own production.

Most were cage-bred wretched specimens, and the influx from the East was quickly discouraged.

There is one more point in your number I should like to refer to and that is the question raised by Mr. Hampe on the use of live ants' eggs.

All ants, from the microscopical blacks to the large brown wood-ant contain or carry formic acid; the word, in fact, is derived from the Latin word *formica*, an ant.

When an ant bites you I believe it injects a little formic acid by means of its jaws or biting apparatus. You have only to sit on a nest of the small red ant to prove this, its bite is just as painful as that of the much larger wood ant.

From a fairly long experience I do not think that the swallowing of formic acid is in the least toxic to even the callow nestling, rather I should say that it is a good tonic. Ants' eggs, chiefly the large variety, have been used almost to the exclusion of all other live foods in my aviaries during the summer months, and I have never observed any ill-effects from their use.

Gallinaceous birds, softbills of the Order Turdus and most of the hardbills which feed insects to their young, prefer them to anything—except perhaps the mealworm, whose tough carapace makes them a danger to the more delicate birds. Golden Orfe and goldfish go mad if given a handful of fresh ants' cocoons. The dried ants' egg is probably of no value whatsoever. The late W. E. Teschemaker, probably the ablest ever of our breeders, looked upon dried ants' eggs as mere roughage in the preparation of soft food, and finally used the husks of white millet instead.

My friends probably, and my enemies of a certainty, will think that I have pored enough. With this opinion I entirely concur.

A TAME TRAGOPAN

By EDWARD BOOSEY

In the autumn of 1948 I purchased from Leckford a young pair of Temminck's Tragopans. They arrived in excellent condition, but after a few weeks the cock suddenly went lame and was found to be suffering from Bumblefoot, one of its feet swelling to an enormous size. I had the vet, who recommended a hot antiphlogistine poultice, renewed daily, and this we managed to do, though it was an extremely difficult and messy business. The result was not entirely satisfactory because, though it seemed to some extent to arrest the swelling, it did not cure it.

Eventually it was decided to try penicillin, injected straight into the swollen ball of the foot, and with really miraculous results, recovery being rapid and so complete that now you would never know that the bird had ever had anything wrong with its foot.

The second piece of bad luck with the Tragopans was the escape of the hen. She was quite tame, and one morning when I opened the door to feed them she stepped out of the aviary and went into some bushes close by. I knew she would be anxious to get back to the food, so I hurriedly—too hurriedly as it turned out—wedged back the door, which was on a spring, and retreated. The hen went back and was about to re-enter the aviary when the wedge slipped and the door swung to, frightening her so that she took flight and soared away across the valley. That was the last I saw of her, and as the corn round here was being cut that day, and there was a lot of shooting going on, I have little doubt that—horrible thought—she ended up “in the pot”.

When the cock had fully moulted out into adult plumage I gave him a hen Amherst Pheasant to keep him company, and he was absolutely thrilled with her—though not she with him! Actually I think she was rather frightened of his display, so different from the caperings of a male of her own kind, and which reminds one of the defence tactics of an Indian Puffer fish, since both look as though they were being slowly blown up with a bicycle pump!

The Tragopan, I suppose by gradually fluffing out each feather, certainly ends by looking quite twice his normal size, and as this is accompanied by a slow and measured “goose-step”, and various strange crackling sounds—produced from I know not where inside the bird—the result is certainly rather sinister. So much so that the small daughter of one of our customers who happened to see the Tragopan displaying, clung to her mother and said: “Oh, Mummy, what a horrid *horrid* bird!” and burst into tears and had to be hurried away by her parent!

The hen Amherst laid and incubated two infertile clutches, but as

she now seems as pleased with the Tragopan as he is with her, the coming breeding season might produce some rather unique hybrids.

The Tragopan, besides his great beauty—incidentally, I am sure the designers of some of the lovelier oriental carpets must have found their inspiration in the exquisite pattern of his back, wings, and tail—is a most charming bird, and extraordinarily tame, sometimes even allowing me to stroke him, though I don't think he really likes being touched.

Although my Golden and Amherst Pheasants are tame, in so far as they have quite lost any sense of fear, theirs is an impersonal tameness, and quite different from the Tragopan's. In his case he always does a semi-display to greet me when I go to feed him, and pays me the further compliment of obviously thinking me more important than the immediate matter of food. He adores fruit of all kinds and has a passion for Snowberries. He will eat a few from the palm of my hand ; display a little ; then—since he apparently loves to imagine himself in sudden acute danger—rush away, head down, and hide, motionless, behind a bush. After which he comes cautiously back, and finishes his meal of Snowberries from the palm of my still patiently-outstretched hand !

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THE PRESIDENT'S GARDEN PARTY

By GEORGE A. J. WEAVER

One is inclined to wonder if Mr. Ezra and the Clerk of the Weather have a common interest, and if that interest be the invitation to Fox-warren Park which our President so generously extends to members yearly. It has been remarked on before that the aforementioned C. of W. smiles on this annual gathering, and Saturday, 10th June, was no exception. Thus it was with a certain amount of relief that the party travelling by coach (again thoughtfully provided by Mr. Ezra) boarded the vehicle at Hyde Park Corner and settled down to enjoy the slight breeze created as the journey proceeded. Apparently the lifting of petrol restrictions was the signal to those members owning cars to attend, for quite a number were present by the time the coach drew up outside the house. As may be expected, our host was at the door to greet us and appeared to have remained in just that same spot since farewells were said on the last occasion. After brief exchanges a short but enjoyable interval was spent on the terrace overlooking the Surrey countryside, a view so often commented upon

but ever fresh and lovely to the visitor, and one cannot but envy the owner of a house set amid such glorious surroundings.

The tour of the enclosures at last commenced, and escorted by our host, a visit was first paid to the Crane paddocks. Here a fine pair of Japanese White-necked Cranes provided interest, having nested once again this year. A half-grown youngster in apparent good health was carefully looked after by the parents, and during the attendant's attempts to drive the family nearer to the fence for close inspection, the one adult bird gave a remarkable exhibition of injury-feigning to divert attention from the young bird. A number of Stanleys were seen in the adjoining pen, and one cannot but marvel at the exquisite "bloom" that covers the plumage of this species. Making their way to the main concentration of aviaries the party again had the opportunity of seeing the well-known favourites which by now may well be called indigenous to Foxwarren. The Lutino Ringnecks are still in evidence, together with some fine examples of Queen Alexandra's, both species being long established in Mr. Ezra's collection. The beautiful white Rothschild's Grackle was represented by at least three specimens in first-rate condition, and an exceptionally tame Black-winged Grackle caused great interest by perching on the attendant's hand and allowing itself to be fondled, at the same time uttering a rather mournful tune and closing its eyes in apparent ecstasy. Although a number of other species were represented here, it was at the same time sad to find so many enclosures still untenanted, and now that a trickle of foreigners are coming into the country, we look forward to the day when Mr. Ezra's collection is again the foremost in these islands.

Leaving these aviaries the party proceeded through the woods towards the waterfowl ponds, admiring as they did so the lovely rhododendrons now in full bloom. En route the herd of Blackbuck was observed in the distance, and numerous Wallabies were also encountered. The waterfowl attracted quite a lot of attention, although a number of birds persisted in seeking shelter in the bushes. Members then viewed two magnificent pairs of Specifer Peafowl in adjoining enclosures. The one female was sitting, whilst the other had a nice clutch, but had not yet commenced her domestic duties, and we hope to hear encouraging results later on, for there are only one or two other representatives of this species in the country. Our old friend George Beever (who is perhaps the foremost authority on Ornamental Pheasants and Peafowl in this country) and the writer were soon discussing the merits of these birds, points mentioned including the brilliant colouring, upright bearing, and prominent crest. Mr. Ezra's birds belong to the Indo-Chinese form and differ from the Javan by the larger size and the lack of the golden patch on the lower back. Other birds of the same family then caught the eye,

and so steps were directed towards them. A White Peahen with two chicks exhibited concern at our near approach, and so after a brief study we retraced our steps to the Blue Crossoptilons housed near by. By this time the main party had vanished, so, passing a fine Silver cock and an Ashy-headed Goose we hurried in their wake, alarming as we did so a number of Muntjac. Before leaving the park, two Wallabies were noticed carrying young in their pouches, a quaint and amusing scene for the English countryside.

Whilst taking a rest on the terrace, the melodious song of a Blackcap charmed the company from a nearby rhododendron bush, and a female Chukor Partridge with chicks was seen crossing the greensward. All too soon it was time to say farewell to Foxwarren, and so with expressions of gratitude to our host the coach was boarded. It only remains to place on record our thanks to Mr. and Mrs. Ezra for their hospitality, and to the staff at Foxwarren, both indoor and outdoor, for taking on what must have been a considerable amount of extra duties.

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INTERNATIONAL UNION OF ZOO DIRECTORS

On the occasion of the London Conference of the International Union of Zoo Directors the President of the Avicultural Society and Mrs. Ezra entertained the members of the Conference and the Council of the Avicultural Society to a Garden Party at Foxwarren Park on Saturday, 4th June. Among the many Directors present were a large number from abroad who are well known to members of the Avicultural Society, including Mr. Lee Crandall (New York), Director Reventlow (Copenhagen), Mr. Walter Van den berg (Antwerp), Mr. Freeman Shelly (Philadelphia), Mrs. Benchley (San Diego), and Mr. Y. Enehjelm (Helsingfors).

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BRITISH AVICULTURISTS' CLUB

The twenty-third meeting of the Club was held in conjunction with the Avicultural Society at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Monday, 19th June, 1950, at 6 p.m., followed by a dinner.

Chairman : Mr. B. H. Dulanty.

Members of the Club : Major J. E. Adlard, Dr. M. Amsler, Mrs. C. M. Baker, Miss K. Bonner, Captain A. Clarence, G. T. Clark, Mrs. G. T. Clark, T. Crewes, O. E. Dunmore, A. Ezra (Patron), Mrs. W. O. Gilbert, Tom Goodwin, C. F. Harding, H. J. Harman, Dr. E. Hindle, G. T. Iles, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, C. J. Morny, G. S. Mottershead, S. Murray, K. A. Norris, Sydney Porter, A. A. Prestwich (Hon. Secretary), J. H. Reay, R. C. J. Sawyer, D. Seth-Smith, A. E. Sibley, J. A. Swan, E. N. T. Vane, H. Waller, C. S. Webb, R. C. Witting, Mrs. M. K. Woodford, S. A. Wright.

Guest of the Club : E. J. L. Hallstrom.

Guests : Mrs. J. R. Alderson, Dr. K. W. Aylwin-Gibson, James Bailey, Count Bobrinskoy, Mrs. D. M. Done, Miss H. M. Gentry, J. O. Gilbert, Miss D. Gask, A. Harrison, Mrs. C. Harrison-Tubbs, Mrs. R. M. Hosie, W. Jack, A. L. Leighton, H. Leighton, E. R. W. Lincoln, Dr. A. J. Marshall, Mrs. S. Murray, Mrs. V. G. Pelly, Mrs. J. H. Reay, Miss T. Russell, Mrs. D. Seth-Smith, S. Singleton-Fleming, Mrs. S. Singleton-Fleming, Mrs. J. A. Swan, Lieut.-Colonel W. P. C. Tenison, Mrs. W. P. C. Tenison, Mrs. E. N. T. Vane, T. N. T. Vane, Mrs. H. Waller, Mrs. R. C. Witting, Mrs. S. A. Wright.

Members of the Club, 37 ; guests, 32 ; total, 69.

The Chairman, opening the meeting, said there were so many notable guests present he would not refer to them individually, but would confine himself to welcoming them collectively. He would, however, like to extend a special welcome to the guest of the Club, Mr. E. J. L. Hallstrom, President of the Taronga Zoological Park Trust. Mr. Hallstrom, an honoured member of the Society, was well known to all members, and needed no introduction.

Mr. Hallstrom then described briefly his efforts on behalf of aviculture in Australia, and assured his audience he was anxious to do anything possible to help British aviculturists.

The first film, *Animal Oddities*, showed an aviary containing some sixty Black Cockatoos, mostly Banksian, but also a few Palm, being hand-fed : a home-bred baby Banksian and parents : baby Red and Yellow Macaws and parents : rare albinos, Koalas and Kangaroo : Tasmanian Echidna, and the very rare Thylacine.

A second film showed the Governor-General of Australia arriving

in New Guinea and being welcomed by Mr. Hallstrom, prior to visiting his Zoological Gardens and Livestock Station. Ten thousand tribesmen took part in the welcome, and Mr. Hallstrom pointed out that almost without exception at least one Bird of Paradise formed part of each head-dress.

The speaker referred to the conservation work being done by Fred Shaw Mayer, made easier by the fact that he was greatly respected and trusted by the natives. There was just a possibility of there being a yet undiscovered Bird of Paradise, a white bird, and an expedition was shortly being sent to search for it.

Finally, Mr. Hallstrom described the daily routine of his aviaries. He stressed the necessity of absolute cleanliness, and gave the methods adopted to avoid contamination of any kind. Breeding procedure and rearing foods were dealt with. Mr. Hallstrom was quite prepared to answer questions indefinitely, but owing to the lateness of the hour the Chairman had, perforce, to call the meeting to a close. Thanking Mr. Hallstrom for his kindness in showing the films and for giving such a very interesting and instructive talk, the Chairman said no one could fail to benefit by the sound, practical advice given. The large audience showed by its warm applause that it had greatly appreciated Mr. Hallstrom's discourse.

Meetings and Dinners during the 1950-51 session have been arranged for the following dates :—

13th September, 1950
8th November, 1950
10th January, 1951
14th March, 1951
9th May, 1951.

ARTHUR A. PRESTWICH,
Hon Secretary.

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PERSONALIA

Peter Scott has been elected to the Council of the Zoological Society of London.

J. Bruyneel, Steynockerzeel, Belgium, has recently received a pair of blue Quaker Parrakeets from Argentina.

"Bush's Bird and Sports Store," Auburn, N.S.W., write: "We still have the Parrots that Mr. Dave Bush refers to as Many-colour \times Blue-bonnet (*A.M.*, 1950, 139). In this, however, he is mistaken, as they are Blue-bonnet \times Redrump. They are very colourful, with a very red breast, and are about the size of the Blue-bonnet. We did not breed these ourselves, but bought them from a customer who breeds quite a few at Mudgee, N.S.W."

F. Shaw Meyer writes from Lae, New Guinea: "I am writing from camp on the northern slopes of the Bismarck Range with Mount Wilhelm (15,400 feet) just behind. I have a nice number of Black Cockatoos, one King of Saxony Bird of Paradise, two cages of Good-fellow's Parrot Finches; and, in a makeshift enclosure, a young *Harpyopsis novae-guineae*. This is the first living specimen of the New Guinea Harpy Eagle I have had or seen. It is a lovely bird, quite tame and fearless, and will eventually go to Taronga Park."

Edward Boosey reports an interesting event at Keston: "We have at last managed to get a cock Amazon to mate to a hen bred here in 1939, and although they have only one young one, it is certainly the first second generation aviary-bred young Blue-front to be hatched in this country. I am surprised they had any fertile eggs, what with the cold weather and the fact that the cock has not been here long and was extremely cage-cramped when he arrived.

"We already have some quite nice young broods fledged of lutino Ringnecks, Turquoise, Roseate Cockatoos, Rosellas, and Red-rumps."

James Rooney writes from Washington: "I recently visited Don Martin at Auburn. He has quite a collection of waterfowl, including about forty Black Swans (several pairs were nesting), Black-necked Swans, Whistling Swans, Mandarins, Wood Ducks, Emus, a *Cereopsis* Goose, etc. He sold his fine pair of Whooper Swans because they were too much for him. I saw a most interesting hybrid in his collection, a drake Wood Duck by American Wigeon, a beautiful bird.

"It may interest you to know that the pair of captive Whooping Cranes at the Aransas National Wildfowl Refuge, near Corpus Christi, Texas, recently laid an egg and hatched a baby Crane, which unfortunately did not survive for long."

Captain A. Clarence, Salisbury, writes: "My breeding luck with

Chukor Partridges was out owing to the hen going sick and the Bantam foster disrupting the nest of eight eggs.

"However, a pair of Red-vented Bulbuls have hatched three out of three eggs, and the young Bulbuls are now strong on the wing, though still being fed by their parents.

"A pair of Red-faced Lovebirds laid five eggs which I put under a Budgerigar as the hen did not look like sitting. As she had a club-foot and was old I was surprised to find four fertile. Two have hatched to date, and I have hopes of the other two eggs. The hen Red-face is an antique, being pre-war, and the survivor of many winters out-of-doors.

"A pair of Senegal Touracous do not look like nesting, the hen is too wild.

"A pair of Pileated Jays also are disappointing, taking great interest in a nest but doing nothing. They are very charming to watch, and devoted.

"Tragopans, two young only, out of three ; one died. I am hoping for more daily. Reeves, about 12 in various stages.

"Indian Black Partridges, wild, and I do not expect any luck with them.

"Bob White Quail not nesting yet due to want of proper undergrowth, etc. Chinese Painted Quail, still hoping."

C. af Enehjelm, Helsingfors, Finland, sends his latest breeding results : "We have had a very cold and wet spring, so all my birds are still inside. I have had some few breeding results up to now. Best are the Green-backed Parrotlets, imported birds : pair I has seven youngsters out in the first clutch (is that not something of a record?). Pair II even has two out of the nest, so I can now put some young unrelated pairs together. Pair I last year hatched thirteen in three nests. The Blue-backed species has not done anything up to now.

"Magpie Mannakins (*A. fringilloides*) five youngsters in first nest, now almost in full colour, and have five young again. Firefinch two out, Indian Silverbill two also ; Plumhead with young in the nest.

"For the first time I have all three species of *Aidemosyne*. I am afraid I shall never reach the same state with *Estrilda*, *Lagonosticta*, *Psittacea*, *Poephila*, and *Pytilia* !

"Chinese Painted Quail, both hens started sitting on the same day with ten and nine eggs respectively. On 20th May, one left the nest with three chicks, rather weak ones. There were fully-developed chicks in the other eggs, but they died as the hen left the nest too soon. In the afternoon all the chicks lay on the floor apparently dead, but profiting from previous experience, I picked them up and put them under an electric bulb, where they recovered in a few hours. I arranged a very simple foster-mother for them, and they are now

thriving well. On the next day the other hen hatched eight chicks, much stronger from the start. Two, however, managed to get chilled and lay as though dead, so I put them in the foster-mother. All eleven are now thriving on egg-food, dried ant 'eggs', blue moon, milksop and germinated millet, with, now and then, very small mealworms. I am very hopeful of them. The parents were all bred by me from three different pairs.

"I have, of course, bred many Budgerigars, Bengalese, with which I am working on the heredity problem, and Zebra Finches. I am expecting cinnamon and fawn Zebras. I have besides the normal, white, pied, and a silver cock. I hope to be able to tell you of further results during the summer. Incidentally, I still have two young Great Eagle-Owls which are doing well."

What are *you* doing to increase membership?

An increase in the number of members means an increase in the status of the Society, so that its voice will be heard the more in the achievement of its object of popularizing the study of British and foreign birds in freedom and in captivity.

Support is desired from *all* members, especially in the enrolment of new members.

A. A. P.

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REVIEWS

FLIGHT INTO SUNSHINE. By HELEN G. CRUICKSHANK. The Macmillan Company, New York. \$5.00.

Allan Cruickshank is one of the most skilful bird photographers in the United States of America and his wife, Helen G. Cruickshank, a careful observer, excellent writer, and plucky adventurer. In *Flight into Sunshine* she has given us a delightful account of an expedition into the vast marshes and prairies of Florida for the purpose of studying, recording, and photographing the birds which nest there in very large numbers.

So far as wading and other water birds are concerned Florida must be the most favourable place in the world with its 3,800 square miles of inland water broken up into more than 30,000 lakes, innumerable springs forming the heads of rivers. Islands in the lakes and intervening swamps are covered with dense mangrove forest and grassy plains, and here has been established the Everglades National Park in which live birds which, during the nesting season, are in their hundreds of thousands.

Chapters deal with the Brown Pelican, Louisiana Heron, Florida Crane, Vultures, Glossy, White and Wood Ibis, Snowy and American Egrets, Anhingas (generally known to us as Darters), and the rare Great White Heron, and in each is given a full account of the nesting habits as observed and a description of the difficulties, sometimes at first thought insurmountable, encountered in obtaining pictures; but the one hundred and twenty-one of these which adorn the book show how great success was obtained.

Birds are by no means the only inhabitants of that wonderful region; there are alligators which are harmless enough, poisonous snakes which are not, mosquitoes in clouds and other both attractive and repulsive creatures besides an abundant growth of tropical vegetation.

It is good to know that the birds, in some cases persecuted in the past to the verge of extinction chiefly for the possession of their plumes, are now well guarded by wardens of the National Audubon Society. The Snowy Egret, massacred by plume-hunters for the adornments which are only developed in the breeding season, is now safe and restored in numbers while the Great White Heron, at one time slaughtered for food and then almost wiped out by a hurricane, is now in a satisfactory state.

D. S-S.

WONDERS OF WILD LIFE PHOTOGRAPHY. Published by Country Life, Tavistock Street, Covent Garden, W.C. 2. 10s. 6d.

This is a pictorial souvenir of the *Country Life* International Exhibition of Wild Life Photography which was held with such outstanding success at the Central Hall, Westminster, in March, 1950. The book contains a selection of ninety superb pictures chosen from the 1,500 exhibited, of mammals, birds, reptiles, fish, and insects. The photographs are all beautifully reproduced at the high standard which is always expected from, and given, by, *Country Life* publications. Of these twenty-nine are birds and all are so beautiful that it is difficult to make special mention of any; however, particularly outstanding are a series of two of the courtship dance of the Wandering Albatross, by Lieut.-Colonel Niall Rankin, Brown Pelicans in Texas, by Allan D. Cruickshank, Pallas's Fishing Eagle in the uplands of Kashmir by Wan Tho Loke, and the Arctic Tern by Eliot F. Porter.

An introduction giving the history of the development of nature photography is written by the well-known British bird photographer G. K. Yeates.

P. B-S.

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NOTES FROM THE LONDON ZOO

By C. S. WEBB.

Up to the present (7th July, 1950), we have bred about ninety Pheasants this season—all of well-known species such as Golden, Amherst, Reeves's, Silver, Black-breasted Kalij, and various races of *Phasianus*. Three Sonnerat's Jungle Fowl chicks were reared, but one received a fatal injury caused by fright. This was particularly unfortunate, as our only adult Sonnerat's cock died recently and the chicks were hatched from eggs laid about a fortnight after his death.

On checking up on our stock of Kalij Pheasants I found that one cock did not conform to any described in Beebe's *Monograph of the Pheasants*, and there was no skin of it in the British Museum. It has since been identified as the Black Kalij (*Gennæus moffitti*), which was plated in the AVICULTURAL MAGAZINE for January, 1941. It is apparently rare in captivity, but has been bred in Japan and America, though I cannot say what existing stocks are. It hails from India, but its actual natural habitat is uncertain.

Although these notes do not concern Whipsnade, I feel I must mention one breeding result from there of great interest. The Kenya Crested Guinea-fowl (*Guttera pucherani*), which the writer collected in 1946 on Mount Kenya, and which were exhibited for a while in London, were eventually sent to Whipsnade, and early this spring were liberated in a quiet part of the grounds near the pheasantry. Subsequently a nest containing seven eggs was found, and these were incubated under a silky hen. At present all are thriving, and anyone acquainted with this exceedingly handsome breed will, I am sure, hope that it will become established in this country as few birds are more ornamental.

The best breeding result among the waterfowl in London has been the rearing of six Paradise Sheld-ducks. The nest was made in a box on the ground surrounded by thick vegetation in a quiet part of the Three-island pond. A pair of Alpine Choughs nested in our Waders' aviary but the chicks were killed by a storm. Recent arrivals have been heavy and cannot be enumerated in detail. Parrot enthusiasts will be interested to hear that we have acquired an Everett's Thick-billed Parrakeet (*Tanygnathus everetti*), which is a rarity from the Philippines. It is apparently a youngish bird and it is not for me to inquire how it arrived in England. The vendor stated that it had been sold to him by a dealer as a Senegal Parrot! The last Everett's Parrakeet to arrive at the Zoo came in 1904 and lived till 1915.

Speaking of Parrots, it is now established that psittacosis—a disease formerly supposed to have had its origin in Parrots—is carried by other birds, especially domesticated pigeons, in which its incidence is

high. No one would suggest that the ban should now be extended to Pigeons, but in the light of recent discoveries it seems high time that the whole approach to this question should be reviewed and that a meeting of experts on every aspect of the matter should be held to decide what action to take with a view to having the Parrot ban lifted.

From the Pretoria Zoo we received a Levaillant's Barbet (*Trachyphonus vaillanti*) and a Lilac-breasted Roller (*Coracias caudatus*). Some of the older members will remember these delightful birds prior to, and shortly after, the first world war, when South African birds were on the market. They are characteristic of the bushveld country of the N. Transvaal.

From the Kenya highlands we received some East African Malachite Sunbirds (*N. famosa aenigularis*) and a Golden-winged Sunbird (*Drepanorhynchus reichenowi*) in full colour.

From the Antwerp Zoo came a fine Swallow-tailed Humming-bird (*Eupetomena macroura*).

Arrivals from the Indian region include Spot-billed Pelicans (*Pelecanus philippensis*), Blue-winged Sivas (*S. cyanouroptera*), Silver-eared Mesias (*M. argentauris*), Dial Bird (*Copsychus saularis*), Orange-headed Ground Thrush (*Geokikla citrina*), White-crested Jay Thrush (*Garrulax leucolophus*), White-throated Jay Thrush (*G. albogularis*), Black-naped Oriole (*O. chinensis indicus*), Indian Rollers (*Coracias indicus*), and Hooded Pittas (*P. cucullata*).

From West Africa a collection of about fifty assorted Waxbills and Weaver Finches, four Red-billed Hornbills (*Tockus erythrorhynchus*), and one Akun Eagle Owl (*Bubo leucostictus*), the latter being new to the collection.

A Martinique Gallinule came from a most unexpected source. It was found in the East India Docks of London and was presented by the Superintendent of Police there. Could it have been a stowaway?

A collection of South American birds included Sonnini's Partridge (*Colinus cristatus sonnini*)—very handsome, Silky Cowbirds (*Molothrus bonariensis*), Golden-headed Marshbirds (*Agelaius icterocephalus*), Violet Tanagers (*Tanagra violacea*), Lesser Rufous-headed Tanagers (*Tanagra cayana*), Maroon Tanager (*Rhamphocelus carbo*), Sulphury Tyrants (*Pitangus sulphuratus*), and Grant's Guans (*Penelope granti*).

NOTES

THE AVICULTURAL MAGAZINE IN MICROFILM FORM.

THE AVICULTURAL SOCIETY has entered into an agreement with University Microfilms, Ann Arbor, Michigan, to make available to libraries issues of the AVICULTURAL MAGAZINE in microfilm form.

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MY YELLOW-SHOULDERED AMAZON (*Amazona barbadensis*).

I have recently obtained a female of this species. It is a very beautiful bird and loves climbing about its cage and bathing but so far is absolutely silent. Regent's Park zoo had one which I believe Monsieur Delacour gave them in 1937. Mr. Whitley had one in his famous Parrot collection in 1931 which he exhibited at the Crystal Palace show that year. Of four males and one female in the Bird room of the London Natural History Museum which I examined all the males come from Marguerita Island, Venezuela, and the female from Cariaco Peninsula, Venezuela. Peters' check-list of the *Birds of the World*, volume iii, page 220, gives its habitat as the Island of Aruba, off the coast of Venezuela; littoral of Venezuela. Monsieur Delacour tells me that there are only a few in American zoos.

I am wondering if there are any more in England as I have not seen a specimen in any of the zoos and should be interested to hear from anyone who has one.

In Reichenow *Vogelbilder aus fernen Zonen Abbildungen und Beschreibungen der Papageien*, 1883, Plate 1 is a beautiful coloured plate of this bird.

P. H. MAXWELL.

ACKNOWLEDGMENT.—The Editor acknowledges with many thanks the plate of the coloured photograph of the Cuban Finch which forms the frontispiece of this number and which has been generously given by Mr. E. Boosey and Mr. Alec Brooksbank.

* * *

CORRESPONDENCE

BIRD-SHOWS

Loath as our Editor must be to prolong this correspondence I feel bound to reply to the letter in the May-June issue, from which any new reader might well get an erroneous impression of my original letter.

Anybody comparing the letters will see that in spite of Mr. Dunmore's statement to the contrary he does in fact agree with me on some points. I will confine myself here, therefore, to those on which he does not.

I never said that bird-shows do not gain recruits to bird-keeping. What I said, and what I still think quite correct, is that the recruits so gained do not equal the number of people who are horrified (often admittedly without much reason) at the sight of wild birds confined to minute cages, and who go away determined opponents of aviculture.

That the excitement of shows is beneficial to birds is a doubtful statement. It may well be true of such birds as are used to the proceedings that the sound and sight of many potential rivals has a stimulating effect upon them. So has the sight and sound of the many birds that as Mr. Dunmore says are "temperamentally unsuited to shows" on many of the lay public!

That captive birds soon come "to ignore their natural enemies beyond the wire" may be true in some instances, but only I think when that enemy is constantly seen and *does not attack them*.

Even then I am not sure that any enemy which is *instinctively* feared is ever ignored. The terror the long-domesticated Barbary Dove shows at the sight of a hawk suggests that in most cases fear of enemies of which the bird has innate recognition is remarkably persistent.

At the time of the passing of the Buckmaster Bill much of the outcry against bird-keeping was fermented by current descriptions of the conditions at bird-shows. More recently what appears to have been a bird-show of a rather debateable character was the focal point of recent prosecutions and concomitant anti-bird-keeping propaganda. In reference to this it may be of interest that a person on the "prosecution-side" in that affair expressed the opinion to a friend of mine that if birds were in good condition that in itself was proof they had not been long in captivity. It will be argued that at shows most birds are in good condition, but this has no effect on the layman to whom a bird about to die of starvation is often "a greedy fat thing" and one in good health "looks hungry-like".

Shows certainly provide an opportunity for fanciers to meet, but if when they do they loudly discuss the number of Kingfishers they have bought from trappers and which have died, but their intention of buying more until they get some that do live, as did two gentlemen that I—and no doubt others—overheard at a pre-war Palace-Show at Dorland Hall, then their meeting is not likely to win much public approval for Aviculture.

I did not say—as Mr. Vane implies—that the friend I mentioned would like to stamp out all bird-keeping. I said that he belonged to a Society much larger and more influential than our own and had been told by one of its leading officials that they (the Society) would like to do so.

With regard to big-game hunting and collecting for museums. Much cruelty and even waste of animal-life may result from both but I should be sorry for Aviculture if we could only offer the weak defence for it that other activities are worse—which is no defence. Typical of course of British hypocrisy is that bird-keeping, big-game hunting, collecting for museums, and the like all arouse indignation in people who freely eat pork, veal, beef, lamb, etc., in the production of which far more deliberate and relentless cruelty is used than is inflicted by all the collectors, bird-trappers, and big-game hunters whose activities are condemned.

With regard to Mr. Indge's letter. Ornithology is the study of birds. The primary aim of our Society—if I remember rightly—are "The Study of British and Foreign Birds". Hence it is difficult to see why anyone who wishes to "leave out ornithology" should wish to be a member of it.

DEREK GOODWIN.

TOFT,
MONK'S ROAD,
VIRGINIA WATER.

I would like to support Mr. Indge's note in the AVICULTURAL MAGAZINE regarding Aviculture and Ornithology. While I have no objection to aviculturalists assisting ornithologists, I do feel that the AVICULTURAL MAGAZINE has tended to pay far too much attention to matters, which, while they are no doubt of interest to ornithologists, are no use to practical keepers and breeders of birds. In your comment, you state that the amount of available data that has been lost by aviculturalists who fail to record their experiences of birds in captivity is deplorable. It is deplorable only to the ornithologist and not to the vast majority of the members of our Society. For instance, if one goes through all the volumes of the AVICULTURAL MAGAZINE, one will

seldom read detailed instructions for the feeding of insectivorous birds when rearing young. Two almost equally important factors, namely the size of the aviary and the other inmates were also usually omitted. There are notable exceptions to this, particularly in recent years, but I think it will be found that those who succeeded in breeding birds and gave the sort of data which may be of some value to ornithologists, omitted to tell anyone who wished to follow in their directions, how it was done. Most of us have, as our chief interest, the keeping and breeding of birds in captivity. As a secondary thing, we are interested in birds in the wild state, but very few to the extent of a being in any way scientific. You may say that this is a pity, but you must also remember that this is a hobby and not a life's work. We keep birds for the pleasure they give us, and not for the collection of data for the use of ornithologists.

The high scientific tone adopted by some of our members in the past resulted in an article which simply bored the average bird-keeper, particularly the novice. Even to-day, there are still large numbers of keepers of both British and foreign birds who do not think it worth while to join the Society. It is that attitude which is, in my view, very largely responsible for the success of the various splinter societies which have been formed from time to time. The breeder of some relatively common bird, such as one of the Waxbills, thinks that for an article in the AVICULTURAL MAGAZINE he has to give all kinds of details which he simply does not know, so that he sends his article to some other journal.

Those of our members who are most interested in ornithology are usually those who have either never kept birds or do not now keep them. To their way of thinking, aviculture is only justified to the extent to which it helps their own hobby.

I find the work involved in feeding and cleaning, etc., is quite enough, sometimes more than enough, so that to expect me to go round some twenty aviaries, all (I hope) full of nests, eggs, and young birds, and record "data", would be just too much.

B. H. DULANTY.

FISHERIES COTTAGE,
CHORLEYWOOD,
HERTS.

(It would be interesting to know why, in spite of their success referred to by Mr. Dulanty, the various splinter societies have failed in nearly every case to survive. Even though many people may not think it worth while to join the Avicultural Society, the present membership, 679, is the highest on record during the fifty-six years of the Society's existence.—Ed.)

PARRAKEET HYBRIDS

Some time ago in the January, 1949, number of the Magazine, I came across the list of Parrakeet hybrids which Mr. Martin claims to have bred at Warrnambool, Victoria. Some of the crosses are so astonishing that I cannot help wondering if Mr. Martin is not trying to pull our avicultural legs! To set my doubting mind at rest, could he or the present owners of the birds if they have been disposed of, let us have a photograph of, say, the King × Redrump hybrids, the Cockatiel × Bluewinged Grass Parrakeet hybrids, or the African Ringneck × Pennants hybrids?

BEDFORD.

CROWHOLT,
WOBURN,
BLETCHLEY, BUCKS.

The Editor does not accept responsibility for opinions expressed in articles and correspondence. No article in the AVICULTURAL MAGAZINE can be reprinted without permission from the Editor.

CANDIDATES FOR ELECTION

- J. P. BINGHAM, Bulls Head Hotel, Market Place, Leicester. Proposed by Miss K. Bonner.
- Count BOBRINSKOY, M.B.O.U., 7 Penywern Road, London, S.W. 5. Proposed by Capt. A. A. Clarence.
- PAUL L. BREESE, Honolulu Zoo, Kapiolani Park, Honolulu 15, Territory of Hawaii. Proposed by Dr. Dillon Ripley.
- S. DAGG, Palace Court Hotel, Bournemouth. Proposed by Noel Spurway.
- MISS D. GASK, F.Z.S., 3 Addison Gardens, Kensington, W. 14. Proposed by Mrs. Margaret K. Woodford.
- E. T. A. GOSLING, 15 Falstaff Road, Shirley, Birmingham. Proposed by Mrs. Effie Clark.
- Mrs. G. H. GREEN, 2 Pemberton Terrace, Upper Holloway, N. 19. Proposed by Miss K. Bonner.
- GRAYDON GRIFFITHS, 39 Bromley Common, Kent. Proposed by E. J. Boosey.
- N. JAMES, 1 Central Drive, Fenton, Stoke-on-Trent. Proposed by R. T. Crofts.
- J. JAMIESON, 5 Park Lane, Lerwick, Shetland. Proposed by Miss K. Bonner.
- H. R. PHILPOTT, 200 Cumberland Road, Kensington, Johannesburg, South Africa. Proposed by I. Tager.
- BARNABAS RUSSELL, F.R.S.A., F.R.H.S., F.Z.S., 20 Bucklersbury, Hitchin, Herts. Proposed by W. Brain.
- R. THOMASSON, 15 Fir Grove, Blackpool, S. Proposed by R. T. Crofts.
- L. VAN PUÏMBROUCK, 52 rue de l'Ancre, St. Nicolas-waes, Belgium. Proposed by L. Raymaekers.
- R. G. VEVERS, Nightingales, Compton, Nr. Guildford, Surrey. Proposed by D. Tuckwell.

NEW MEMBERS

The twenty-two Candidates for Election, proposed in the May-June number of the AVICULTURAL MAGAZINE, were duly elected members of the Society.

READMITTED

- MALCOLM DAVIS, No. 3 Pretoria Street, Calcutta, India.
 Dr. WOLFGANG MERCK, Johnsallee 42, Hamburg, Germany.

CHANGES OF ADDRESS

- A. R. ANDERSON, to 45 Wigorn Road, Bearwood, Smethwick, 41, Staffs.
- H. C. FIELD, to 79 Weoley Park Road, Selly Oak, Birmingham, 29.
- E. LEVY, to 22 Crossbow Road, The Lowe, Chigwell, Essex.
- JOHN D. MEYER, to H. and J. Farm, Clinton Hollow, R.F.D. Staatsburg, N.Y., U.S.A.
- THOMAS NEL, P.O. Mahlangasi, via Magut, Zululand, South Africa.
- Mrs. A. A. PEARSE, to Flamstead House, Flamstead, Nr. St. Albans, Herts.
- P. STATHAM, to 32 Elm Avenue, East Leake, Notts.
- H. WALLER, to Oldway, Pilgrims Way, Westhumble, Dorking, Surrey.

CORRECTED NAME AND ADDRESS

- I. LAGER, should read I. TAGER, P.O. Box 40, Parys, O.F.S., South Africa.

AMENDED ADDRESS

- Mrs. EVA GLENN, c/o Justrite Pet Foods, Ltd., P.O. Box 39, Station B., Hamilton, Ontario, Canada.

DONATIONS

(Coloured Plate Fund)

		£	s.	d.
Miss M. C. Maitland . . .	1	0	0	
Mrs. M. K. Woodford . . .	1	0	0	
A. H. Isenberg . . .	15	0	0	

MEMBERS' ADVERTISEMENTS

The charge for Members' advertisements is ONE PENNY PER WORD. Payment must accompany the advertisement, which must be sent on or before the 20th of the month, to A. A. PRESTWICH, CHELMSFORD ROAD, SOUTHGATE, N. 14. All members of the Society are entitled to use this column, but the Council reserves the right to refuse any advertisements they consider unsuitable.

WANTED

L'Oiseau, 1934-1941, bound or unbound.—Offers to HON. SECRETARY.

Ornamental Pheasants in pairs, must be rare. Rare Geese in pairs.—A. FRED STURGIS, 740 Sansom Street, Philadelphia 6, Pa., U.S.A.

Pair (or two or three unsexed) Jays, must be tame and in good condition. Please write particulars to DEREK GOODWIN, "Toft," Monks Road, Virginia Water, Surrey.

WATERFOWL RINGS

Members are reminded that the Society's special blue rings are always available. All Waterfowl should carry them.

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" 3 " Wigeon	" 2s. 3d. " " "
" 4 " Mallard, Pintail, etc.	" 2s. 6d. " " "
" 5 " Geese	" 3s. 3d. " " "

Requests for rings should be addressed to the Hon. Secretary, Avicultural Society, c/o Zoological Society of London, Regent's Park, London, N.W. 8, from whom all particulars can be obtained.

AVICULTURAL SOCIETY OF AMERICA

The objects of the Society are to encourage the study, care, and breeding of foreign aviary birds, particularly of those species which may be threatened with extinction; and the dissemination to the members of the knowledge so acquired, through the publication of a magazine devoted solely to the interests of lovers and breeders of foreign cage and aviary birds.

The annual dues of the Society, which include subscription to the magazine, are \$3.50 per year (foreign dues \$3.75 or £1 7s.), payable in advance. There is no entrance fee, and as the Society is not conducted for profit, all officers and contributors to the magazine donate their services.

The Society year begins 1st January, but new members may join at any time.

Correspondence regarding membership should be directed to the Secretary-Treasurer, Mrs. Milton Erlanger, 117 E. 64th Street, New York City, N.Y., U.S.A.

THE SOCIETY'S CHRISTMAS CARD

The Society's Christmas Card, a group of Gouldian Finches, from a painting by Peter Scott, will be available shortly. Members are urged to help the Society by ordering as many as possible. Price 1s. 6d. each, including envelope.

Orders, with remittance, should be sent to the Hon. Secretary *now*.

18,20542

Division of Birds 72

(Bird)
KJ-8

AVICULTURAL MAGAZINE



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THE AVICULTURAL SOCIETY

Founded 1894

PRESIDENT : A. EZRA, Esq., O.B.E.

MEMBERSHIP SUBSCRIPTION is £1 per annum, due on 1st January each year, and payable in advance. Life Membership, £15.

Subscriptions, Changes of Address, Names of Candidates for Membership, etc., should be sent to—

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Chelmsford Road,

Tel. : Palmers Green 4484.

Southgate, N. 14.

Assistant Secretary, MISS KAY BONNER.

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ALL MATTER FOR PUBLICATION IN THE MAGAZINE SHOULD BE ADDRESSED TO—

The Editor,

MISS PHYLLIS BARCLAY-SMITH,

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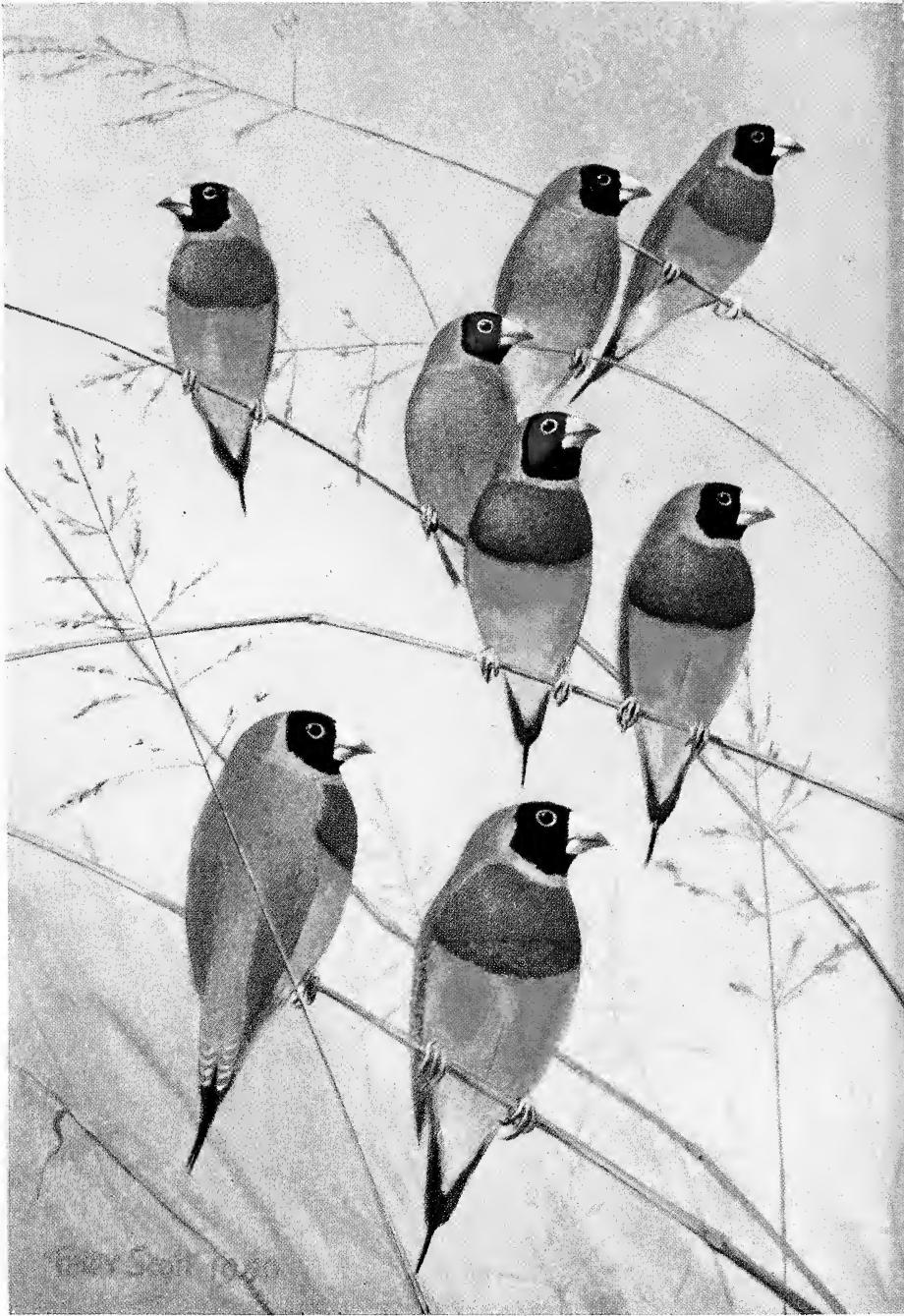
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POST-MORTEM EXAMINATIONS

- RULE 1.** A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. W. Lawrence, The Zoological Society of London, Regent's Park, London, N.W. 8.
- RULE 2.** A fee of 10s. and a stamped addressed envelope must be enclosed with the bird.
- RULE 3.** No body or skin of any bird will be returned under any circumstances whatever.





GOULDIAN FINCHES.

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
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SEPTEMBER—OCTOBER, 1950

GOULDIAN FINCHES

(*Pephila gouldiæ*)

By P. W. TEAGUE

Looking back over the years one is often surprised to find where one's hesitating and adventurous first steps have led. We are sometimes cautioned about the first wrong turning which resulted in a career of crime, or we have been encouraged by tales of the first successful deal that led to fame and fortune. I little thought when I started keeping Gouldian Finches twenty-five years ago that I should become expert enough to write a leading article illustrated by a famous artist like Peter Scott.

I possessed a fair knowledge of bird keeping (my life-long hobby), and decided to attempt to breed the Gouldian Finch in spite of discouraging remarks from many aviculturists who had failed to breed or keep these birds for any length of time. After reading all the records I could find my task looked formidable, but in 1925 I purchased two pairs, one pair of blackheads and one pair of redheads. By a great stroke of fortune—and I repeat that, for not all Gouldians will breed—both pairs nested. One pair, in an ordinary canary breeding cage, reared six young, and the other pair, in a small aviary, reared four young. These laid the foundations of my stud of Gouldians, for now I had sufficient birds to experiment with to find out just what feeding and aviaries suited them best.

My feeding methods were fully described in our Magazine for May, 1932, and again added to in the 1936 July issue, in which I gave full details of the Iodized Mineral Salts I used, and am still using, with good effect. The last war brought about radical changes, for most feeding items used up to then were unprocurable, but I firmly believe that the stamina I had built up in my stud, previous to the war, helped to carry my birds through. Even so disaster nearly overcame them on several occasions, for the innumerable substitute foods I tried then either did not suit the birds at all, or were only eaten in minute quantities, just keeping the birds alive. Had it not been for the timely arrival of small parcels of seed from countries abroad

per Miss Barclay-Smith and a friend in South Africa, which were thankfully acknowledged in the 1946 July-August Magazine, I really think I should probably have lost the whole stud. So serious was this seed shortage that I exchanged a beautiful pair of redheads for ten pounds of seed (pre-war value 5s.), my need was so desperate. Speaking of seed, white millet is the one seed I have completely stopped giving to the Gouldians, because I found after many fatalities, tests, and experiments, that it did not suit them.

In November, 1941, I was approached through our Editor by Mr. Southern, of the Oxford University Museum, to carry out certain crosses for genetic research with the two phases of Gouldians I had, blackheads and redheads. Just at this time (1941) I had an excellent stud of Gouldians to work with for this research breeding, and despite the many setbacks and losses later, it was successfully carried out. Success was almost snatched from our grasp in 1944. I had twenty-five youngsters reared, and most of these were just changing into adult plumage when the seed situation became most desperate. It should be remembered that the war was then in a very serious position, and feeding stuffs of any kind were practically non-existent. The birds were just saved by an S.O.S to Mr. Southern, who managed to get a pound of canary seed at 21s. This was doled out at so many grains per bird per day, and this just and only just, lasted until a small parcel arrived from overseas.

The full details of this research breeding, and the inheritance of head colour, was given by Mr. Southern in the 1946, July-August issue of the Magazine.

In 1943 I purchased a small quantity of spray millet seed from Mr. Chas. Unwin, of sweet-pea fame, who had a variety he had then been growing in England for some twelve years or more, and with it a few hints on cultivation. On the whole, this has proved very successful, and produced sprays 12 inches and 14 inches in length, full of good seed.

In 1944 the Curator of Kew Gardens kindly sent me a few seeds of a grass called *Setaria glauca*, which is not unlike a miniature spray millet. Most Gouldians and other seed-eaters are very fond of this. It is a most useful seed, as it is ready to pick before the millet sprays are ready. Bengalese are particularly fond of this seeding grass, especially when rearing young. These useful additions with a small patch of canary seed did not solve my feeding problems, for there was the growing period (4 to 5 months) before the crop was ready to use. The wild birds played havoc with the ripening seeds, particularly the Marsh Tit, for nothing would scare these little thieves. They would help themselves, even though I was in the patch trying to scare them away. I shall be pleased to give a little *Setaria glauca* seed to any of our members sending a stamped addressed envelope. This grass

should be grown in full sun, and is best treated as an annual. It is ready to pick and use when the heads are still green, feel hard, and slightly prickly.

Bad as the feeding problems were, further troubles and heavy losses developed. Blast from a near-by bomb accounted for five Gouldians one night. Hawks and Owls accounted for several more, until I double wired the fronts. Then in 1946 a far more serious trouble developed to add to the gloomy picture of my dwindling stud, an outbreak of Coccidiosis, which undoubtedly got introduced into my aviaries by wild birds fouling the seeding grasses or millet sprays I was giving to my birds. By the time this was diagnosed I had lost several Gouldians and had many sick. Here I owe a debt of thanks to one of our members, Mr. J. Nicholson, of Stockton, who went to a lot of trouble and eventually sent me the wonderful I.C.I. preparation, "Sulphamezathine," which acted like magic and cured the birds still ailing. Since this outbreak of Coccidiosis I now treat all birds showing signs of illness with this preparation, unless of course the bird is suffering from some other obvious ailment. In spite of these setbacks and losses, and with improved seed conditions, I have been able to breed my stud of Gouldians again back to normal from the two "strains" I have. Stamina has been well maintained, and their colouring, I was told by an Australian aviculturist, was superior and brighter than any he had seen in the wild state. I do not wish to boast, but they are indeed marvellous to behold.

It is with a feeling of pride that I can now look back on a unique achievement of keeping and breeding, without a single break for twenty-five years, one of the loveliest birds we have, the Gouldian Finch. I sincerely hope other aviculturists will take up these birds and improve on my achievement, but let us also hope that no breeder will ever attempt to alter this bird's unique and wonderful plumage.

I have kept a great variety of birds in my lifetime, but the Gouldian is undoubtedly one of the most attractive in every way; it is friendly, clean, easy to cater for, long lived in suitable quarters, of smart appearance, gorgeous plumage, and with a pleasant sibilant little song and an amusing dance—a most desirable bird.

So far I have not mentioned my style of aviary or cage. These are not what one would call ornamental, but are built with the object of providing comfort and happiness for the Gouldians, and in which they are well protected against our changeable climate. In my early days of keeping Gouldians I had the usual outdoor aviary, shelter shed and open flight, but one May of very cold east winds soon convinced me that such accommodation was not suitable for Gouldians, and not too pleasant for any other warm climate bird; so I adopted the "all closed in" type of aviary, that is completely boarded in, with an open front which has glass substitute shutters for

inclement weather. This is absolutely necessary for cold, damp, and raw winter days. The three sides and roof are felted to exclude all possible draughts. All aviaries have wooden floors, and are well up off the ground to keep them dry ; also double roofs to keep them cool in the summer ; the space between the two roofs is boarded up in winter. Gouldians do not like cold, damp foggy weather or cold winds, and they are certainly more comfortable in a temperature of between 45° and 50° during the winter. A small stove or hurricane lamp at night will keep out that cold-damp-feeling atmosphere we get during the winter months. Twiggy branches and perches are provided, and all aviary floors are covered with fine clean sea sand which is free from dust. The adoption of sea sand for the floors, coupled with a more or less dry atmosphere in the aviaries, has practically eliminated pneumonia and colds.

In addition to the sea sand grit, I also provide a receptacle of grit made up of very fine oyster shell, cuttlefish bone, and egg shells from fresh eggs baked in the oven, not shells from preserved eggs. The cuttle bone and egg shells are powdered up, of course, prior to mixing with the oyster shell. I attach great importance to this grit.

I supply a variety of nesting boxes, half filled with soft hay or semi-green grass, and put some hay on the floor for them to complete the nest building. Here is an excellent type of nest box which particularly attracts them. Make a box about 10 inches long, 5 inches wide, and 5 inches high. Carefully take out the one end and cut a small hole in one corner of it for entrance. Then nail this end piece inside the box, leaving a small platform about 4 inches deep. This leaves the actual nesting box 5 inches by 5 inches by 6 inches, and platform 5 inches by 5 inches by 4 inches. Hang this box close to the roof in a secluded corner, and cover with a few used millet sprays or twigs of heather or any such material. One small nail in the lid of the box will allow you easily to move this for examination, but don't interfere with the nesting birds any more than is absolutely necessary.

Remember Gouldian hens are very susceptible to egg-binding and this causes many losses. I would particularly urge the free use of cod liver oil treated canary seed mixed with a small quantity of the Indian type millet. This provides treated seed for birds who prefer millet to canary seed. I have found the addition of five or six drops of Halibut liver oil mixed with the cod liver oil before adding it to the seed very beneficial. I give this treated seed daily from the time of mating up until the hen commences to sit, and once or twice a week when young are being reared. Of course, they must also be provided with the usual dry canary and millet seed, but make sure the hen at least is also eating some of the treated seed by withholding the other seeds until it is eaten, or you will surely have egg-binding trouble and loss. I always keep in the aviary some Iodized Mineral Salts (fully

detailed in the 1936 July Magazine) in very small glass or china dishes, as the birds use quite a lot of this when rearing young.

When rearing young provide a dish of soaked seed or soaked millet spray, green seeding rye grass or the seed of the small annual seeding grasses usually found in garden paths, and a sod of fine grass, which is usually well picked over and the birds like the young tender blades. Then turn the sod soil upwards for further picking over. Also an occasional tray of slightly damp fine soil is relished by the Gouldians. They are not big green-food eaters, but like chickweed or a bit of lettuce. For bathing and drinking I always use cold boiled water. With a few exceptions most of the above was fully described in a previous article in the 1932 May Magazine.

Although I have reared Gouldians in almost every month of the year, the great majority of them either breed in our autumn or very early spring. In spite of the fact that I have twenty-five years of aviary bred stock, the Gouldians still conform with the Australian seasons for breeding and moulting. Most of the birds commence to moult in April or May; this is usually a slow process, but can be helped quite a lot at this time of the year, April onwards, with the fresh seeding grass mentioned above, and the *Setaria glauca* grass heads are most helpful. A small addition of iron citrate to the drinking water daily will be found beneficial, or a few drops of syrup of hypophosphates.

Personally I consider a Gouldian is not fully reared until you have got it into full adult plumage, for in my experience this is the most serious time in its life, changing from nest feather to adult plumage, so give the youngsters particular care and attention at this time. An interesting feature of young Gouldians is the iridescent globules each side of the beak and black spots inside the mouth which show up in the dark nests.

Breeders of this beautiful bird would be well advised to keep also a few pairs of Bengalese to act as foster parents in cases of emergency. I have kept these accommodating little fosters ever since I started Gouldians, and wonderful little birds they have proved for the job.

Diseases.—So long as your Gouldians are comfortably housed as I have tried to describe, kept *scrupulously clean* and dry, you will not have much trouble, with the exception that redheaded Gouldians are subject to "Vertigo", a twisting of the head. This trouble I have seen in newly imported redheads before the war. Curiously enough, it has cropped up amongst a nest of five young redheads bred from an imported redheaded cock lent to me. Four out of the five developed this trouble, but the fifth so far appears to be normal. I have never had this trouble crop up in the blackheaded. As previously mentioned, always be on your guard against Coccidiosis. Since I had the outbreak in 1946 all my birds feed and drink from china or glass receptacles, which can be easily and thoroughly cleaned.

For field notes and full description of this beautiful little bird, I cannot do better than recommend Neville W. Cayley's book on Australian Finches.

In conclusion, I have repeated many items mentioned in previous articles, so I ask the indulgence of those who have read them, because this has been written with a view to help new members. I do hope it will encourage the many admirers of this truly gorgeous little bird, an outstanding attraction of any aviary.

I have read of many breeding successes of various exotics, but how many survive for a number of years? I have bred Gouldians who have lived for thirteen years in good health, and I now possess breeding pairs eight years old. A Cordon Bleu Waxbill which I reared in 1938 died only last year. Breeding foreign birds is, in my opinion, of little use unless particular attention is paid to stamina. A bird in an aviary needs special care to enable it to survive the artificial conditions of a strange habitat and climate. What I have accomplished can surely be done, and I hope surpassed, by other aviculturists.

* * *

ROCK PEPLAR PARRAKEETS, SERIOUS AND OTHERWISE

By THE DUKE OF BEDFORD

I have at the moment three pairs of Rock Peplars. As this Parrakeet is rather soberly coloured it is not a favourite with many aviculturists, nor, as an ordinary aviary bird, should I myself esteem it very highly. Its flight at liberty is, however, one of the most beautiful and interesting sights in nature and it was in the hope of again seeing the wonderful exhibition of young birds trained to fly at liberty during the day-time that I decided to renew my stock of the species. I heard of a pair in the possession of a London dealer and eventually secured them. The dealer, for some unknown reason, had lent these singularly unsuitable birds to a film studio, and they arrived considerably the worse for wear, the cock having an injury to the wing from which he will never completely recover, although he can fly fairly well. About the same time I obtained two young cocks bred in 1949 which I mated to hens kindly sent me from Australia among a valuable gift of birds made by Mr. Hallstrom.

One of the Australian hens gave the impression of being a rather old bird and was so sluggish during the early winter that I never thought she would breed. However, she turned out better than her looks and she has reared four fine young ones. Her mate was still in immature plumage but when he came into breeding condition his

feathers yellowed quite noticeably and acquired an extra bloom, I am pretty sure without any kind of moult.

The old pair also did quite well. They were the first birds to lay in a grandfather clock nest in the flight and reared three good young ones.

The third pair produced no young but a first-rate comic turn ! Many cock Rock Peplars, of whom the cock of this pair was certainly one, seem to be handicapped by having had Early Victorian parents who omit to teach their children "the facts of life", which they learn, (if at all) only by a laborious process of trial and error ! I once had a cock—and an adult bird, too—who was desperately anxious to have a family. When the nest-box was put in he drove his wife into it and made her stay there until she laid (an unusual proceeding in a Polyteline Parrakeet). Any suggestions on her part that there was a contribution which *he* had to make towards the production of offspring he received with angry impatience as a mere excuse for neglecting her duty and wasting time. The result—infertile eggs—demonstrated the truth of the maxim "more haste, less speed". However, he was not incapable of learning by experience, and next year he decided that his wife might be right after all !

My young cock this year, although he came into breeding condition after a fashion and was not indifferent to his mate's nesting activities, had not the foggiest idea as to the proper way of discharging any of his marital duties. When the hen wanted him to feed her he refused to do so but persistently "fed" the perch instead, making, as he did so, noises like a hen Rock Peplar wanting to be fed ! Even more serious errors in technique on his part resulted in infertile eggs. These I removed after a fortnight—hoping that he might learn wisdom and that the hen might lay again. The poor lady, however, disappointed in her hopes of offspring and in the worst of tempers, drove her foolish husband irritably away and started a heavy moult. It was then, however, that the fun really began ! The cock, quite unabashed, continued his ridiculous perch-feeding operations and even added insult to injury by entering a nest-box (*not*, incidentally, the one his mate had occupied), and pretending to feed imaginary offspring as well ! This was too much for his wife. "If this joint has *got* to be Bedlam," she clearly said, "I will show him that I can be as good a Bedlamite as he !" In the front of the aviary shelter there is a pane of glass covered with wire netting and a foot or two to the left the entrance hole giving access to the shelter. The hen Rock Peplar knew the way into the shelter as well as I did, for the food dish was inside, but although quite out of real breeding condition and dropping feathers, she pretended that she was on the point of laying an egg and could see, through the window, an enchanting nest inside the shelter which the wire and glass prevented her from reaching. She

proceeded to spend hours frantically climbing about the wire and swaying her head from side to side in a pretended effort to find a way in. Before long she succeeded in fooling the cock and getting *him* quite interested in the imaginary nest, which I am sure was the object of her manœuvre, but she had reckoned without one factor—her own feminine psychology! Hen Rock Peplars, it seems, share with women a capacity denied to any mere man—even a thoroughly experienced bird dealer. They can sometimes make themselves believe their own lies!! Having pretended so strenuously that she wanted to lay an egg, she began to think that she really did want to! She therefore stopped moulting; came back into breeding condition; renewed her advances to her mate; took to a real nest-box, and laid a second lot of eggs. These again unfortunately proved infertile, though for a time I hoped that her perseverance would be rewarded as the cock seemed to be getting the hang of things a bit better. He even ended by going into the nest to feed her, but before doing so he decided to get his own back on her for taking him in over the shelter “nest”. I heard her one day calling to him from inside the box to come and feed her, but although it happened to be the same nest in which he had been in the habit of “feeding” the imaginary family he pretended that, though dying to comply with her request, he simply *couldn't* find the way in! “My dear, I know you are starving; I do want to help you, but I simply can't find the hole! Oh, what shall I do?” Just as she had scrambled frantically about the window, so he now scrambled frantically about the sides of the nest-box and peered down the back, looking everywhere but where the hole really was—in the front, as plain as the beak on his face!

* * *

OBSERVATIONS ON SOME BIRDS IN ADEN COLONY, SOUTH ARABIA

By KENNETH J. SMITH

During Royal Air Force service in 1945 I spent eleven months, from January to November, in Aden Colony in South Arabia, and in my spare time I had good opportunities to study the fauna. There was a wealth of bird life along the coasts and in the plantations and acacia belts, and a few species existed in areas of scrub and in the open desert.

To voyagers passing through the Gulf of Aden the rocks towering above Aden port seem barren, but stunted and gnarled trees and aromatic plants cling in places to the volcanic slopes. The deep gorges have a sparse growth of grasses, acacias, and red-stemmed abb

trees. Often I wandered among these desolate rock fastnesses. Basking lizards retreated as I scrambled along boulder-strewn ravines and climbed the hot, loose rock faces. Flycatchers and Rock Chats were seen, the Chats often displaying with open wings and with tail extended fanwise. Sometimes a Yellow-vented Bulbul would break into sweet liquid song, ending the dead silence of the valleys. Crag Martins, hawking for insects, passed up and down the gullies, and I found their mud nests in caves.

I climbed Sham-Sham, the highest peak of the Aden promontory, several times. The views from the summit made it worth the toil and sweat, and it was an ideal place to watch the Kites, Egyptian Vultures, and Tawny Eagles. High above they appeared as tiny curves moving over a cloudless sky, while others glided below and at eye level with effortless grace in the clear, still air. A pair of Lesser Peregrine Falcons seemed to have their nest on an inaccessible ridge. Whenever I passed along the narrow ledge beneath they swept from the pinnacles with raucous cries, then stooped and passed so close that I could hear the swish of their wings as they hurtled over the edge of a precipice.

Of the islands off Aden, Sira Island and Slave Island were most easy to visit. The former, lying off the bustling native town called Crater, I always remember for the flocks of Sooty Gulls (*Larus hemprichii*) which waited for the return of the Arab fishing boats, and it was on Sira that I recorded my only Cormorant.

Slave Island lies in the arms of Aden bay, and can be reached by wading from the mainland across mud and through a mile of shallow sea at low tide. It got its name, I was told, from its use in bygone days as a dumping ground for slaves brought over from Somaliland by the Arabs. Now it is uninhabited, a splendid place to watch the Pelicans and Flamingoes feeding and resting in the bay. Occasionally a group of Pelicans would rise, then, having attained a certain height, would circle and climb up and up in spirals till they were out of my sight. When the Flamingoes flew off in long trailing lines against the background of a red Arabian sunset the scene was doubled in beauty by the reflection of the sky in the sea. Many waders were seen on Slave Island beaches, such as Oyster-catchers, Redshanks, and Herons, but the Crab Plovers (*Dromas ardeola*) interested me most of all. In the distance they looked like little pied Herons as they paddled in the shallows made by the receding tide, and when approached they flew off swiftly across the water. My notes, taken at the time of observation, mention some of their habits being not unlike those of the true Plovers, and the cry is likened to "a cackling and crude laugh".

Two species of Tern were particularly common around the sandy Aden coasts; the Red Sea Swift Tern (*Sterna bergii velox*), with yellow bill and handsome black crest, and the Lesser Crested Tern (*Sterna bengalensis*), with orange-coloured bill. Large flocks flew leisurely over

the waves, birds plopping or diving down now and again to fetch a fish from the water. Another bird often seen round the coasts, especially where rocky, was the Osprey. I liked to watch Ospreys fish, to see a bird return to shore to devour its prey, often to the same look-out position time after time. I discovered two Ospreys' nests, but I could not examine them closely as they were built on high cliffs and were protected by formidable overhanging rocks.

The port area of Aden is connected to the native township of Sheik Othmann, and to the desert beyond, by a causeway at Khormaksar. Here, on both sides of the causeway, are wide expanses of salt-pans, or salt lakes. In the process of obtaining salt from sea water by evaporation under the fierce sun the pans are generally at varying levels, so that some are always suitable for birds. Pelicans and Flamingoes frequented the deep ones, while the smaller Waders showed a preference for shallow pans. Feeding Spoonbills advanced through the water in formation, shovelling and swinging their bills from side to side, and flying Avocets made a pleasing impression in black and white. Several times I saw Black-winged Stilts, and in March two Sacred Ibis turned up on an almost dry salt pan near Jibir for a few days. I watched them forage, their curved bills entirely submerged in mud much of the time.

Three kinds of Heron occurred on the salt-pans; the Grey Heron (*Ardea cinera*), the Red Sea Reef Heron (*Egretta schistacea*), and the Red Sea Green-backed Heron (*Butorides striatus brevipes*). The Red Sea Reef Heron, about the size of a little Egret, and appearing in two forms—white and slate blue, was very common. I counted thirty on one small marsh, and it was quite usual to count over a hundred in an afternoon visit to the salt-pans. The Red Sea Green-backed Heron is a more solitary bird, bittern-like in its poses, and of skulking habits. Unlike the Reef Heron, it sometimes extends its neck fully in flight, and instead of rising sharply it takes off on a low direct flight across the water.

Parts of Arabia are almost rainless. I experienced under half an hour of rainfall during my entire stay in Aden Colony. Many of the wadis remain dry for months, perhaps years, and villages are situated where water has been obtained by sinking wells deep beneath the desert sands. In these conditions groves and plantations, especially where watered by irrigation channels, are havens for birds. In a grove at Hiswa I recorded an Arabian Grey-headed Kingfisher and a Chanting Goshawk nested in the palms. Bee-eaters frequented the greenery and banks of a dry wadi that runs through the desert from Hiswa towards Bir Ahmed, and one day when following the birds I surprised a pair of Gazelles behind a sandy hillock.

In the pleasant public gardens outside Sheik Othmann town I found colonies of nesting Weavers. High in the palms were the

nests of the Arabian Kites (*Milvus migrans arabicus*) that scavenged around the native houses, and several of the Sunbirds I found nesting in the gardens were, I think, of the Nile Valley species. Buff-backed Herons stalked among plots of Indian corn, and once I watched a Blue-headed Wagtail flitting alongside the water channels. Cuckoos, Equatorial Laughing Doves, and blue Rollers (*Coracias garrulus*) were also seen. Twice when I visited Sheik Othmann, once in the gardens and once among some dense acacia growth by a mosque at the desert edge, I heard the flute-like notes of the Golden Oriole, and looking up saw flashes of yellow and black in the canopy of the trees.

North of Sheik Othmann, away across the desert that leads to the Yemen, is Lahej. The palace of the Sultan dominates the town, and when I passed through to visit the Sultan's plantations beyond I was surrounded by crowds of inquisitive Arabs, for Europeans seldom travel this way. Along the dusty road from the town to the plantations I noted Hoopoes flying among the wayside trees and prancing among the crops, little disturbed by passing camels, goats, donkeys, and noisy natives. The Sultan's plantations are well supplied with water, being by a wadi which often receives water from rainfall on mountains further inland. Bananas and other fruits are cultivated, and here I found Paradise Flycatchers, Bulbuls, Sunbirds, Coucals, and more Hoopoes.

Black Bush-Robins and two species of Shrike inhabited patches of scrub, but the most common bird encountered in the desert was the Hoopoe-Lark. It is a most confiding bird. Very Thrush-like in gait, it occasionally runs along the sand and seems reluctant to fly away. I recorded Hoopoe-Larks from all parts of the desert I covered, from near Hiswa, Jibir, Bir Fukum, Lahej, and from Riyan, in the Hadhramaut desert, east of Mukalla. One morning I was fortunate in seeing a large flock of White Storks passing over the desert on migration.

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RHEA BREEDING

By A. F. C. A. VAN HEYST

The following table shows the results of Rhea breeding during the season 1950 :—

Rheas (<i>Rhea americana</i>)	Dates of laying	Number of eggs		Number of Birds	
		Laid	Incubated	Hatched	Reared*
Two grey cocks, three grey hens, and one white hen. All adult birds.	March, 28,	5 ⁸	37	5	5
	April 1, 5, 6, 8,				
	9, 10, 12, 13,				
	14, 15, 16, 17,				
	18, 18, 19, 20,				
	20, 25, 25, 27,				
	29, 29, 30, May				
	1, 3, 5, 9, 9, 11,				
	13, 13, 13, 15,				
	15, 16, 17, 17,				
	17, 19, 21, 23,				
	24, between				
	May 25 and				
	June 4 9 eggs				
	were laid, fur-				
	ther June 6, 9,				
	13, 30, July 4,				
8.					

As will be seen, last spring the stock consisted of two cocks and four hen Rheas. One of these, a white hen, the Rotterdam Zoo gave on loan. Two cocks and two hens were received from the Argentine some years before. The remaining hen came from U.S.A., apparently a bird bred in an American zoo. The latter died 20th May inst. from egg-binding.

The eggs laid by each hen were noted till 13th May. The dates are as follows :—

Hen No. 1 (Argentine)	April 16, 18, 20, 27, 29, May 1, 3, 5, 9, 13.
Hen No. 2 (")	April 15, 17, 20, 25, 29.
Hen No. 3 (U.S.A.)	April 6, 8, 10, 12, 14, 18, May 11, 13.
Hen No. 4 (white one)	March 28, April 1, 5, 9, 13, 19, 25, 30, May 9, 13.

My cock Rheas are never broody before the weather is hot, and as this was not the case this year before the first week of May, a number of eggs became too old and were useless. On 12th May one cock showed symptoms of broodiness and seventeen eggs were then placed in the nest, on which he promptly sat.

During incubation several eggs were broken by the broody cock, so that on 17th May only thirteen eggs remained. On 8th June the nest contained twelve eggs and on 24th June one young Rhea hatched. Thus, in this case, the incubation lasted about forty-three days, rather a long time, which I ascribe to the fact that the cock was not sitting

* Reared in this case means that the birds were in good condition at 2 months old at the time of writing.

very close and the weather being very cold. The other eggs were clear.

The other cock started brooding on 24th May. This time on twelve eggs. The females were not separated. On 27th May the nest contained fourteen eggs and on 4th June, when the bird left the nest for a short time, we counted twenty eggs. The hens were then put apart. This cock was brooding well, rarely leaving the nest, and only one egg was broken during incubation. On 2nd July one young Rhea hatched and on the following day three more chicks made their appearance. Out of thirty-seven eggs incubated, therefore, not more than five chicks hatched, a rather disappointing result.

In aviculture it is not always easy to ascertain the reasons for breeding failures, which also applies to this case. I may, however, draw the attention to the following facts :—

(1) Always a high percentage of the eggs laid by Rheas are not fertile. This is not only the case here, but also in the country of origin. I hear from the Argentine that one must reckon on 40 per cent infertile eggs. Having studied the behaviour of the cock Rhea in the breeding season, during a number of years, I have come to the following conclusions :—

(a) That the number of eggs fertilized by one pairing is small ;

(b) That the pairing takes place with rather long intervals. This means that many eggs must remain infertile if the cock Rhea has a harem at his disposition.

There is, of course, a sexual difference between the temperament of individual cock Rheas, but in general I believe that a higher percentage of fertility will be obtained if the cock is treated as more or less monogamous, though in the wild state it is polygamous. Therefore, my having four hens with one cock at one time was not an unnatural combination, but it was probably not a good ratio if one hopes for a high percentage of fertile eggs. It seems that in captivity polyandry also occurs, but as a rule in the mating season the fiercest cock of a flock drives away other cocks and the females take the company of the former. When the cock starts sitting a few more eggs may be laid near the breeding bird, but soon the females stray and another cock, if present, will be promoted husband.

(2) The eggs are collected as soon as they are laid. When a certain number of eggs have been collected we wait till the weather is hot and then place them in the nest and usually at the mere sight of the eggs the cock will sit. In case the bird has not chosen a good place for his nest we make another nest at a suitable place, in which the eggs are deposited. Now as to the number of eggs to be placed in the nest, I believe there must be some restriction. Perhaps not more than twelve to thirteen eggs can be kept sufficiently warm, and maybe

the above-mentioned clutches of seventeen and twenty eggs were too large, with the result that every day some eggs were cold, making the embryos die at an early stage.

(3) Further, there is the question of food. My Rheas have access to a meadow and can consequently eat as much grass as they like. In the morning bread is given and in the evening La Plata maize meal. When grass is scarce in winter, Swedish turnip, cut up in pieces, is added to the menu. Now I thought maize meal did not provide sufficient variation of diet and instead started giving the birds at the beginning of the year a mixture of maize meal, poultry meal, and dried shrimps. Since then, too late, however, I have remarked that if the portions of maize meal are mixed and thus the quantity of maize meal diminished, the effect is that the cock Rhea becomes less sensible to the charms of his light-hearted companions. It is possible that the fact that Rheas got less maize meal this year unfavourably influenced the breeding results.

Long ago I had young Rheas brought up by broody Turkey-hens. As, however, a Turkey-hen can only cover two eggs, not more and not less, placed in a nest with a deep hollow and as a number of broody Turkey-hens are not always obtainable at one time, this method can only be put into practice on a small scale and can only be recommended in case of need, to save a few eggs.

The rearing of young Rheas by the cock Rhea himself has very attractive aspects, for a cock Rhea amidst a dozen of young ones is a grand sight. This method has, however, several disadvantages and my experiences are not very good:—

(1) The cock Rhea is very nervous when the young birds walk around him, with the result that he often tramples on them.

(2) It is practically impossible to give the young Rheas separate food.

(3) The cock Rhea, in his nervous state, will not sit often enough, so that many chicks perish from lack of warmth when the weather is cold or rainy.

It seems that good results can be obtained by the use of an incubator, but possessing no incubator, I am not able to give any information. For the last two years the young Rheas have been taken as soon as they leave the nest. When doing this the old bird will rise, but he will sit again if the eggs that have not yet hatched remain in the nest. The young Rheas are put in a shed furnished with an electric heating lamp. The temperature under the lamp is kept for the first two weeks at about 85 degrees Fahrenheit on the floor. After that the temperature is gradually lowered and provided the weather is fine the lamp is only kept lit during the night.

In the beginning the young Rheas are unsteady on their legs. In consequence, they can keep their balance better when pecking

horizontally than when pecking to the ground. In this connection we place near the birds, but not under the lamp, a woodblock, about 5 inches high and sprinkle the food on this woodblock for the first few days. In this way we never have difficulty in starting them feeding as the beginning is always a pecking in vertical line.

The first two days we give the young birds fresh ant eggs and the yolk of hard-boiled egg. After that the hard-boiled egg is omitted and moistened chicken meal and white bread are given. The chicken-meal is gradually replaced by poultry-meal and the poultry-meal by maizemeal. Fresh ant eggs are given as long as obtainable and plenty of them. To be more exact, for instance when the birds are three weeks old, three times a day a soup-spoon of ant eggs per head is given. The meal is mixed with phosphate of lime and vitamins A and D. We never feed cut up grass. When Rheas graze they peck each time one single grass-blade. On the contrary when given cut up grass, each time they peck they get a mouthful and they apparently cannot digest this grass quickly enough. A certain amount of grass then remains in the stomach, forming grass balls, which they cannot get rid of, and they die.

Care must be taken that the young Rheas do not grow fat. If so, the legs, which are not very strong in the beginning, cannot support the heavy body and leg-deformities are the result. It is therefore essential that the birds should be able to take much exercise on the lawn and that they are not overfed. Drinking water must not be forgotten as they are sometimes very thirsty.

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CHARLES CORDIER'S LATEST COLLECTION

By LEE GRANDALL

The bird collections of the New York Zoological Park (Bronx Zoo) were again enriched on 20th July, 1950, by the arrival of Charles Cordier, our collector, with a superb collection gathered in Ecuador. Accompanied by Mrs. Cordier, now an able and experienced assistant, Cordier left for his field of operations on 2nd October, 1949. Headquarters were established in Quito, and here the products of numerous side trips were maintained in excellent condition under the supervision of Mrs. Cordier.

The return to New York was made by a special airplane flight, which again demonstrated the efficiency of this mode of transportation when the value of the collection justifies the cost. There were no losses en route and everything was landed in excellent condition. Projects of this magnitude cannot be carried through without many risks and ventures, but these are forgotten in light of the rich returns.

The collection contains many highlights. The Long-wattled Umbrella Birds, from the western slope of the Andes, include three

males and one female. The extremely long wattle, reaching a length of 10–12 inches, is a challenge to observation. The Eastern Umbrella Bird, of which we have two males, are quite different in appearance, the white iris and white patch at the base of the crest being very distinctive.

The Cocks-of-the-Rock, while less deep in colour than the Scarlet (*sanguinolenta*) from the west slope, are brilliant in frosted reddish-orange.

There are many other great rarities, of course, but the Hummingbirds include many notable forms. Best of all is the incredible Sword-bill, its beak quite 5 inches long and noticeably thick. Fortunately, Cordier's specimen is a female, the beak in this sex being longer than that of the male. In a single day of intensive work Cordier taught the bird to feed from an ordinary hummer bottle, which it continues to do with facility.

This collection, a list of which follows, represents another great success to the credit of Charles Cordier.

1 Jardine's Pigmy Owl—*Glaucidium jardinii jardinii* (Bonaparte).
 *1 Ecuadorian Sword-billed Hummingbird—*Ensifera ensifera ensifera* (Boissonneau). *2 White-tailed Hill Stars—*Urochroa bougeri leucura* Lawrence. *4 Boucard's Train Bearers—*Lesbia victoriae equatorialis* Boucard. *3 Salvin's Sun Angels—*Helianthus amethysticollis laticlavus* Salvin. *1 Brown Violet-eared Hummingbird—*Colibri delphinae* (Lesson). 3 Gould's Violet-eared Hummingbirds—*Colibri coruscans coruscans* (Gould). *3 Western Buff-tailed Coronets—*Boissonneaua flavescens tinochlora* Oberholser. *1 Rosy-throat—*Heliodoxa rubinoides cervinigularis* (Salvin). *1 Amethyst Hummingbird—*Calliphlox amethystina* (Boddaert). 7 Black-billed Emeralds—*Chlorostilbon gibsoni melanorhynchus* Gould. 2 Green-headed Emeralds—*Amazilia franciae viridiceps* (Gould). *3 Heine's Hummingbirds—*Amazilia tzactl jucunda* (Heine). *5 Green-tailed Sylphs—*Agelaiocercus kingi mocoa* (DeLattre and Bourcier). 1 Heavenly Sylph—*Agelaiocercus caelestis caelestis* (Gould). *4 Ecuadorian Copper-tails—*Metallura williami primolina* Bourcier. *2 Quito Tyrian-tails—*Metallura tyrianthina tyrianthina* (Loddiges). *5 Small-billed Thorn-bills—*Ramphomicron microrhynchum microrhynchum* (Boissonneau). *7 Comte de Paris' Star-frontlets—*Celigena lutetiae* (DeLattre and Bourcier). *4 Collared Incas—*Celigena torquata torquata* (Boissonneau). *1 Scissor-tailed Racket-tail—*Ocreatus underwoodii peruanus* (Gould). *1 Emily's Hermit—*Phaethornis guy apicalis* (Tschudi). *4 Chimborazo Hill Stars—*Oreotrochilus chimborazo chimborazo* (DeLattre and Bourcier). *2 Gould's Sickie-bills—*Eutoxeres aquila heterura* Gould. *1 Green-breasted Puff-leg—*Eriocnemis vestitus smaragdinipectus* Gould. *1 Black-breasted Puff-leg—*Eriocnemis nigri-vestis* (Bourcier and Mulsant). *1 Bouquet's Puff-leg—*Eriocnemis*

* Denotes species new to our collection.

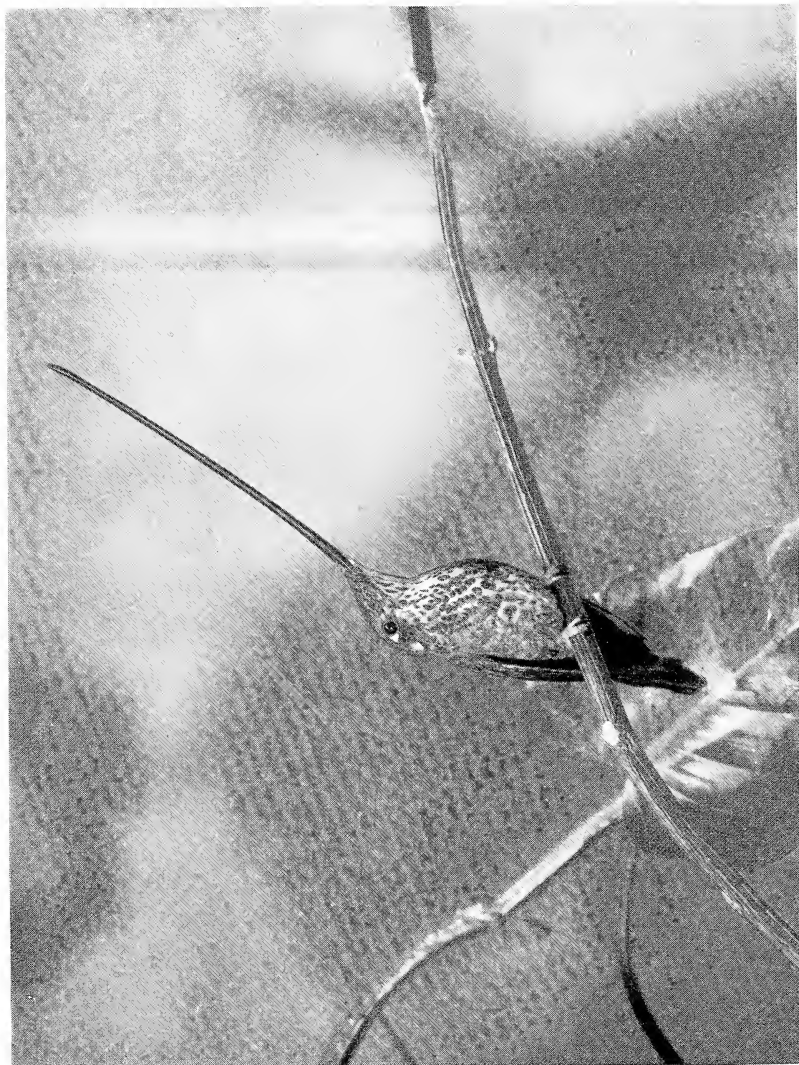


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LONG-WATTLED UMBRELLA BIRD
Cephalopterus ornatus penduliger Sclater.

[New York Zoo

[To face p. 206.



ECUADORIAN SWORD-BILLED HUMMING BIRD
Ensifera ensifera (Boissonneau).

[New York Zoo

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luciani luciani (Bourcier). *1 Long-billed Lance-bill—*Doryfera ludovicae rectirostris* Gould. 6 Orange-breasted Barbets—*Capito aurovirens* (Cuvier). 1 Rufous-fronted Barbet—*Capito squamatus* Salvin. *2 Sclater's Motmots—*Momotus momota microstephanus* Sclater. *1 Many-banded Aracari—*Pteroglossus pluricinctus* Gould. *3 Chestnut-eared Aracaris—*Pteroglossus castanotis castanotis* Gould. *5 Yellow-billed Aracaris—*Pteroglossus flavirostris flavirostris* Fraser. *1 Red-backed Aracari—*Pteroglossus erythropygius* Gould. 1 Cuvier's Toucan—*Ramphastos cuvieri cuvieri* Wagler. *3 Western Black Woodpeckers—*Melanerpes cruentatus extensus* (Todd). *1 Chestnut-crowned Ant-pitta—*Grallaria ruficapilla ruficapilla* Lafresnaye. *1 Mountain Ant-pitta—*Grallaria quitensis quitensis* Lesson. *1 Black-faced Tityra—*Tityra semifasciata nigriceps* Allen. *1 Banded Cotinga—*Pipreola arcuata* (Lafresnaye). *3 Red-crested Cotingas—*Heliochera rubrocristata* (Lafresnaye and d'Orbigny). *3 Purple-throated Fruit Crows—*Querula purpurata* (Muller). *11 Equatorial Cocks-of-the-Rock—*Rupicola peruviana equatorialis* Taczanowski. *2 Eastern Umbrella Birds—*Cephalopterus ornatus ornatus* St. Helaire. *4 Long-wattled Umbrella Birds—*Cephalopterus ornatus penduliger* Sclater. *1 Berlepsch's Golden-headed Manakin—*Pipra erythrocephala berlepschi* Ridgway. *3 Ecuadorian Manakins—*Manacus manacus leucochlamys* Chapman. 1 Violaceous Jay—*Cyanocorax violaceus* Du Bus. *1 Turquoise Jay—*Cyanolyca turcosa* (Bonaparte). 5 Inca Jays—*Xanthoura yncas yncas* (Boddaert). *1 White-eyed Black Robin—*Platycichla flavipes leucops* (Taczanowski). *1 Masked Sugar-bird—*Diglossa cyanea cyanea* (Lafresnaye). *1 Indigo Sugar-bird—*Diglossa indigotica* Sclater. 1 Yellow-backed Cacique—*Cacicus cela cela* (Linnaeus). 1 Giant Oriole—*Gymnomystax mexicanus* (Linnaeus). 2 Western Swallow-Tanagers—*Tersina viridis occidentalis* (Sclater). 4 Tawny-crowned Tanagers—*Tachyphonus delatrii delatrii* Lafresnaye. *13 Red-eared Tanagers—*Poecilothraupis igniventris erythrotus* (Jardine and Selby). *1 Orange-breasted Tanager—*Poecilothraupis lacrymosa palpebrosa* (Lafresnaye). *2 Blue-capped Tanagers—*Thraupis cyanocephala cyanocephala* (Lafresnaye and d'Orbigny). 2 Darwin's Tanagers—*Thraupis bonariensis darwini* (Bonaparte). *2 Orange-crested Tanagers—*Iridosornis rufivertex rufivertex* (Lafresnaye). 2 Hooded Mountain Tanagers—*Buthraupis montana cucullata* (Jardine and Selby). 3 Rieffer's Grass-green Tanagers—*Chlorornis riefferii riefferii* (Boissonneau). 3 Lesser Magpie Tanagers—*Cissopis leveriana leveriana* (Gmelin). *2 Blue-shouldered Mountain Tanagers—*Compsocoma flavinucha somptuosa* (Lesson). *2 Buff-breasted Mountain Tanagers—*Dubusia teniata teniata* (Boissonneau). *1 Finch-like Tanager—*Oreothraupis arremonops* (Sclater). *1 Yellow-throated Olive Tanager—*Chlorospingus flavigularis flavigularis* (Sclater). *3 Yellow-breasted Spotted Callistes—*Tangara*

* Denotes species new to our collection.

xanthogastra (Sclater). *3 Northern Blue-necked Callistes—*Tangara cyanicollis caeruleocephala* (Swainson). *1 Red-backed Paradise Calliste—*Tangara chilensis chilensis* (Vigors). *4 Short-billed Euphonias—*Tanagra xanthogaster brevisrostris* (Bonaparte). 1 Golden-breasted Grosbeak—*Pheucticus chrysopeplus chrysogaster* (Lesson). *2 Boissonneau's Sparrows—*Atlapetes torquatus assimilis* (Boissonneau). 1 Chestnut-capped Buarremon Sparrow—*Atlapetes brunnei-nucha brunnei-nucha* (Lafresnaye). *2 Slaty-backed Sparrows—*Atlapetes rufinucha spodiionotus* (Sclater and Salvadori).

* * *

THE BREEDING OF THE PILEATED OR RED-CAPPED PARRAKEET AT KESTON FOR THE FIRST TIME IN ENGLAND FOR FORTY YEARS.

By EDWARD BOOSEY

I had intended including an account of the breeding this season at Keston of the Pileated Parrakeet (*Porphyrocephalus spurrius*) in the farm breeding results, but as it is just forty years since this fine Parrakeet was last bred in the British Isles, and as it has only ever been bred on two previous occasions in this country, I thought the event merited a separate account.

The two previous successful breeders were Mr. Hubert Astley and Mr. Fasey, in both cases during the first decade of the present century.

The pair at Keston went to nest towards the end of April, laying six eggs, every one of which hatched, and all six young ones have just finished fledging as I write (17th July), the first one having emerged on 12th July. They are very strong fliers and altogether an exceptionally fine brood—quite as good as the best young Parrakeets we ever bred at Keston in pre-war days.

One curious thing about them which I cannot remember in any other brood of newly fledged Parrakeets is that whereas the first two young ones to leave the nest were remarkably steady and sensible, indulging in none of the usual juvenile bosh shots at perches, and crash landings—so harassing for their anxious owner to watch—the last four to emerge were as wild as Hawks (or young Turquoisines!) so that one hardly dare go near their aviary.

In colour they are very unlike their resplendent parents, being mainly green, rather lighter on the cheeks and with the whole of the breast medium grey with the faintest suggestion of mauve in it. The only sign of a future red cap consists of a few small reddish-orange feathers just above the nostrils. Their beaks are very pale horn-colour. In the first two to fledge which, owing to their steadiness, I was able to examine at close quarters, the lower flanks and under tail-coverts

* Denotes species new to our collection.

of one are mainly red with tinges of yellowish-green at the outer edge of some of the feathers, while those of the other are mainly yellowish-green with tinges of red. It is possible that these two may prove a pair, particularly as the former—presumably the cock—has, if anything, a slightly more mauve look about the breast.

They have, of course, the curious beak of an adult Pileated, which owing, I suppose, to the slightly elongated lower mandible, does not, as it were, close properly, so that seen in profile you can see the light of day through the gap in the centre.

The pair of Pileated arrived at Keston last summer too late to breed, and were at first housed in one of our field aviaries with a double-length flight. To begin with they did well, until one morning I found the hen ill. She was in tight feather but seemed dazed and unnaturally slow in her movements and reactions. What was wrong I don't know, but I feared she was about to have one of the fits to which Pileated are reputedly so prone. In any case, I hurriedly caught her up and she was given heat treatment in a hospital cage and, in addition, that marvellous drug Sulphamezathine in her water for the prescribed five days, and as a result she made a swift recovery.

After that I decided that the pair had better spend the winter in a large flight cage in the acclimatizing room, and in this they did very well although artificial heat was only supplied during spells of really cold weather.

During this period they were fed on canary, millet, sunflower, and monkey nuts—no hemp—and they had bread soaked in sweetened watered milk and also apple, the two latter being given on alternate days.

It is, I think, of considerable interest that almost in every case the highest percentage of fertile eggs among members of the Parrot family at Keston this season was to be found among the birds to which I have recently started giving bread and milk—the Pileated, the Ringnecks, and the Roseate Cockatoos—and this was particularly marked in the case of the Pileated Parrakeets, whose confinement in a flight cage during the winter months might well have been expected to impair their fertility, whereas it seems to have done quite the reverse. Perhaps one ought always to cage one's breeding pairs of Parrakeets for the winter in order to prevent their being rendered infertile by too much exercise!

The Pileated were bred in one of our standard size field aviaries which have an overall length of 15 feet. The parents were given two nest-boxes, one of the grandfather clock type and the other, which was about 2 ft. 6 in. deep, hung up on the front of the shelter under overhead cover, and of the two they chose the latter. Both boxes had a decayed wood filling.

While they were rearing their brood they consumed an astonishing

amount of sweetened bread and milk, but seemed to lose all interest in sunflower and monkey nuts, and as their only desire appeared to be for hemp, I greatly increased their allowance of it. I shall, however, gradually have to reduce it as soon as the young ones are independent of their parents, because while I think it is an excellent rearing food, most Parrakeets are only too prone to become entirely addicted to it, to the exclusion of all other seeds, and this they should never be allowed to do.

As green food, the Pileated had a daily supply of flowering ryegrass and seakale beet, of which they are very fond of the fleshy white stalks. I did not give them fruit as really ripe sweet fruit is hard to come by in the spring and early summer months—particularly since the war—and I am certain that unless the fruit given really is sweet and ripe it can do a great deal more harm than good, not so much to the parents as to the delicate stomachs of the nestlings to whom they feed it.

The Pileated Parrakeet, which many readers of this article may never have seen, is a really magnificent bird, in some ways like and in others very unlike the Broadtails, to which it is most closely related.

The male has the mantle and wings green; the outer edge of the wing and part of the flight feathers blue. Central tail feathers dark green, and the outer ones blue bordered with white. The cap is crimson and the cheeks greenish-yellow, the same colour as the rump. The under tail-coverts red, and the whole of the breast a beautiful violet-purple. The bill is a dark bluish horn-colour.

The females are said to be variable as to colour, but the one we have is obliging enough to conform exactly to the weary author's invariable description (when in doubt!) of the hen of any particular species as: "Similar to the male, though all her colours are slightly duller."

These Parrakeets are great bathers, and the hen, while sitting, always used to have a hurried bath when she came off the eggs, returning to the nest-box when still wet, which I always like to see as it prevents the nest becoming too dry and the shells of the eggs correspondingly hard and brittle. The young ones also, early evinced the same love of bathing, which they even started to do only a few days after they left the nest, which is something I cannot ever remember having observed in any other young newly fledged Parrakeets, which usually start to bathe after a fortnight or so when they have become independent of their parents.

The Pileated Parrakeet is a native of South-West Australia where it has not, I believe, a very extensive range, and this, combined with the fact that it is an orchard raider, and therefore much hated and persecuted by Australian fruit farmers, makes its survival precarious indeed, unless it can be saved from extinction by being systematically

bred in aviaries both here and in its own country. I believe it is fairly well established in certain Californian aviaries, and the credit for this is largely due to the present Duke of Bedford, who sent out breeding stocks before the war.

Pileated are extremely active birds, always on the move, and they have a curious and distinctive cry, best rendered as : " Clor-clor . . . crilk-crilk-crilk ! " and anything unusual is greeted by the alarm note, a sharp double " Crilk-crilk ! ".

I sometimes think I should like to be given the job of renaming some of the—at present—very stupidly named Parrakeets, of which the Pileated is a good example. " Pileated " conveys nothing whatever to most people and gives no inkling of the magnificent appearance of the bird to which it has been given. Its alternative name of Red-capped Parrakeet is certainly much better, but even this gives no indication of the bird's most striking—and indeed among Parrakeets, unique feature—namely its beautiful violet-purple breast ; so I would not have hesitated to call it the Purple-breasted Parrakeet.

* * *

THE NESTING OF MUSCHENBROEK'S LORIKEET

By THE DUKE OF BEDFORD

A pair of these Lorikeets from the mountains of New Guinea were included in the Australian collection sent me by Mr. Hallstrom last summer.

They are small birds, little larger, in fact, than Peachfaced Lovebirds, though longer by reason of their pointed tails. In build and movements they bear a considerable resemblance to the Trichoglossine Lorikeets although they do not posture in quite the same absurd fashion as the latter. The general plumage is green, slightly paler on the cheeks and flanks and the top of the head is washed with brownish gold. The breast is red and there is a red bar across the inner webs of the flights which does not show when the wing is closed, and some red and yellow on the inner webs of the tail feathers, which normally do not show either. The bill is long and curved and of a yellowish horn colour and the legs and feet are dusky.

Although in most respects typical Lorikeets, my aviary attendant is of opinion that they have not brush tongues and their feeding habits point in the same direction for they have persistently refused liquid food other than a little sweetened bread and milk when rearing young, and have lived on mixed seed, sweet apple and pear and grapes.

The late summer and autumn of the year of their arrival they spent in a small brick-floored aviary at Haywards Heath and, as my aviary

attendant did not consider the hen very robust, as she flew somewhat heavily, they were kept in a flight cage in heated birdrooms during the winter. In the early months of the present year they were transferred to Woburn where I had the chance of observing them properly for the first time. The cock and hen were very much alike but the former was slightly larger and brighter in colour. They were an affectionate couple, often preening each other's feathers and never far apart. Occasionally, if the cock were disturbed and upset, he would give his wife a peck but there seemed no personal ill-feeling behind it and she appeared to be aware that this was the case!

The Lorikeets' calls were rather harsh and sibilant but too low in tone and too lacking in volume to be unpleasant, even in a confined space. In April I turned the pair into a 24 ft. by 8 ft. by 8 ft. movable aviary, giving them a little heat in the shelter by means of an oil lamp. They did not appear to mind the vile weather in the least, spending all their time in the flight and it would not surprise me if they proved as hardy as Swainsons. I provided them with a grandfather clock nest-box in the flight, of which at first they took no notice. Towards the end of May, however, the hen seemed to me to be getting livelier and more assertive and I once saw her making a casual inspection of the entrance hole. A little later, rather suddenly and unexpectedly, the pair took to roosting in the box and not long after to spending most of their time in it. In June it was discovered that two eggs had been laid. The cock was rarely seen off the nest and the hen hardly ever. How far the cock helped to incubate I cannot say. He certainly did not take turns with his mate, regularly, like a Blue Lory, but on the other hand, he was with her a great deal. About the 10th July both old birds were off the nest, and looking in I saw a baby, possibly about ten days old, still blind and fairly well covered with grey down. A few days later both old birds were off the nest for a suspiciously long time and inspection unfortunately showed that the young one was dead. The parents did not appear to have injured or neglected it in any way so the cause of death remains rather a mystery. Possibly the food was not entirely suitable. If any further attempts are made at breeding it is to be hoped that they will be more successful. I once almost succeeded in rearing the delicate Racket-tailed Parrot after so many failures that I had lost all hope. A young bird at last lived to leave the nest, only to be killed mysteriously by vermin the same day.

Muschenbroek's Lorikeets have a quaint habit, if one of a pair wishes to get the other side of its partner, of taking a brisk vertical hop over the latter's back and coming down in the desired position.

Judging by the pained expression on my aviary attendant's face and the noises he emits when he handles the little bird without gloves, Muschenbroek's Lorikeet resembles the baboon in that, as the Rev.

Topsell, an early writer on Natural History, tells us of that animal, "His kind bite deeply and eagerly"! For this reason I would not trust Muschenbroek's—or any other Lorikeet—in mixed company, but for all that it is a nice little bird, which, if it lacks the gorgeous colours of some of his relatives, also lacks some of their failings—messiness, troublesomeness to feed, and noise.

PS.—The Lorikeets nested again and have an egg and probably another young one (2nd September).

* * *

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY

(Continued from page 153)

Among other rarities of the Parrakeet family we had here at various times were Layards, Derbyan, and Malabars. The latter bred successfully at Keston, and I have always thought them one of the most elegantly shaped and beautiful of all the *Palaeornis* Parrakeets. We also had a pair of the bright golden yellow and very garrulous and entertaining Queen of Bavaria's Conures, also Caiques and a fine and, what appeared to be obvious pair, of the charming little Senegal Parrot. Curiously enough, although the latter had a roomy aviary to themselves they never during the two years we had them made the slightest attempt to go to nest.

We also had some of the rare black Australian Banksian Cockatoos. These large and imposing birds possess a very individual charm all their own, and males particularly are very much gentler creatures than they look—which is perhaps as well! Unfortunately, they are difficult subjects in confinement, being fatally prone to tuberculosis. Ordinary Cockatoo diet will keep them alive for a time but seems to lack some essential that they need. They appear, strangely enough for a Cockatoo, to be partially insectivorous, though mealworms are usually rejected. The only live insect food they will take—and one which they adore—is the grub which inhabits an oakapple gall. These seem, at any rate in this country, necessary to their well-being, but of course can only be obtained at certain times of the year.

When war broke out we were in the process of constructing an extensive range of Cockatoo aviaries to house a really representative collection, the nucleus we then had consisting of Leadbeaters, Banksians, and Roseates. This project, however, like so many others, had, of course, to be abandoned, and nowadays the only Cockatoos we have left are a pair of Roseates which breed regularly each season,

reducing their nest-box to a heap of sawdust as soon as they consider it has fulfilled its purpose !

Lord Tavistock once lent us for breeding purposes a very beautiful cock white Roseate which we mated to an ordinary grey hen. In this freak specimen all the normally grey areas of the plumage were snow white, which makes a dazzling contrast to the particularly deep squashed-strawberry pink of the breast feathers. This bird, unlike some "sports", was infinitely lovelier than the normal form of Roseate, and I would have dearly loved to be able to perpetuate the strain. Unfortunately, however, this bird proved to be a confirmed egg-eater, and when returned to Lord Tavistock he was guilty of the same vice at Peasmarsh.

It is unfortunate that these freak specimens—some of them very beautiful—so often prove, for one reason or another, hopeless for breeding purposes.

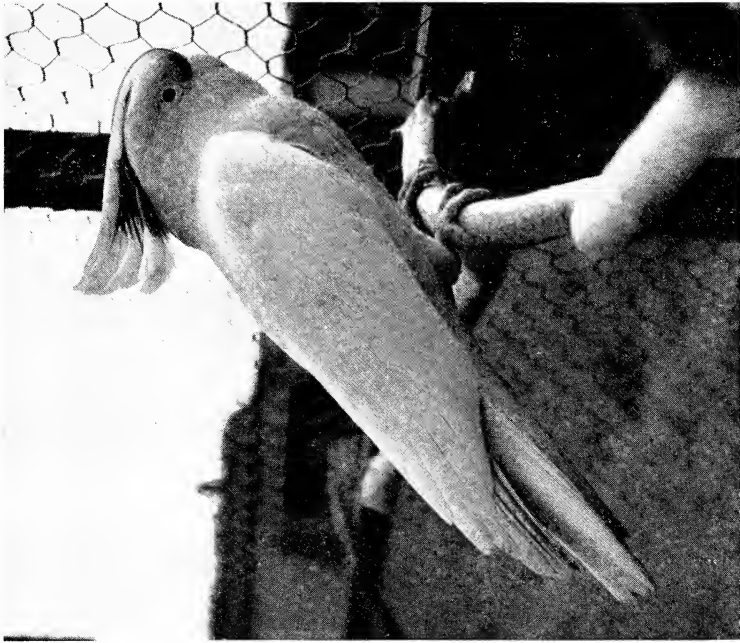
A particularly gorgeous and I should say quite unique sport in Lord Tavistock's collection is a lutino Amazon (I think a Blue-fronted) in which the red areas are retained, the normally green parts of the plumage being replaced by a lovely clear golden yellow.

He also received from Australia a lutino Broadtail—as far as I can remember a cock Rosella—which was equally beautiful. This bird was to have come to Keston, and I was going to have a shot at perpetuating the lutino strain, and I was more than sorry to hear that it had died of pneumonia in Lord Tavistock's bird hospital shortly after its arrival. However, I did at least see it before it died.

His lutino Amazon was always useless as a breeder.

Just before the war we bred, as has been recorded in the AVICULTURAL MAGAZINE, Blue-fronted Amazons, pure-bred, for the first time in this country. This was a grand thrill, particularly as their first brood consisted of no less than five very lusty young Amazons, all of which were successfully reared. Altogether this pair fully reared eleven young ones here before the hen unfortunately caught pneumonia and died.

It is a curious thing that no matter how tame and friendly they may have been before, it seems that all male Parrots automatically become fiends incarnate towards their former human friends the moment they are mated, and the father of these broods was no exception. He was always on the lookout to remove a chunk from your neck as you bent down to refill the water vessel, or to amputate a finger when you put your hand in the feeding door. Actually, I believe he once satisfied the former ambition with a previous owner, and a fine new male we have recently acquired to mate to a hen of our own breeding made quite a creditable effort to remove one of my fingers a few days ago ! Apparently, Macaws become equally savage when mated, and I think it was Monsieur Decoux who told us he



[E. Doosey]

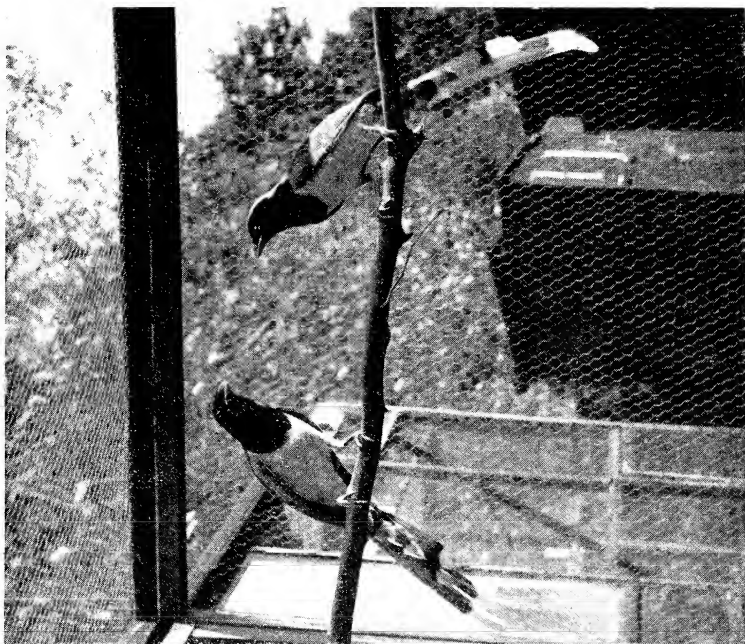
LEADBEATER'S COCKATOO.

[To face p. 214.



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BANKSIAN COCKATOO.



[E. Looney]

PAIR OF OCCIPITAL BLUE PIES.



Copyright]

HUNTING CISSA.

had a pair of Blue and Yellows breeding at liberty which became such a menace that they had to be caught up. They must be a splendid sight flying loose, which I have always wanted to see. Although I was fortunate enough to see many and various members of the Parrot family in Lord Tavistock's collection at liberty at Warblington House (there was a whole flock of young Barrabands!) I never remember any Macaws. Lady Londonderry, writing not long ago from Northern Ireland, told me of a couple she has at liberty at Mount Stewart which are so tame that they fly in each morning through the window to partake of a meal on the kitchen table!

About 1937 we acquired a female Occipital Blue Pie (instantly christened by our staff, the Hospital Blue Pie!) and one of our customers who also had a single specimen very kindly let us have it. At first we had no idea whether they were a pair, but were not long left in doubt as our bird was shortly afterwards seen crouching on the perch while the new acquisition took a series of gigantic leaps, to and fro, across her prone form. This, accompanied on the male's part by a low and surprisingly sweet song, rather like the muted notes of a Thrush, which is somehow the last thing you would expect from a member of the harsh-voiced Pie family, constitute the, I should imagine, rarely observed courtship display.

I know of few lovelier birds, both as to form and colour, than an Occipital Blue Pie in perfect condition, particularly when with its long and slightly incurved tail undulating behind, it flies with all the peculiarly light aery buoyancy of our own native Jay.

It had long been my ambition to breed these birds, and I succeeded in doing so, but it was a long and laborious task, and I certainly don't think I quite realized just what I was letting myself in for!

The pair were in an aviary 25 feet long by 6 feet wide by 7 feet high. At the shelter end of this I fixed up a thicket of nailed-up branches of laurel, and in this they soon constructed a large nest.

We felt we could not remain indefinitely in complete ignorance as to how matters were progressing, and one day, amid much angry chattering from the parents, we managed to catch a glimpse of three eggs in the nest. Two young ones were eventually reared, and as far as I can remember, all three eggs hatched, the third nestling disappearing when very small.

As the natural food of the Pie family consists, when available, of other birds' eggs and nestling, it has always been a marvel to me that they are able to resist the temptation to treat their own eggs and newly-hatched young merely as tasty additions to their diet, and with this thought in mind I realized that a very plentiful and frequent supply of their natural foods would be necessary to keep at bay any cannibalistic tendencies.

When the young ones hatched the hard work—or perhaps hard

labour is the more appropriate word!—really started. The parents, who always seemed desperately hungry, had to be kept perpetually supplied with strips of raw meat, mealworms, small freshly-killed rats, mice, and young Sparrows, and, in addition, they were given any unfertile Budgerigar and Parrakeet eggs, which they regarded as the choicest of morsels. I used to give them just as much food as they would finish up completely every three hours during the whole time the young were in the nest, and I am sure that in the way of feeding, “little and often” is the secret of successfully rearing these carnivorous species. If not given enough they eat their own young ones, and if given too much they lose interest and let them starve. At any rate, it is pleasant to record that our labours were not in vain, for there came the day when the two young ones—dull-coloured short-tailed editions of their magnificent parents—were to be seen perching for the first time on the laurel branches beside the nest, after which they matured rapidly, eventually becoming just as fine specimens as their parents.

Shortly afterwards I was able to satisfy a long-standing ambition to possess a pair of Hunting Cissas, whose great beauty I have always admired. The hen was already an aviary bird and was obtained after the cock which was a newly-imported specimen, and it was extraordinary to watch the green of the latter's plumage changing, as it were, almost overnight into blue. Fortunately, this change of colour in captivity, for which, incidentally, I don't think any satisfactory explanation has ever been suggested, is, in the case of the Cissa, if anything rather an improvement than otherwise upon its original green in the wild state, which certainly cannot be said, for instance, of the pale uninteresting brickish pink which, in confinement, replaces the lovely vivid crimson of a freshly-imported Scarlet Tanager. The same, though to a lesser extent, applies also to Grenadier Weavers which never moult out with quite the same fiery orange-red of their importation plumage. Another unexplained mystery is why the aviary-bred young of Australian Longtailed Grass Finches, though they may be in every other way perfect specimens, never attain anything like the immensely long and tapering central tail feathers of their imported wild-caught parents.

To return to the pair of Hunting Cissas : their history unfortunately is a brief one, for the hen escaped when they were being moved into their breeding aviary, and was never once seen again, and we shortly afterwards parted with the cock.

Of all the insectivorous birds I have ever kept I think my favourite is the infinitely beautiful and charming little Rufous-bellied Niltava, with its wonderful colour combination of blue-black, deep blue, brilliant cobalt blue, and autumn-leaf copper.

These birds are generally reputed to be delicate and prone to

pneumonia, but I can only say that the cock which lived in my planted garden for about nine years roosted out on the bitterest winter nights in an evergreen bush and was always the picture of health, and eventually died of old age. He may have been an unusually tough specimen. At any rate, the only trouble I ever had with him was when I first had him and used to take him into a large flight cage in a heated bird room for the winter. This did not seem to suit him at all, and as I several times nearly lost him, I decided to let him winter out of doors, and after that he was always in perfect health and condition.

I have always attributed his exceptional longevity mainly to the fact that he never had to depend for insect food upon mealworms, which I personally think are very bad for birds unless they are most strictly rationed. He was the most expert flycatcher and during summer and early autumn was able to capture an endless variety of insects for himself.

After I had had him for several years I at last managed to get a mate for him, which was by no means easy as, probably owing to their dull colouring, hens were seldom imported. This hen, though an excellent specimen in perfect feather, behaved in the strangest manner. She arrived in the morning and was put in an aviary by herself, whereupon she retreated to the furthest corner of the flight and sat on the ground. I gave her the whole day to get her bearings, but when by the evening she was still in exactly the same place and obviously hadn't moved, I began to get worried as it seemed she must either be stunned or ill. She had, of course, eaten nothing, so I went into the aviary and put some mealworms on the ground just in front of her. Still no response whatever; she sat immobile as the Sphinx, so I retreated from the aviary and just as I was standing with the door partly open, wondering what to do next, the graven image suddenly took flight, dashed through the door, and that was the last I ever saw of female *Niltava* number one!

Not long afterwards by a great stroke of luck I was able to obtain another hen, whose behaviour was entirely normal. She and the cock were given a naturally planted aviary to themselves, and almost immediately went to nest in a wicker Hartz Mountain Canary cage hung in the shelter, and soon there were eggs.

Meanwhile, I had arranged to get a supply of gentles and live ant pupæ as soon as necessary, but did nothing further about it as the hen appeared to have deserted, nearly always, almost from the time the eggs were laid, being in the flight with the cock whenever one passed the aviary. I think, however, she must merely have been a very nervous sitter, and have come off the nest the moment she heard footsteps. Be that as it may, when I had eventually given up in despair and decided to look in the nest, it was to find three tiny corpses of

newly-hatched Rufous-bellied Niltavas, which, had they survived, would, I think, have been the first ever to be bred in this country. Shortly afterwards the hen died suddenly of a fit. Another time I would give the parents their liberty as soon as the young ones hatched, but I am afraid now there is never likely to be another time.

(To be concluded)

* * *

AUSTRALIAN PARROTS IN CAPTIVITY

By ALAN LENDON, Adelaide

(Concluded from p. 167)

(51) RAINBOW LORIKEET (*Trichoglossus moluccanus*)

Synonyms.—Blue Mountain Lorikeet, Blue-bellied Lorikeet, Swainson's Lorikeet.

Distribution.—Eastern Australia, from Cape York through most of eastern Queensland and eastern New South Wales, down to Victoria. Also found in Tasmania and in South Australia, where it extends as far north as the lower end of the Flinders Range and as far west as southern Eyre's Peninsula.

Description.—A large Lorikeet, the general colour of the upper surface being bright green, with a few red flecks on the back of the neck and a collar of a lighter shade of green. The head and face are a streaky blue, the breast varies from orange to red, the abdomen is blue margined with some red, and the thighs and under tail-coverts are greenish-yellow.

There is very little difference in the colouring of the sexes but the head and beak are larger in the male. Immatures are only slightly duller than the adults but they have a dark beak instead of coral red, as is the case in the adult.

Variations.—I have always thought that the birds derived from southern Queensland are brighter coloured, especially in regard to the red of the breast, than the South Australian birds. The birds found in northern Queensland are also said to be smaller and duller.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 14) is quite good as also is that by Rutledge in Cassell's *Book of Birds* (p. 443). Cayley's plate in *The Emu* (vol. 28, p. 122) is quite adequate whilst that by Lydon in Greene (vol. i, p. 39) is fair as regards colouring but very unshapely.

Field Notes.—This species can almost always be observed in the vicinity of Victor Harbour, South Australia, at all times of the year. I have also seen it in the south-east of South Australia and in southern Queensland. They are noisy birds, both when feeding and in flight.

Aviary Notes.—This species used to be brought down from Queensland in large numbers prior to World War II; since then, however,

very few have appeared in the local birdshops and it has become comparatively rare in captivity in this state. The medal of the A.S.S.A. for the first recorded breeding of this species was awarded in 1929 to Dr. W. Hamilton; since that date the species has been bred on several occasions in the Adelaide Zoo, as recorded by Minchin in Cayley's *Australian Parrots* (p. 324). It is worthy of note that the incubation period is longer than that of the Australian Parrakeets, namely about twenty-six days, and that the young remain about eight weeks in the nest. It has often been observed that the male of a breeding pair of Lorikeets spends a great deal of time in the nest; it is, however, doubtful whether he actually participates in the process of incubation.

This species can be kept and even bred on a diet of seed alone, but there seems little doubt that the addition of fruit and bread and milk provides a more normal diet.

I possessed a pair of these birds for a short time in 1935, but parted with them as I found them rather aggressive towards the other inhabitants of a mixed aviary.

(52) RED-COLLARED LORIKEET (*Trichoglossus rubritorquis*)

Synonym.—Orange-naped Lorikeet.

Distribution.—The Kimberley district of north-western Australia and the Northern Territory. It has not been recorded farther east than Groote Eylandt and the McArthur River in the Gulf of Carpentaria and the vicinity of Birdum appears to be its approximate southern limit.

Description.—A large Lorikeet of approximately the same size as the preceding species and with a generally similar colour pattern. The upper parts generally are bright green and the head and face are streaky blue, of a paler shade than in the preceding bird. The breast and collar are orange red, the abdomen is purplish-black, and the thighs and subcaudals are greenish-yellow. There is also a patch of a purple shade below the red collar and some red flecking on the upper mantle.

The sexes can only be distinguished by the larger head and beak of the male and the immatures are only slightly duller than the adults but with brownish instead of orange beaks.

Variations.—No valid subspecies appears to exist.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 27) is good and that by Goodchild in Seth-Smith (p. 4) is even better. Cayley's plate in *The Emu* (vol. 28, p. 122) is quite adequate.

Field Notes.—I saw a couple of pairs of this species during a few hours spent in Darwin late in 1945. Its habits appear to be practically identical with those of the foregoing bird.

Aviary Notes.—Although previously a rare bird in captivity, a number have been brought down from the Northern Territory since the end of World War II and it is now comparatively common in the state. The medal of the A.S.S.A. was awarded in 1934 to S. Harvey; since then it has been bred in the Adelaide Zoo on several occasions since 1938 and also by R. Rowlands with great consistency. In Mr. Harvey's case the birds had been in his possession for over twelve years and had been fed exclusively on Canary and sunflower seeds. In 1933 they had a clutch of two eggs and hatched the young but did not succeed in rearing them. The following year the first egg was laid on 2nd September and the first young bird hatched on 27th of that month. The first of the two young birds left the nest on 28th November, both being successfully reared. The habits of this species in captivity appear to be identical with those of the Rainbow Lorikeet and, to my mind, there is little doubt that soft food is desirable, though obviously not essential. I have never kept the species myself.

(53) SCALY-BREASTED LORIKEET (*Trichoglossus chlorolepidotus*)

Synonym.—Gold and Green Lorikeet.

Distribution.—From the vicinity of Cairns, in northern Queensland, down through eastern Queensland into the north-eastern corner of New South Wales. Its southern limit does not appear to be recorded.

Description.—A medium-sized Lorikeet, the general body colour being bright green with a considerable amount of yellow flecking on the breast, abdomen, and upper mantle and with scarlet under wing coverts. There is very little difference between the sexes, the larger beak and flatter head of the male being the most reliable guide. Immatures are almost identical with adults as regards plumage but have a dark brownish beak as opposed to the orange of the adults.

Variations.—There do not appear to be any of note.

Coloured Plates.—The plate by Goodchild in Mathews (vol. vi, p. 33) is excellent, as also is that by Rutledge in Cassell's *Book of Birds* (p. 427).

Field Notes.—This species is by far the commonest Lorikeet in the vicinity of Brisbane. Whilst I was stationed there in 1943 it was observed breeding in the large eucalypts in the camp area. The birds were usually seen in pairs.

Aviary Notes.—Like the Rainbow Lorikeet, this species was imported in numbers from Queensland prior to the recent war, but very few have appeared in the bird shops in recent years; they used to be fed by the dealers on maize meal with a little sugar added.

This species was bred in 1935 by W. K. Penney, of Plympton, South Australia, and this success gained the medal of the A.S.S.A. The two young birds left the nest on 31st May and were reared to become independent of their parents. The species has also been bred

in the Adelaide Zoo on a single occasion, in 1946. I am unaware of any other breeding records for this state.

My personal experience of this bird is confined to a pair acquired in 1935; they were only kept for a few weeks on account of their aggressive behaviour towards the other occupants of a mixed collection. It appears to be another of the family that can be kept, in some instances, for long periods on an exclusive seed diet.

(54) VARIED LORIKEET (*Psittuteles versicolor*)

Synonym.—Red-capped Lorikeet.

Distribution.—Tropical northern Australia, which includes the Kimberley district of north-western Australia, the Northern Territory, and north Queensland on the western side of the Gulf of Carpentaria. In the Northern Territory it has been recorded as far south as Elliott.

Description.—A small Lorikeet, with red beak, streaky colouring, and an unusual patch of bare white skin around the eyes. The general colour is green, which is streaked with yellow on the underparts. The forehead and crown are red, the back of the head and sides of the neck are bluish-green, the cheek patches are yellowish-green and the breast is a peculiar reddish-purple colour with an odd streaked appearance. The male has the red crown of a deeper shade than the female and the purplish colouring on the breast is brighter. Immatures differ considerably from the adults in that all the colouring is duller and the markings less pronounced; also, the red cap is replaced by green with a little red flecking and a small frontal band of the same colour.

Variations.—There do not appear to be any of note.

Coloured Plates.—Goodchild's plate of a pair in Mathews (vol. vi, p. 38) is very good and the same artist's plate of an adult and an immature in AVICULTURAL MAGAZINE (July, 1903, p. 287) is equally good, but the reproduction of the same drawing in Seth-Smith (p. 255) is not as good as regards the colouration.

Field Notes.—I have not seen this species in its natural state but it is said not to differ in habits from those of the other small Lorikeets.

Aviary Notes.—My first meeting with this species in captivity was in the case of a pair kept prior to the last war by a lady whose husband had procured them from the Northern Territory. This pair of birds lived for several years in perfect condition on a diet of sweetened oatmeal and grapes; unfortunately, they were never given adequate nesting accommodation or they might well have bred, as I observed them perpetrating their amusing display on several occasions. Until recently, the breeding record at the Keston Foreign Bird Farm in 1936 reported in AVICULTURAL MAGAZINE (1936, pp. 192-3) appeared to be the only instance of the species having bred in captivity. Thanks

to the courtesy of Mr. L. C. Webber, of Sydney, I now have information regarding a recent Australian success. The owner of the birds is Mr. C. J. Lambert, of Horsley, an outer suburb of Sydney, and they had been in his possession for almost two years before going to nest in a small box 8 inches by 6 inches by 5 inches, with a short spout. Two white eggs were laid on 16th and 18th September, 1949, and were brooded by the hen only. The young hatched after an incubation period of twenty-two days and the first left the nest on 16th November; both were independent three weeks after leaving the nest. Both parents fed the young, the food provided being "Weetbix", milk, sugar, honey, apple, and thistle. It was noticed that one young bird had a black beak and the other a pinkish one; these proved to be a cock and hen respectively.

This species has never done very well at the Adelaide Zoo, although eggs were laid in 1948. I have never kept the species myself but other local aviculturists have had examples in recent years without so far persuading them to go to nest.

(55) MUSK LORIKEET (*Glossopsitta concinna*)

Synonym.—Erroneously called King Parrot.

Distribution.—From southern Queensland, through eastern New South Wales, and most of Victoria to southern South Australia, as far west as Eyre's Peninsula. Also found in Tasmania.

Description.—A medium-sized Lorikeet, the general body colouring being a bright green. The forehead and an elongated patch behind the eye are red, the crown of the head is blue, the mantle is a brownish-olive, and there is a yellow patch on the side of the breast. In the male the blue colouring on the crown is more pronounced, otherwise the sexes are very similar. Immatures are duller in their markings, especially the red areas, and the beak is dark all over, as opposed to the orange and black of the adult.

Variations.—None of any merit has been described.

Coloured Plates.—Goodchild's plate in Mathews (vol. vi, p. 46, lower fig.) is very good but that by the same artist in Seth-Smith (p. 18) is not quite up to his usual high standard.

Field Notes.—A very common bird in many parts of South Australia. Although usually seen feeding on flowering eucalypts, I have, on one occasion, seen the species feeding in vast numbers in ripening wheat crops. It is also said to be very destructive in orchards on occasions.

Aviary Notes.—Although such a common bird in the wild state, it is never very freely kept in captivity and it is undoubtedly one of the Lorikeets which will not often survive long on a diet of seed alone.

The medal of the A.S.S.A. for the first breeding of this species was awarded to Dr. W. Hamilton in 1930. In the Adelaide Zoo it was

first bred in 1941 and in several subsequent seasons in a hollow in an old, rotted tree stump.

(56) PURPLE-CROWNED LORIKEET (*Glossopsitta porphyrocephala*)

Synonym.—Porphyry-crowned Lorikeet.

Distribution.—Throughout most of Victoria and southern South Australia and westward to southern Western Australia, where it extends as far north as Moora. It appears to be very doubtful whether it occurs in New South Wales.

Description.—A small Lorikeet, mainly green on the upper parts and pale blue on the under surface. There is a broad frontal band which varies in shade from orange to red and the ear coverts are orange-yellow in colour. There is a large patch of dark purple on the crown, the under wing coverts are red and the mantle is olive. I have never been able to satisfy myself as to sexual differentiation, but Dr. W. Hamilton assures me that the ear coverts are more orange than yellow in the male. However, in each of two undoubted pairs that I have recently examined, the male has a much lighter coloured eye. Whether this is a constant character or not, remains to be proved. Immatures are duller generally and completely lack the purple cap.

Variations.—None of consequence described.

Coloured Plates.—The only coloured plate that I am aware of is an excellent one by Goodchild in Mathews (vol. vi, p. 46, upper fig.), but there is a very good black and white drawing by the same artist in AVICULTURAL MAGAZINE (January, 1913, p. 91).

Field Notes.—The commonest Lorikeet in most parts of South Australia and, strangely enough, the only member of the family found in the southern parts of Western Australia. It is easily recognized in the field by its small size, call note, and the red colouring under the wings.

Aviary Notes.—Although such a common wild bird, this species has seldom been kept successfully in captivity for any length of time, and soft food is undoubtedly essential for its well-being.

The A.S.S.A. medal for the breeding of this species has not been claimed as yet, but it was bred in 1936 by Mr. J. Gregg, of Croydon. I well remember taking an overseas dealer (L. Behrend) to see these birds, and he subsequently purchased the parents and the two young birds.

Dr. W. Hamilton had young of this species in the nest when he left for England in 1930, and he hand-reared them successfully aboard ship. Probably one of the several that he took to England on that occasion was still on exhibition in the Parrot House of the London Zoo when I visited it in 1940.

A pair of these birds laid two clutches of two eggs in 1949, in the

collection of Mr. R. W. McKechnie, but the eggs were unfortunately clear on each occasion.

(57) LITTLE LORIKEET (*Glossopsitta pusilla*)

Synonyms.—Tiny Lorikeet, Slit.

Distribution.—Eastern Australia, from Cairns in north Queensland, down through eastern Queensland and eastern New South Wales into Victoria and Tasmania. Rare in southern South Australia.

Description.—A small Lorikeet of a uniform bright green colour, with the exception of the mantle, which is olive, and the forehead and face, which are scarlet. The sexes do not differ markedly, but the olive mantle is possibly brighter in the male. Immatures are duller, especially as regards the red areas.

Variations.—There do not appear to be any.

Coloured Plates.—As with the last species, the only coloured plate in existence, apart from that in Gould, is the excellent one by Goodchild in Mathews (vol. vi, p. 46, middle fig.).

Field Notes.—My first meeting with this species in the field was near Seymour, Victoria, in 1942, when my attention was drawn to it by the difference between its call note and that of the Purple-crowned species, which was also plentiful in the same district. The absence of red under the wings is also a useful field identification. I subsequently saw what I took to be this species in the vicinity of Brisbane on several occasions, but could never be positive of the identification.

Aviary Notes.—This bird is very uncommon in captivity, even in the eastern states, and I know of only four examples having been kept in this state. In Mr. R. W. McKechnie's collection, shortly after World War II, a clutch of two eggs was laid, but the sitting hen was unfortunately killed by an unmated bird. Mr. N. K. Bush, of Peakhurst, a suburb of Sydney, has kindly supplied me with the following information regarding his successful breeding of this species. The birds were housed in a half-covered, planted aviary, 15 feet by 7 feet by 6 feet dimensions. The male bird had been hand-reared, and the female had been caught, as a young bird, two years previously. They were the only Parrots in the aviary, but there were also several pairs of mixed Finches housed therein. The nest was under cover, five feet from the ground, in a small box measuring 6 inches by 6 inches by 10 inches, with a small hollow log fixed on the front as an entrance. The box was filled to a depth of two inches with rotted wood, and the pair spent much time in the box before the hen eventually laid a clutch of four white eggs late in September, 1948, the exact date being unknown. Two young birds hatched on 19th October, all the incubation having been performed by the female, who was fed by the male; both birds were very spiteful at this time. Both young birds

left the nest about the middle of November, and were independent in two weeks. The food provided was "Weetbix", to which was added two teaspoonfuls of "Gold Medal" condensed milk for each one and a half biscuits; boiled water was then added to form a thin porridge. The hen apparently did all the feeding of the young birds, and it was subsequently noticed that the birds were eating a little canary seed. I understand that Mr. Bush was again successful in breeding these birds in 1949.

(58) BLUE-BROWED LORILET (*Oropsitta coxeni*)

Synonyms.—Red-faced Lorilet, Coxen's Fig Parrot.

Distribution.—North-eastern New South Wales and southern Queensland.

Description.—A short-tailed green Parrot, about the size of a Musk Lorikeet, with a large head and massive black beak, and with yellow patches on the sides of the breast and red tips to the innermost wing feathers, the latter two features being found in all species, apparently. In the male, the ear coverts are red, and there is some red speckling on the face, whilst the forehead and lower cheeks are blue. The female is said to have less red on the face and ear coverts, and the immatures are, as yet, undescribed.

Variations.—None.

Coloured Plates.—There is an excellent plate of an alleged pair by Goodchild in Mathews (vol. vi, p. 67, lower figs.) and an adequate one of a male by Cayley in *The Emu* (vol. 29, pl. 14).

Field Notes.—I do not think I have seen this species, although I sometimes wonder whether the birds I identified as Little Lorikeets in the Brisbane area might have been Fig Parrots. Very little has been recorded regarding this bird.

Aviary Notes.—There do not appear to be any records of this species ever having been kept in captivity.

(59) RED-BROWED LORILET (*Oropsitta leadbeateri*)

Synonyms.—Blue-faced Lorilet, Leadbeater's, McCoy's or Macleay's Fig Parrot.

Distribution.—North Queensland in the Cairns and Cardwell districts.

Description.—A small green Parrot, about the size of a Varied Lorikeet, with the typical short tail, bulky head, and large black beak. The other typical characteristics, the yellow patch on the side of the breast and red tip to the innermost wing feathers, are also evident. The adult male has a small red patch on the forehead and a large patch of the same colour on the side of the face, whilst around the eye and below the red cheek patch are areas of blue. The adult female

has the large red facial area replaced by blue. Immatures are said to be paler and duller than the adult female.

Variations.—None.

Coloured Plates.—There is a splendid plate of a pair by Goodchild in Mathews (vol. vi, p. 67, upper figs.) and a reasonably good one of a male by Cayley in *The Emu* (vol. 29, pl. 14).

Field Notes.—I have not seen this bird, but it seems to have been observed more frequently than the preceding species. It apparently keeps to the tops of fruit trees such as figs, and utters a feeble call only when in flight.

Aviary Notes.—Austin and Bourke in *The Emu*, vol. 46, p. 286, state that a bird of this species was kept in captivity in Cairns, Queensland. There does not appear to be any other record.

(60) MARSHALL'S LORILET (*Opopsitta marshalli*)

Distribution.—Cape York Peninsula, North Queensland, and possibly extending to the Aru Islands and Southern New Guinea.

Description.—A typical Fig Parrot, the distinctive marking being, in the male, a red forehead with a narrow yellow band behind it and red cheek patches with some blue below them. In the female the forehead is blue and the cheeks are of a buff shade with blue below them. The immature is like the female, but exhibits some red on the face.

Coloured Plate.—That by Medland in *The Emu* (vol. 46, pl. 1) portrays the male, female, and immature birds collected by Marshall.

Field Notes.—The reader is referred to Marshall's description of his discovery of the bird in *The Emu* (vol. 47, p. 50). Mayr points out (pp. 54-5) that the bird described as *aruensis* is probably identical. It is of interest to recall that McLennan shot what he believed to be a Fig Parrot on Cape York Peninsula in 1914, but the specimen was not recovered; it seems likely that it was this species.

Aviary Notes.—Obviously this bird has never been kept in captivity, although *aruensis* may have been. However, I recently possessed two females of the closely related species *diophthalma*, which is found in New Guinea. My birds survived for over eight months on a diet of sunflower seed and apple; I could not persuade them to eat any other seed, and I did not try them with any soft food. They were not very attractive aviary birds, being extremely dull and timid; however, Boosey, who recently acquired a male, has informed me that his bird is delightfully tame and has learnt to mimic other Parrots.

BRITISH AVICULTURISTS' CLUB

The twenty-fourth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 13th September, 1950, at 6 p.m., followed by a dinner.

Chairman : Miss P. Barclay-Smith.

Members of the Club : Major J. E. Adlard, Dr. M. Amsler, Miss K. Bonner, W. Brain, B. Chadwick, G. T. Clark, Mrs. G. T. Clark, T. Crewes, Dr. J. N. Day, B. H. Dulanty, A. Ezra (Patron), A. Fisher, J. F. M. Floyd, Mrs. W. O. Gilbert, H. J. Harman, Dr. W. C. Osman Hill, Dr. E. Hindle, E. Holt, Major E. F. Housden, G. T. Iles, H. J. Indge, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, A. F. Moody, G. S. Mottershead, H. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), R. C. J. Sawyer, D. Seth-Smith, Captain H. S. Stokes, E. N. T. Vane, G. S. Webb, R. C. Witting, Mrs. M. K. Woodford.

Guest of Honour : Sir Norman Kinnear.

Guests of the Club : L. M. Baker, Professor G. Pandazis.

Guests : Miss A. J. Avery, J. Bailey, I. N. A. Bennett, W. G. Birch, G. S. Cansdale, Mrs. G. S. Cansdale, Viscount Chaplin, Miss G. C. Day, Mrs. J. N. Day, H. Engert, J. O. Gilbert, Mrs. W. C. Osman Hill, Miss E. Kinnear, Miss S. Kinnear, J. A. Norris, Mrs. J. A. Norris, W. S. Pitt, Mrs. W. S. Pitt, Mrs. D. Seth-Smith, C. Southworth, T. N. T. Vane, Mrs. R. C. Witting.

Members of the Club, 37 ; guests, 25 ; total, 62.

The Chairman said that it had been the custom of the Club to entertain guests of honour from various countries on the Continent, and also from the United States, but to-night for the first time the guest of honour was a Scot. Sir Norman Kinnear had taken great interest in the Club since its inception, and the Hon. Secretary had had the happy idea of combining the appreciation of the Club for his support with their congratulations on the honour recently conferred upon him by His Majesty the King. The situation was a unique one, as till this moment the guest of honour was blissfully unconscious that he was occupying that position. Sir Norman was a man who liked to do a great deal of work, but disliked limelight of any sort ; it was therefore realized that if he were invited to attend a B.A.C. dinner as guest of honour he would find any number of excellent reasons and excuses why he was not able to do so. Mr. Prestwich had therefore had the brilliant idea of omitting to state the reason for the invitation, and for this, the Chairman added, she felt sure that members would agree, their Hon. Secretary could now claim to equal Mr. Webb in the art of trapping rare, shy, beautiful—and difficult—species. The Club was also glad to welcome Sir Norman's two daughters, Miss Sheila and Miss Elizabeth Kinnear. Another distinguished guest the Club

was honoured to have present was Professor Pandazis from Greece. Professor Pandazis was Professor of Zoology in the University of Athens, and Chairman of the Greek Section of the International Committee for Bird Preservation ; as this was his first visit to England, the Club was glad to be able to entertain him, and he was also their first visitor from Greece.

The Chairman said she was particularly pleased that Mr. L. M. Baker, of the Home Office, was also a guest to-night. Mr. Baker was the only man in the kingdom who understood the many and complicated bird protection laws, and in his capacity as Secretary of the Home Office Wild Birds Advisory Committee which was drafting the new bird protection law, the Avicultural Society would have good cause to be grateful to him. If the better preservation of birds was achieved without any harm coming to aviculture, this would no doubt be largely owing to the diplomatic but firm handling of the Committee by Mr. Baker.

The Chairman then gave the toast of the guest of honour, Sir Norman Kinnear.

Sir Norman Kinnear replied, saying how much he appreciated the honour paid to him by the Club, and added that if he had thought a little more deeply he would not have walked so easily into the trap prepared for him.

Professor Pandazis then thanked the Club for their hospitality, and expressed his great pleasure at being their guest.

A colour sound film of the Cedar Waxwing and American Robin, lent by the National Film Board of Canada, was then shown. The film showed the life history of these birds, from the eggs to the flight of the young birds from the nest, all in excellent quality photography.

Mr. Iles then showed his colour film of the Avicultural Society's visit to Clères and Paris in May. Most excellent shots of Clères and its birds, of the Paris Zoo, and of the various personalities, including in addition to the British members, Monsieur Delacour, Prince Paul Murat, Mrs. Benchley, Mademoiselle T. Elsen, and Monsieur Jean Pierre Derscheid, formed a most attractive, interesting, and entertaining film. In introducing his film Mr. Iles apologized for the quality, explaining that he was an amateur. In thanking him for showing the film the Chairman asked the members if they did not agree that the apology was superfluous, as the high quality of the film equalled that of any professional photographer. The prolonged and loud applause showed no doubt of the views of the audience.

The next meeting will be held on **8th November, 1950**, at 6 p.m.

ARTHUR A. PRESTWICH,
Hon. Secretary.

PERSONALIA

C. R. Podmore has recently fully reared two Pekin Robins. This is his fourth success with this species during the past ten years. The events have taken place in his heavily planted 50 feet by 20 feet aviary.

Don Martin, Auburn, according to the *Seattle Sunday Times*, has started a new industry—breeding Black Swans for the restaurant trade. The report says: "These game birds are valued in Australia for their tasty flesh. Deceived by the northern seasons, they lay twice a year. By 'stealing' a clutch for the brooder, Martin induces them to lay a third lot. His goal is 200 pair producing for restaurants catering to gourmets."

David West, Montebello, California, sends news of his Parrakeets: "The new U.N. war is to blame for the fact that I have been mobilized, and so have to leave home.

"I have had an excellent breeding season. Reared twenty-three young Scarlet-chested from three pairs. Also raised young Turquoisines (2), Bourkes (7), Princess Alexandras (4), Elegants (2), Blue Rosellas (10), Stanleys (2).

"The biggest disappointment were the Pileated which hatched three young and later deserted them.

"A friend of mine hatched Lineolated Parrakeets, but they later died when the parents were disturbed."

Captain A. Clarence writes: "My Red-faced Lovebird is herself sitting on a second clutch of, I believe, three eggs. The previous eggs, put under a Budgerigar, hatched three out of five. Two chicks were strong, but feathered very slowly in comparison with one baby Budgerigar, hatched from the only egg left (as I was so doubtful of the Lovebird eggs) that the Budgerigar was fully feathered and always blocking the entrance hole. The foster-parents suddenly stopped feeding them, and so they died. A pair of Touracous have a nest near by with eggs, and I believe the hen started sitting to-day, as she has been on the nest all day."

The appeal for donations to the Coloured Plate Fund has had some response.

The Council appreciates the action of a number of members who have sent donations.

The Society is still in need of additional finance to enable it to maintain the Magazine at its present high standard without reducing the size.

A. A. P.

ZOO NOTES

By C. S. WEBB

The period under review (7th July to 7th September) has seen a lot more interesting arrivals. Inevitably these will diminish from now onwards, not only on account of the approaching winter but because the Zoo has just about reached saturation point.

In the last five years there has been a great recovery from the effects of the war years, so that now the Zoo can boast of a better collection in many departments than ever before.

The following recent additions are of interest :—

A collection of waders was received in exchange from the Copenhagen Zoo, comprising Greenshanks, Redshanks, Common Sandpipers, 1 Spotted Redshank, 1 Green Sandpiper, Ruffs and Reeves, and 3 Iceland Gulls. Surprisingly enough the Zoo had never before exhibited a Greenshank. The Iceland Gulls bring our number of species of the *Laridæ* up to 8.

With the above arrived two Sun-bitterns (*Eurypyga helias*)—the first since the war. A few days later we acquired two more from Mr. K. Smith, who has recently returned from a collecting trip in British Guiana. These birds are always interesting to watch on account of their swaying movements and their displays with outspread wings. Few birds get more tame. One I possessed many years ago in British Guiana I used to put on a lawn early every morning and there it would roam around all day, making its peculiar soft cries and stalking insects—principally grasshoppers. In the evening I used to pick the bird up and put it in a shed. It was full-winged but never attempted to fly or wander away. Sun-bitterns are not related to the true Bitterns but belong to a group of aberrant waders—the Kagus, Courlans, and Mesites—which have some affinities with the Cranes.

Mr. Smith also brought us 2 Green-backed Herons (*Butorides striatus*). This tiny heron is of interest if only on account of its extraordinary distribution. It is scattered widely in South America, Africa, Australia, India, Ceylon, Malay, China, Japan, and many tropical islands, especially in the Far East. I have found it very plentiful in the reed-beds of Lake Alaotra, Madagascar. There are many geographical races, but all are now recognized as belonging to the same species. Other birds from Mr. Smith were 1 Tricolor Heron (*Hydranassa tricolor*), 1 Large-billed Hawk (*Asturina magnirostris*), and 1 White-throated Falcon (*Falco albigularis*). The latter is beautifully marked with black and chestnut and is not much larger than a Mistle Thrush.

From Ceylon Zoo we received by air 4 White-breasted Kingfishers (*Halcyon smyrnensis*) and 4 Indian Darters (*Anhinga melanogaster*). The latter have a curious way of submerging and often only their long snake-like necks can be seen moving along above the surface while

their bodies are out of sight. They can move under water faster than a Cormorant and catch their fish by spearing them.

Several interesting additions have been made to our birds of prey aviaries, including 1 Griffon Vulture, 5 White-backed Vultures, 1 Tawny Eagle, 1 Martial Hawk-eagle, and one Booted Eagle. A couple of Comb-ducks or Knob-billed Ducks (*Sarkidiornis melanotos*) arrived from West Africa and are the first for very many years. We had the good fortune to acquire the two species of Red-breasted Marsh-birds (*Leistes*) within a few days of each other. The Guiana or Cayenne Red-breasted Marshbird (*L. militaris*) we have often had in the past, but the other—the Argentine Red-breasted Marshbird (*L. superciliaris*)—is new to our collection. The latter can be easily identified by its prominent eye-stripe.

From East Africa we recently received six examples of the Vulturine Guinea-fowl (*Acryllium vulturinum*). Although these birds are bare-headed they are perhaps the most striking of the guinea-fowl—having plumage of a blue which is quite startling in its intensity. The breast feathers are long and pointed and are black with white pencilling in the centre and edged with blue.

Vulturine Guinea-fowl are inhabitants of the driest parts of East Africa and have suffered much of recent years through the locust campaigns. The locusts are blotted out with arsenical preparations and then the guinea-fowl devour the poisoned insects with fatal results to themselves.

A collection of eighty-six small birds was sent in exchange from the Pretoria Zoo. They all arrived alive. Some old favourites were among them, such as Violet-eared, Black-cheeked, Blue-breasted, and St. Helena Waxbills; Alario, Red-headed, Scaly-fronted, and Melba Finches; and Queen Whydahs.

Last but not least, we have now got a pair of Toco Toucans, which most people consider to be the most spectacular of the *Ramphastidae*. The most striking feature in this species is the very large orange-coloured bill tipped with black.

* * *

CORRESPONDENCE

TWITE × CAPE CANARY HYBRID

I have a collection of some thirty pair of foreign Finches, etc., including two pair of British. Each summer I manage to breed a few foreigners, as my aviary is well planted out. However, this season, not having much luck with the foreign Finches, I managed to breed a rather unusual hybrid, a Cape Canary (hen) × Twite (cock), and I have reared three birds from this mating; they are a month old. I believe this hybrid has not been attempted or bred before. Hoping this may be of some interest.

T. ELEEN.

29 DESBOROUGH CRESCENT,
WEST DERBY, LIVERPOOL 12.

AVICULTURE AND ORNITHOLOGY

With reference to the current controversy Ornithology *v.* Aviculture in these columns, may I be allowed to express my views.

Since an early age I have been a keen lover of birds both in the field and in captivity and have kept a large number of both English and foreign species, including Pheasants, which are my particular interest. Since the war unfortunately I have been unable to keep anything due to lack of suitable accommodation, but as my recent efforts with the Pheasant Registry show, I am still a very enthusiastic aviculturist and hope I may take up the hobby again in the near future. But, as I have stated above, I am also a lover of birds in the wild, and so my odd moments are taken up (and were before the war) by expeditions into the surrounding countryside where I can study these creatures in their natural state. Until a few months ago I was secretary to our local Ornithologists' Club, but was forced to give it up due to pressure of work in other spheres, which was a great disappointment. Some of your correspondents may now say "Ah! but this person must be of private means and have all the time in the world to devote to these two pursuits". Worse luck, I am not, and have to put in the usual $5\frac{1}{2}$ day working week and also do my share of the chores at home (yes, I am a family man!), but I can always find time to stay a moment to study a bird in its haunts and gain a fragment of knowledge. All this previous experience has helped me as follows:—

(a) *The keeping of British birds in captivity* has enabled me as an ornithologist to identify most species found in this locality (over 120 have been recorded in recent years) by their song alone and many by their flight or similar characteristics. Should I ever travel abroad, in the Services for instance, the same would apply, plus, of course, a knowledge of the plumage, etc., seen at close quarters, to assist me.

(b) *The study of birds in the field* has provided me with those details of feeding, courtships, nesting sites, and a great wealth of other information which are of help to me as an aviculturist in tending my charges. This again could apply as in (a) should I go abroad.

I therefore have no hesitation in supporting the Editor in stating that aviculture and ornithology can and should go hand in hand. A true lover of birds, no matter what his special fancy, should find interest in all birds. I do.

Further, I would ask this, where does the aviculturist first obtain details of keeping and breeding his birds? From books, or from an experienced fancier who, in turn, obtained his information from books. And the authors of these books, whence came their information? Either they acquired it in the field or from scraps of news in various books and journals, so if it were possible to trace the history of data concerning any one family I think it would be found that the ornithologist first gave details of, for instance, the natural foods (perhaps the major concern of the aviculturist when making up a substitute), also nesting sites, etc., all of prime importance to the serious breeder. Surely then the aviculturist can return the compliment by giving particulars, still unrecorded in the various monographs, of the life of his birds in captivity. M. Delacour has stressed this point in regard to Pheasants.

With regard to "splinter" societies, they come and they go! People these days cannot afford subscriptions to various specialist societies and so one or the other must lose membership. It is a case of "United we stand . . ." and the Avicultural Society caters for all, so it is up to the members themselves to provide the material wanted and not rely on the same familiar names which yearly do their best to keep the magazine full of interest. I might mention that certain weekly periodicals are always giving details of sizes of aviaries and inmates in an aviary, to help the amateur; whilst we do not want to be a scientific society in the true sense of the word let us keep the slightly higher plane that has been such a good feature in the past. I should perhaps state that this is not meant to be snobbery but a plea to give a higher grade of information and experiences than is found in such periodicals.

GEORGE A. J. WEAVER.

77 OFFMORE ROAD,
KIDDERMINSTER,
WORCS.

CANDIDATES FOR ELECTION

- H. J. DARMAN, F.Z.S., F.R.H.S., 44 Fraser Road, Walthamstow, London, E. 17.
Proposed by A. A. Prestwich.
- R. E. EVANS, M.B., Ch.B., 27 Hillhouse Street, Balornock, Glasgow, N. Proposed by
A. A. Prestwich.
- H. J. van HEYST, "Amstelwyk," Wyk by Duurstede, Holland. Proposed by
A. F. C. A. van Heyst.
- Mrs. J. A. SWAN, Hazel Mere, Rectory Lane, Sidcup, Kent. Proposed by A. A.
Prestwich.

NEW MEMBERS

The fifteen Candidates for Election, proposed in the July-August number of the
Avicultural Magazine, were duly elected members of the Society.

READMITTED

- F. W. AUBURN, F.Z.S., Willow Creek, Arkley Lane, Arkley, Herts.
- The Right Hon. The VISCOUNT CHAPLIN, 23 Chelsea Square, London, S.W. 3.
- N. NICHOLSON, Edenvale, 16 Weardale Place, Stockton-on-Tees.

CHANGES OF ADDRESS

- Major J. E. ADLARD, to 8 Princes Street, Westminster, S.W. 1.
- Miss E. F. CHAWNER, to Leckford Abbas, Stockbridge, Hants.
- JOHN W. LIVERMORE, to 135 East 54th Street, Apt. 11B, N.Y. City, U.S.A.
- J. H. NOORDZIJ, to Burg. Visserpark 13, Alphen a/d Rijn, Holland.
- E. N. T. VANE, to Fairacre, Chiltern Road, Ballinger, Gt. Missenden, Bucks.

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(COLOURED PLATE FUND)

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c/o Zoological Society of London, Regent's Park, London, N.W. 8, from whom all
particulars can be obtained.

COLOURED PLATES

Surplus copies of coloured plates that have appeared in the *Avicultural Magazine*,
suitable for framing. About eighty different plates are available. Price 1s. each,
postage on any number 3d. extra. Apply to the Hon. Secretary.

Practical Hints on the Keeping and Breeding of Gouldian Finches,
by P. W. Teague, 1s. 1d.—To be obtained from Stephen Austin & Sons,
Ltd., Fore Street, Herts.

MEMBERS' ADVERTISEMENTS

The charge for Members' advertisements is ONE PENNY PER WORD. Payment must accompany the advertisement, which must be sent on or before the 15th of the month, to A. A. PRESTWICH, CHELMSFORD ROAD, SOUTHGATE, N. 14. All members of the Society are entitled to use this column, but the Council reserves the right to refuse any advertisements they consider unsuitable.

WANTED

L'Oiseau, 1934-1941, bound or unbound.—Offers to HON. SECRETARY.

Ornamental Pheasants in pairs, must be rare. Rare Geese in pairs.—A. FRED STURGIS, 740 Sansom Street, Philadelphia 6, Pa., U.S.A.

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FOR SALE

Avicultural Magazine, bound volumes, 1896, 1898, and 1899, £1 10s. each.—Apply, HON. SECRETARY.

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AVICULTURAL SOCIETY OF AMERICA

The objects of the Society are to encourage the study, care, and breeding of foreign aviary birds, particularly of those species which may be threatened with extinction; and the dissemination to the members of the knowledge so acquired, through the publication of a magazine devoted solely to the interests of lovers and breeders of foreign cage and aviary birds.

The annual dues of the Society, which include subscription to the magazine, are \$3.50 per year (foreign dues \$3.75 or £1 7s.), payable in advance. There is no entrance fee, and as the Society is not conducted for profit, all officers and contributors to the magazine donate their services.

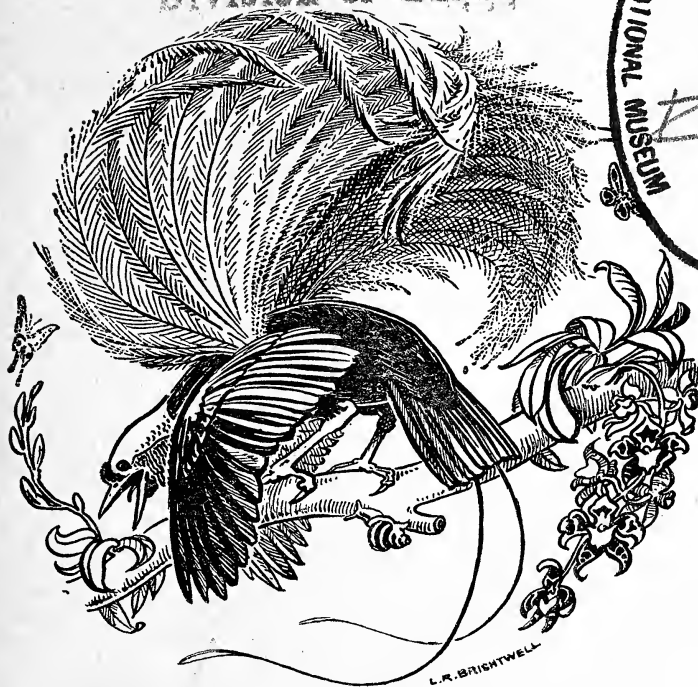
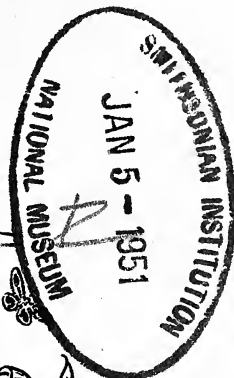
The Society year begins 1st January, but new members may join at any time.

Correspondence regarding membership should be directed to the Secretary-Treasurer, Mrs. Milton Erlanger, 117 E. 64th Street, New York City, N.Y., U.S.A.

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AVICULTURAL MAGAZINE

Division of Birds



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THE AVICULTURAL SOCIETY

Founded 1894

PRESIDENT : A. EZRA, Esq., O.B.E.

MEMBERSHIP SUBSCRIPTION is £1 per annum, due on 1st January each year, and payable in advance. Life Membership, £15.

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51 Warwick Avenue,

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London, W. 9.

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POST-MORTEM EXAMINATIONS

- RULE 1.** A short account of the illness should accompany the specimen. All birds to be sent as fresh as possible to Mr. W. Lawrence, The Zoological Society of London, Regent's Park, London, N.W. 8.
- RULE 2.** A fee of 10s. and a stamped addressed envelope must be enclosed with the bird.
- RULE 3.** No body or skin of any bird will be returned under any circumstances whatever.



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[Belle Vue Zoo.

ONE OF THE HUMMING BIRDS ON THE WING IN THE JEWEL HALL,
BELLE VUE ZOOLOGICAL GARDENS

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
AVICULTURAL SOCIETY

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NOVEMBER—DECEMBER, 1950

THE BIRD COLLECTION AT THE ZOOLOGICAL GARDENS, BELLE VUE, MANCHESTER

By GERALD T. ILES

The last reference in the AVICULTURAL MAGAZINE to the birds at the Manchester Zoo appeared thirty years ago, when Dr. Graham Renshaw contributed an article. Although the general zoological collection is one of the most important in the country, the bird section is not as large as I would wish, and this is probably due to the fact that a separate bird house has never existed. I look forward to the day when building restrictions are lifted and it is possible to construct a separate house for the smaller birds, as well as new flight aviaries, crane paddocks, and other necessary features.

The most recent addition to the bird section is the "Hall of Living Jewels", which is situated in the Paddock House, and is screened off to form a separate feature. Opened early in 1949, this exhibit contains eleven cages of varying size and it was designed to house Humming Birds, Sun Birds, and other small birds of brilliant plumage. When we opened the Jewel Hall we were quite unable to obtain Hummers, possessed only a few Sun Birds, and so had to fill up with other attractive small birds such as Long-tailed Grass Finches, Violet-eared Waxbills, and Whydahs.

The show cages are glass-fronted and are lined with cream-coloured plastic. Above each show cage is a smaller cage of wire-netting which is not seen by the public. In order to clean the former the glass tops are pulled back on a slide and the birds can then fly into the smaller cages above. Artificial lighting was used almost exclusively at first and the birds thrived quite well—one pair of Spice Birds were left in their cage for the whole period of twenty months that the Jewel Hall has been in operation and they still looked in splendid condition at the end of this time.

We are now gradually changing over to daylight, as the birds will look even better under natural light, and plants—which are an important part of the exhibit—will also thrive all the better. I think I should

mention here that of course only the bird cages are illuminated, the public hall being in darkness.

On 11th August last I went to Liverpool to meet Mr. Kenneth Smith, who had arrived from British Guiana with a miscellaneous collection of livestock. On the quayside I noticed a packing case containing five Humming Birds. As nobody appeared to want them I bought the lot and hiring a taxi conveyed my prizes to Manchester.

For the first six weeks I kept the Hummers in my office in order that I could improve their condition (not that they were in bad condition on arrival—far from it), and also so that I could study the birds at close quarters. There were frequent fights, and I often became alarmed when two of the birds would crash together in mid-air. Fortunately no serious harm was done, but I decided that it would be best to split up the birds at the earliest possible moment.

During the period in which they were kept in my office I often heard their song which consisted of a high-pitched warbling note. I also observed that whenever I put my hand inside the cage to change the food or flowers they uttered a quick “chip-chip-chip” sound during flight.

The cage in which the Hummers had travelled was a converted packing-case having the front covered with fine-mesh netting. The door was small and very inconveniently placed for catching up the birds, and since I wanted to avoid using a net, I had a special trap cage made and fitted this on to the front of the case, turning back part of the netting to allow the birds to fly in and out as they wished. In this way I could easily isolate the particular birds that I wanted to transfer to new quarters.

Unfortunately one bird quickly wilted and died after removal. I was extremely busy at the time and was therefore unable to carry out a post-mortem until it was too late, but I believe that the casualty was a hen.

At first I was not certain about the identity of the Hummers, but with the help of Mr. C. S. Webb I am now almost sure that they are *Agyrtria whitelyi*, pictured in a coloured plate in Chubb's *The Birds of British Guiana*. They are not among the most colourful of the Humming Birds, but nevertheless they are very beautiful. I believe that I have both sexes, for two individuals are more brilliant than the other two, which are possibly a hen and an immature cock. The cocks have the head and mantle metallic emerald green, which contrasts with the pure white chin, breast, and abdomen. The back is bronze-green and the wings and tail are brown. The hen is similar to the cock, except that she has fewer metallic green feathers, while the underparts are off-white. I have also noticed one of the cocks erecting the metallic green feathers on the crown of the head into a miniature crest.

I still retain a keen interest in the Humming Birds and give them as much of my time as possible. I always spend an hour with them each

night when I give them their last feed of the day. I consider this late feeding to be of extreme importance to their well-being. In order to allow the birds sufficient time in which to take their last feed the lighting system has been arranged on a time switch which cuts out at about 10.30 p.m., and restores the light at 6.30 a.m. the next morning.

I suppose that everyone who keeps Humming Birds has their own pet theory on the question of feeding. Readers may be interested in the method adopted with our birds, which so far has appeared to be entirely satisfactory.

They are fed three times each day, early morning, noon, and as I have already mentioned, last thing at night. Kenneth Smith informed me that the birds had been fed with Mellin's Food and honey on the voyage home, so I decided to offer them a choice of two mixtures during the day and one at night. The day mixtures are as follows: No. 1, one level teaspoonful each of Mellin's Food, Nestle's milk, honey, and glucose, with the addition of either a little Bovril or Marmite (the amount equal to the head of a match), these ingredients mixed with a cupful of boiling water. Mixture No. 2 is similar to No. 1 with the exception of the Nestle's milk. At night only mixture No. 2 is given. In addition to the above the birds consume quantities of drosophila (fruit flies) which they take on the wing. To watch a Hummer open its bill to engulf a fly is a wonderful experience and not a little startling in the first instance.

I give the birds a bath at least once every day by directing a very fine spray of tepid water on to a convenient twig, and the Hummers will fly into this artificial "rain" and show every sign of thoroughly enjoying themselves. One bird will now perch 3 inches away from me and will remain in the "beam" of the spray until almost completely drenched, after which it will fly away and rub against the plush-like leaves of Jacobinia. Plants and flowers are changed regularly, and it is absolutely enchanting to watch one of the Humming Birds hovering around the flowers of a begonia or a fuchsia.

I am expecting to obtain more Humming Birds in the near future, and I shall not be content until I have as many of these delightful little birds as our accommodation will permit.

We have a cock Superb Sun Bird in the Jewel Hall which has been on almost constant exhibition for the period that the house has been open, but he will not be seen to advantage until the present artificial illumination over his cage has been replaced by daylight.

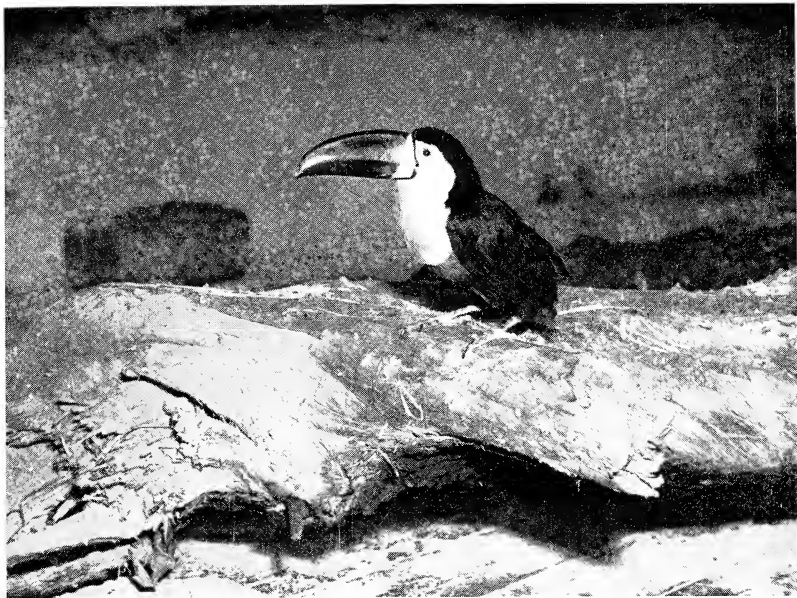
At the back of the exhibition cages we have a hen Scarlet-chested Sun Bird which our Bird Overseer, Mr. A. Martin, presented to the Zoo when he joined the staff in 1946. This bird has been in captivity for eighteen years and is still in perfect feather. She is very tame and her great delight each night is to be fed with mealworms. The Sulphur-breasted Tyrant-bird in the next cage neatly decapitates a

mealworm and Sheila the Sun Bird removes the contents with the aid of her tongue, often perching on my finger to do so. The way in which this bird watches my every movement and chirrups until her turn arrives is most engaging. Sun and Humming Birds are among the most attractive and interesting birds it is possible to keep.

During this night feeding I have been amused by a Red-billed Toucan which watches the feeding of the Hummers, Sun Birds, and my pet Kinkajou with every sign of annoyance. He does everything except stand on his head to attract my attention, making a continuous "whining" noise all the while. This bird is recuperating from a damaged wing. It happened in this way—I have a pair of Great Ant-eaters in a large cage and I thought that a Toucan would mix in very well. A Sulphur and White-breasted Toucan was introduced, and except for a little fright on the part of the Ant-eaters when the bird first flapped its wings the three settled down splendidly. After several months together I would say that the Toucan is well prepared to stand up to the Ant-eaters if necessary, and when he plays on the great logs which lie on the floor of the cage he will snap his beak angrily if either of the mammals approach too closely. The success of this venture made me decide to try the Red-billed Toucan in the same cage as well, but the Ant-eaters would have none of him and pounced upon him immediately he was introduced into their cage, resulting in the slight damage to the wing.

The parrots form the largest single group of birds in the collection and are mostly housed in the old Parrot House, which was built, I believe, almost one hundred years ago. The old and original octagonal side cages are soon to be replaced with larger and more modern cages to house the African Greys, Amazons, and some of the Cockatoos. In the Amazon Parrots the Blue-fronts easily predominate, but we also have the Green-cheeked, Yellow-fronted, Red-fronted, and Festive. The Cockatoos include Leadbeater's, Greater and Lesser Sulphur-crested, Ducorp's, and the Roseate. The Parrakeets include the Alexandrine, Ring-necked, and Red-rumped. A cock Ring-necked Parrakeet was presented to us in December, 1943, and was placed in the large flight aviary in the Parrot House. The bird appeared normal in every way at first, but in the summer of 1947 it moulted out with a sprinkling of pure yellow feathers. Successive moults have increased the number of yellow feathers in the bird's plumage, so that to-day it is almost a pure lutino.

Other birds in the parrot group are a Yellow-backed Lory and what I believe is a hybrid between Swainson's and the Red-collared Lorikeet. In the Parrot House we also have various other birds as well as a few mammals. A Laughing Kingfisher, or Kookaburra, arrived in 1921 and is still in excellent voice, although I do not think that it laughs so frequently as it used to do. On viewing present world affairs this is not,



THE SULPHUR AND WHITE-BREASTED TOUCAN
(*Rhamphastos vitellinus*) perched on one of the logs in the cage which
it shares with a pair of Great-Anteaters



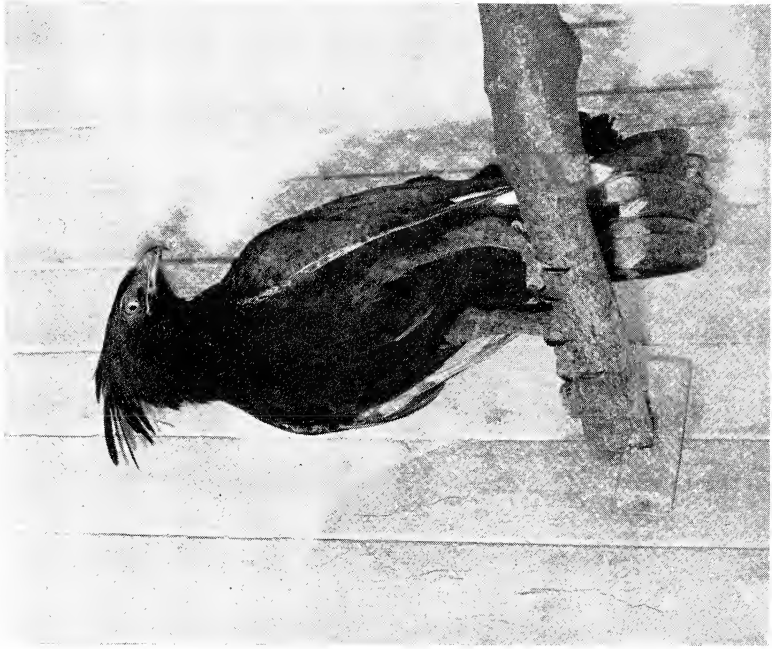
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[Belle Vue Zoo.

Foreground—RED-BREASTED GEESE, PELICANS, CRESTED CURASSOW,
AND BLACK-FOOTED PENGUINS

Background—THE BIRDS-OF-PREY CAGES

To face p. 236.



[Belle Vue Zoo.

LONG-CRESTED HAWK-EAGLE
(*Lophäëtus occipitalis*)



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BATELEUR EAGLE DISPLAYING

perhaps, surprising. I have already told how I found that kingfishers like grapes—a fact which I discovered quite by accident, and which I have not noticed as being mentioned in any reference works on these birds.

Another bird of interest in this house is the cinnamon variety of the common Jackdaw. This has been in the collection for the past eight years.

The birds of prey are chiefly housed in a row of cages on the outside of the Camel and Giraffe House. Here are fine pairs of the Nubian or Northern Lappet-faced Vulture and Ruppell's Griffon Vulture. The Bateleur Eagle arrived from Kenya as an immature specimen and it always greets me when I pass the cage by displaying in the manner shown in the accompanying plate. Also in these cages are an Abyssinian Tawny Eagle, a Long-crested Hawk Eagle (the only specimen I have ever seen of this magnificent bird), an Augur Buzzard, a Red-Kite, and a pair of Kestrels.

Owls include a Milky Eagle-Owl, a pair of White-faced Scops Owls, and a Woodford's Owl. I must also mention a pair of Tawny Owls which we received as fledgelings in 1949. Having no room to exhibit these birds I decided to release them in the Zoo grounds, and this was done in August, 1949. The birds stayed close to the spot where they were released and for some time the staff fed them each day. Gradually the owls fended for themselves, but they have remained tame, and when I wander through the grounds at night I often approach to within a yard or so of where they are perching without causing them the slightest alarm.

Other birds of note are the Black-footed or Jackass Penguins, which share an enclosure with two White Pelicans, a pair of Red-breasted Geese, and a Crested Curassow which is delightfully tame, and sometimes leaves its own enclosure to forage in an adjoining paddock containing a trio of Sitatunga. Another enclosure contains Peafowl, Demoiselle and Grey-necked Crowned Cranes, a pair of Crested Curassows, and a Red-legged Partridge which surprisingly was picked up in Smithfield Market in the centre of Manchester.

A circular island near the Peafowl enclosure is the home of a number of Flamingoes, together with various ornamental duck, including the Mandarin, Carolina, Pintail, and Bahama Pintail.

I have not by any means dealt with all the birds in our collection, to do so would be to make this article seem even more like a catalogue than it does at present, but I have contented myself with mentioning those which I hope will interest the majority of readers.

BREEDING NOTES FOR 1950

By THE DUKE OF BEDFORD

When moving the remnants of my Parrakeet collection from Haywards Heath to Woburn, I decided to leave some of the more delicate and valuable birds temporarily in the care of a friend in the hope that he might be able to increase the stock during the summer of 1950.

At Woburn, therefore, I have had little but rather familiar birds, which I and others have bred on several occasions. Bearing in mind the fact that a few choice pairs were handicapped by great age and increasing infertility, the breeding results have been quite fair.

A nice pair of Brown's Parrakeets started to come into breeding condition in March. In April they became afflicted with the uncertainty common in their species as to the time to be selected for moulting, but fortunately in May the right decision was finally arrived at, and the hen laid seven eggs in a hanging nest-box in the flight, and hatched and reared five nice young ones, two cocks and three hens. For a time they toyed with the idea of a second brood, but finally dropped into moult.

The only other pair of typical Broadtails—Barnards, hung about for some time, possibly by reason of the beastly weather. Finally the hen laid six eggs in a grandfather clock box, and hatched and reared three young ones—two cocks and a hen. There was no second nest.

A couple of Little Bluebonnets unfortunately turned out to be two hens, and of course were madly anxious to breed, from March to July! They both made proposals of marriage to me, but, strange to say, displayed no jealousy of one another!

A very old pair of Pileated Parrakeets I had received long before the war. After the habit of ancient birds, the hen laid a small clutch very late in the year, after her mate had begun to moult. She then fell ill and died.

Two out of three pairs of Rock Peplar Parrakeets bred successfully, as recorded in another article.

A pair of Barrabands laid only two eggs, and hatched and reared a young cock.

A pair of Crimson-wings had four eggs and reared the two young hatched. They were the first non-rickety Crimson-wings I have ever reared. Although conditions were identical, and more than one pair was involved, all the Crimson-wings I bred at Binstead, Havant, and Haywards Heath left the nest rickety, although they improved after a time.

Many cock Crimson-wings are the worst of husbands, and the idlest of fathers. My present cock, by comparison, is quite

domesticated. It is true that he responded to his wife's first requests that he should feed her, with a volley of oaths, but anything less would have been unnatural in a male of his species. When she started to sit, he relented, and fed her quite regularly and even, for her entertainment, chewed up bits of grass and walked as though he were the worse for drink—which is the Crimson-wing's method of display! Even more surprising, he helped to feed the children when they left the nest. Perhaps it was this unusually happy home atmosphere that warded off rickets!

A pair of Green-winged Kings made heroic but unavailing efforts to produce a family. They are very old birds, the hen having been many years at the Zoo. She laid three clutches of eggs, but all were infertile or got cracked, either because the shells were thin, or because the cock spent a lot of time in the nest hoping that a family would appear.

The Derbyans are also a very old pair, the cock having spent many years in a Zoo parrot cage. The hen laid and incubated two clutches, but the eggs were clear.

A pair of blue Indian Ringnecks were received in the early winter through the kindness of Mr. Ezra. The cock was adult, but the hen only a last year's bird. The cock came into breeding condition, and the hen tried to, but, by reason of her youth, could not quite "make it"! They are the same pretty, soft shade as a blue Alexandrine, and the cock has the same white ring, the black "moustachial" markings being retained. The pair are decidedly timid and do not seem to have been kept long in captivity in India.

A very old albino Roseate Cockatoo, mated to her grey son, failed to lay; I think she is past breeding.

The grey hen mated to the above cock's brother, though she bred last year, disgraced herself this season by breaking all her eggs in the log or laying them from the perch.

An ordinary grey hen I mated to a cock from the Zoo. This old fellow had spent so many years walking up and down a perch in a Parrot cage, and saying, "Hullo cocky!" that at first he seemed rather bewildered to find himself sharing a spacious aviary with an agreeable lady of his species. However, he was a family man at heart. The appearance of a nest delighted him beyond measure, and he took to it at once. I cannot positively state that he laid the eggs, but he certainly appeared to do everything else—all the preparation of the nest, all the sitting, and all the feeding of the two young! The only duty his wife appeared to consider that she was called upon to perform was to help the children with their toilet when they were fledged!

A pair of Gang-gang Cockatoos also went to nest. Before marriage each was a gentle and affectionate pet. After embarking upon

matrimony the pair became confirmed man-eaters, and one entered the aviary, if not at the risk of one's life, at any rate at the risk of losing one's ears and nose ! It is curious how marriage spoils the tempers of some Parrot-like birds, and not others. Tame Roseates usually remain friendly with humans, and so do some tame hen Grey Parrots. Amazons, on the contrary, and many cock Greys become absolute devils, and attack their owners at sight. Two very nice young Gang-gangs have just left the nest. The hen is slightly darker than her mother. The cock's head is mainly red, but he has some grey on the cheeks. The first day out of the nest the young birds were clumsy and got stuck on the wire or fell to the ground. Using my fingers as a bait, I lured the parents into the shelter and shut them in. Their rage at finding me in the aviary flight was terrific, and their language awful ! I fixed up a lot of extra branches, and coaxing the youngsters on to a stick, I transferred them to a comfortable perch, a procedure they accepted sensibly enough. The family reunion was rather pretty, the anxious parents greeting their offspring with little, gentle cries of affection and relief.

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BREEDING NOBLE MACAWS IN CALIFORNIA

By G. RAYSON BROWN

I have read with great interest the article in the AVICULTURAL MAGAZINE, carried in its January-February, 1950, issue, regarding Noble Macaws and find my observations to be quite in accordance therewith generally.

I secured a pair of Noble Macaws about September, 1949, from an old couple that used to allow them to breed, but due to illness in the family and the extreme old age of the owners, they were not permitted to breed for a season or two ; in fact they were quite pets of this old couple and were taught to talk and were very good talkers while with them. I have not, however, insisted on keeping them talking as I was more interested in the possibilities of rearing some young.

The original habitat of these birds I know not, nor have I been able to find any authentic data on them, but as I mentioned above I have had them but a short time and I am now searching for texts that may enlighten me on their origin. But books on parrots are quite as scarce as some of the parrots themselves ; however, I shall continue my quest hoping to locate something that will enlighten me on their derivation.

I released these birds into their pen on 1st September or thereabouts and a nest box was in place at that time. They made themselves quite at home but did not act as though the nest box was there and did not,

to my knowledge, enter it until in December when they became very interested and the hen would be seen in and out of the nest until New Year's day she disappeared to take over the task of hatching the eggs. She would be seen from time to time out of the nest but for just a few fleeting glances and she would be back in the nest out of sight. I did not seek the progress of the incubation as I was too glad to have her sitting to take a chance on breaking her up from her task. Thus I do not know actually when she started to sit in earnest nor do I know exactly when the young hatched, but it was on the 5th February that I first heard the young and on 17th March the first young left the nest, fully feathered and very able to move about to suit himself. There was still one young in the nest and the old birds faithfully cared for it and I was very anxious about its condition as they continued to feed it and it would call regularly for its food, but did not appear at the nest opening as did the first one ; so after an additional four weeks of suspense I opened the nest and took the young one out. To all intents and purposes it seemed quite normal and I am at a loss to know why it was so slow in developing, except possibly it may have been the victim of an inferiority complex and backward. The other young may have been the more aggressive and therefore ate most of the food offered and thus caused the retarded development.

It was very weak of foot and wing when removed from the nest but it was very plump and I well understand why it would be weak in foot and wing after being confined for so long. The second one was taken from the nest on the 12th April and during ten days it grew very strong of foot. I placed a few bare boughs in the pen so it has to climb over them and it has a very strong grip in its feet and it is now trying to fly and is doing a very good job of it too.

The colouring of my birds is noticeably different in the two sexes. The male is a shade darker than the hen and also the iris of the male's eye is darker than that of the female, otherwise they are the green and blue as mentioned in the Magazine but with a decided golden bronze sheen on the general green colouring. But I too wish to mention that the colouring of the feet and mandibles of mine are at a variance with the Magazine report, but the colouring of those parts often vary with birds from short distance separation of habitat. The colouring of the feet and mandibles in my birds is a walnut brown or sort of a reddish brown and the little birds' feet and mandibles quite a lot darker than their parents though the one that has been out of the nest the longer will soon have the same colouring as the parents.

When this pair are resting on the perch they do so many motions in unison as if they had been trained so to do upon a certain cue. They will turn their heads left or right and start to preen their feathers, pick their toes, scratch the heads with their feet and in this mimicry they utter a guttural note at the first move made, in fact the sound

seems to set off the act. It is very amusing to see them sitting quietly, then all of a sudden they will make the little sound, both will turn their heads to one side or the other and maybe lift a wing and act as if to be arranging some of the underwing feathers. But it is just a mimic for no sooner do they lift their wing in the act than they bring their heads back to the front and start from the same position and make the same little sound and lift their right or left foot and start to pick their toes. They say that the Blue Mt. Lorikeets are the monkeys of the bird family but these Noble Macaws have certain acts that certainly appear as though they were trained so to do. I have the Lorikeets and they are very interesting but their antics are entirely of a different trend.

Upon receipt of these birds they were very tame ; they could be handled and would come to one readily but after the nesting started they reverted to a more protective nature. In fact they are at this time very vicious, especially in the late evening shadows, for at that time they will fly right at my head and hang on the wire snapping their mandibles and I know they mean business for on one occasion I entered the pen near the end of day and the hen attacked me and punctured my arm in several places. The occurrence reminded me of handling bees in cold weather when they cling so tenaciously that when you try to brush them off they just transfer to your hand ; and so it was the Macaw hen as when I tried to remove her from my arm she would grab my hand and by the time I freed myself I had been bitten many times (no parrot fever yet from the wounds, ha ha), and I am now waiting to see if they will be the same mild mannered birds that I remember them at the outset.

In my observations since the little ones have left the nest I have been very much impressed with the behaviour of the male. So often the male seems to fight the young after they are able to leave the nest but in the case of my Noble Macaws the male seems to give the hen the most trouble and never has he molested the young. I might also mention at this juncture that the male bird did all the feeding of the young after they left the nest and after this late period he still feeds the little one which is still partly incapacitated and has treated both young kindly. He will get in a terrific battle with the hen so it seems but she is well able to defend herself and thus far no feathers have flown so just how much of a battle had taken place one does not know but it is sure that they do a lot of squawking and flopping around. As they were starting to nest I noticed too that the male bird was rather pugnacious towards the hen but that subsided as the nesting began and it may be that they are a double brooded type of bird and they are getting ready to mate again, though there is nothing else to point towards another mating at this late date. The hen has no abdomen of a bird ready to mate nor does she feed as though she were wanting

to nest again but all the signs I have observed in this short time could go for naught and I be made out a prevaricator, but time will decide it all.

Time, as I mentioned above, has been short since I possessed these birds, but I have observed one trait peculiar thus far to the male only and I will report the act for what it may be worth. The male will stretch his neck forward contacting the perch with the upper portion of his mandible at the very tip and then draw his head in to his body as if to scribe a straight line on the perch. But as his head gets back to its normal position in front of him, instead of raising his head and straightening up he will strike the perch with the back of his upper mandible several times as if to jar his brains loose and as he strikes with the back of his upper mandible his head is well under his body and one might describe him as having his head between his legs but the head during this knocking act is not that far beneath him. He may repeat the act three or four times in rapid succession and there is as far as I can see no certain time nor reason for the act and thus far I have not seen the hen do this. You will recall how the red and blue Rosella will approach the nest opening and place their mandible against the nest box as if to see if any vibration exists, well this act of the Noble Macaw male is executed with the same area of the upper mandible, between the cere and the curve of the upper mandible. The bumping is not light, it really clicks against the perch, but the reason for the act is not certain to me ; it may be to impress the hen with "What a hard head I have" or it may be that the particular one I have is very intelligent and has found out that he can thus loosen his brains or has some sort of advanced asthma. However, as humorous as it may seem, he does it regularly and as the hen has not been observed doing so it may be a male trait.

The weakling has become noticeably stronger and can now fly quite well, and thus I am more convinced than ever now that the other young took most of the food offered by the adults and this little one was in a semi-starved condition. I am very glad that I did not remove him before the fourth week for in so doing I might have caused the old birds to abandon him entirely, but by leaving him in the original nest they continued to feed him and thus he has come along quite surprisingly. I took the other young out of the pen at the same time that I took the weak one out of the nest so that the weak one would get the undivided attention of the adults, but I am quite certain that only the male fed the young ; at least he is the only one that fed them after they both left the nest box.

One evening the adult female was battling the young weak one and thus I was compelled to remove the young one. I put it in the pen where the other young one was and it was quite a sight to see them get together. They acted as if they were human and had not seen one

another for several years. The able-bodied one just nuzzled the other one and seemed so relieved to see it and it is just those acts together with the apparent appropriate choice of time to speak and the choice of words used that make the parrot seem quite human.

These are my observations over a short period of time of this truly Noble Macaw : some of the acts of these birds and observed as I have reported could not have been concocted just of their desire to amuse me, but in my opinion are quite characteristic of them and I certainly would like to learn of others that have had these interesting birds in captivity.

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PARROT BREEDING RESULTS IN 1950

By T. T. BARNARD

Breeding results have not been very good. I sold my Browns × Mealy cock and his Stanley wife to Mr. Vane—the last I heard of them the cock had been trying to murder the hen—and I don't know what he has done with them this season. Of their four young I sold one cock to Mr. Thomas at Dunsfold—who doesn't breed. One was murdered by me—I was catching up a bird and he got into a panic and concussed himself. The hen is now with Percy Glover paired to one of my Rosella × Stanley cocks with whom she took up after her brother's death. The third best coloured cock is still here and has moulted out into a very handsome bird with just a bit of all three ancestors. I am now replete with hybrids and he has been running with a hen Pennant × Rosella bred last summer at the Zoo. They haven't nested this year and are not a very well matched pair but they seem quite fond of each other and unless anything else turns up I shall give them an aviary next year and see if we can rear some quintuple hybrids.

I had put up for breeding an unrelated pair of Rosella Stanley hybrids, the hen bred here and the cock by Mr. Jones, of Llandrindod Wells. They are a very nicely matched pair (both 1948) and as they both have very yellow cheeks and he has an almost yellow abdomen I am hoping they will produce a young one with the yellow Stanley cheek and the Rosella red chest and yellow abdomen which would be a very handsome combination. But she laid rather early and got upset by the cold spell in April and the clutch she incubated were all clear. As this is the first attempt I shall try them again another year.

Exactly the same fate befell her brother, a most magnificently coloured bird with white Rosella cheeks (only the faintest smudge of yellow beyond) and a scarlet chest and abdomen. He has been mated to a rather coy and nervous hen Rosella × Adelaide which

I hoped might result in maintaining the white cheek and wholly red underparts. She laid in mid-April also and sat on three eggs almost full time when I took them away (she had broken one) : with indecent haste she laid six more and sat on them but they were all clear. Very disappointing.

My pair of Redrumps have had to share an aviary with some of last years non-breeding birds and were only given a nest box in a corner of the flight late in the season and only reared one hen. They are a devoted couple but the cock is not a very robust bird. However, all their eggs were fertile but three died in shell and one in nest.

My old pair of cock Rosella and his Stanley wife did their best to make up for the other's deficiencies by laying six eggs, hatching them all and rearing them all, and a very nice six youngsters too. But then she wisely never lays until the second week in May.

I have also three odd birds, a 1949 Rosella \times Stanley hen, who unlike her elder sister has no yellow cheek. A 1948 cock Rosella \times Stanley, own nest brother to the Adelaide's husband but quite different in that he has very yellow cheeks and red underparts, in effect a large pure Stanley. I lent this cock to a neighbour to pair with a Stanley hen whose husband had died. She laid eight eggs all fertile, hatched five, but they all died in nest : she then laid six more, I believe all fertile, but deserted and the cock was returned to me last month. At least he is fertile which is more than I can say of my pairs for certain. And finally a G. M. Rosella cock I bred here in 1948.

So I have twenty parrakeets.

8. Rosella cock and Stanley hen and six Rosella \times Stanley young.

3. Pair Redrumps and one young hen.

2. Rosistan cock and Rosella \times Adelaide hen.

2. Pair unrelated Rosistan hybrids.

2. (Browns \times Mealy) \times Stanley cock and Pennant \times Rosella hen.

1. Rosistan 1948 cock.

1. Rosistan 1949 hen.

1. G. M. Rosella cock (1948).

I am always interested to hear of other Rosella hybrids.

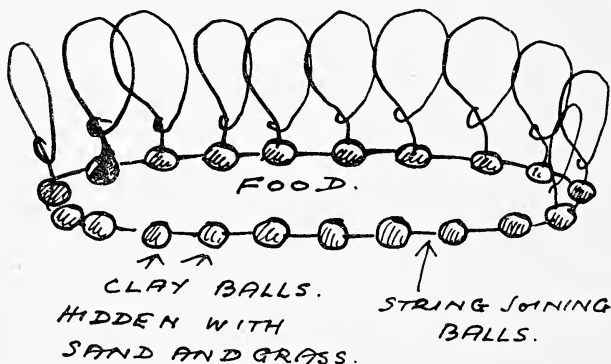
I would like to try some parrakeets at liberty here. But nothing smaller than a Pennant is safe from Sparrow-hawks in this neighbourhood.

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NOTES ON BIRDS IN THE ZARIA PROVINCE, NIGERIA

By HERBERT FOOKS

When I first came out I made a rash request asking members if I could bring back anything for them. Since then I have discovered that postings are made by the head office without bothering about my entourage. I may have boxes of birds and animals which won't squeeze into the car, and they either have to be released or handed over to another European, most of whom prefer something in a bottle to something in a cage. Since coming up here to Zaria Province, I have lived for the last seven months in the bush in orchard savannah country; that is high grass interspersed with trees up to twenty-five and thirty-five feet in height; now and again there is a "kurmi" which can be called "high forest". These are strips surrounding water courses, and the moister ravines. The local inhabitants are extremely bad at catching birds except for a few small boys, who have a rather ingenious and simple way of catching anything from a Guinea-fowl to a Waxbill, so long as it feeds on the ground. They make twenty or thirty pellets of clay about the size of an ordinary marble (thumb-nail) into these balls they insert nooses made of horse, cow, or warthog hair; each ball is joined to the next, at an interval of a few inches by a fibre string, the whole forming a completed



*To carry it away the ball string
is opened and a stick thrust
through the nooses.*

circle. Whatever happens to put its head through a noose has the complete necklace suspended from its neck. I have seen two species of Francolin and Guinea-fowl caught this way. However, by the

time I get them they are usually dead. Of the larger birds, Denham's Bustard and the Black-bellied Bustard, are fairly common either singly or in pairs. The latter does quite well in captivity. I have seen that Nigerian rarity the Secretary Bird at fifteen yards range. The locals have no name for it, but mistake it sometimes for a Crowned Crane when at a distance. I was told by these locals both Cranes and other long-legged birds were easy to snare; my experience was the opposite in India as unless tremendous care was taken a leg was almost invariably dislocated or broken. The Four-banded Sandgrouse apparently breeds here, as I have shot and caught young in January. They are supposed to migrate north to the Sahara verges during the rains. The double-spurred Senegal Francolin is very common, and locally common the Nigerian White-throated Francolin, which lie like stones at your approach, and burst away singly when you all but tread on them. I have so far found no nests or eggs, though birds paired about mid-June.

Two species of Plantain Eater are comparatively common; the Grey and the Violet, the latter only in and around "Kurmis". It is really an astonishingly lovely bird. Courtship appears to be rather violent, as I have several times seen a cock chasing a hen until they have had to settle or rather fall into the grass from exhaustion. Once a pair fell within a few feet of me, and I could see them panting with their beaks open, and the hen with her eyes closed. I have found no nests. They eat quite well as the two I shot for skins made good roasts, and were not too dry. Both species are very noisy, and flock after flock takes up the initial cry. There are numerous species of Nightjar, the most easily identified being the Standard-wing and the Pennant-wing. About a month ago I caught a couple of young Broadbill Rollers (Cinnamon Rollers would describe them better). They are really lovely birds, with their pastel mauvy shades; better looking, though less showy than the Abyssinian Roller with its forked tail and glaring blues. There are several species of Glossy Starlings; one called *Lamprocolius splendidus splendidus* is easily distinguishable by its call; then there is the Purple Glossy, the Short-tailed Glossy, and Lesser Blue-eared, also a few Longtailed. The Amethyst has been here in very small numbers, but after the start of the rains quite a few can usually be seen at any time. The cock does not look Amethyst in flight, but mauvy-red. Young cocks I do not think assume full plumage till their second or third year, as some I mistook and shot for hens had a few purple feathers on the rump. They were not birds of the year.

Sunbirds are not here in great variety, but in great quantity. The commonest being the Pigmy Long-tailed of whose nests I had no fewer than four in my compound. They built their rather neat nests about the size of a four ounce tobacco tin in four to six days, and in all

cases were rather fond of Guineafowl feathers, which they collected off my ash heap. I have also seen the Hausa Violet-backed, the Collared, the Olive-backed (rare), the Scarlet-breasted, Yellow-bellied, the Splendid, and the Copper. All these I have shot with a .22 rifle; besides these there are several others which so far I have been unable to identify, as I have missed them with the rifle.

Surprisingly enough, the .22 bullet, if slightly filed down at the tip, hardly makes a mark on the bird. I find it hard to identify any except the more obvious ones from the illustrations in the book of *Birds of Tropical West Africa*. In the case of the Pigmy Long-tailed, none of the birds in my area look like it either in colour or shape. The Copper is a much darker bird than illustrated. The copper gloss is deeper in tone, and it is very rarely that more than a small portion holds and reflects the light. I have only seen two species of Parrot, the Rose-ringed and Scarlet-bellied. The latter is really an astonishing colour. Young birds have the scarlet orange band which extends under the wings, but do not have the bright yellow marginal feathers on the flanks, down the legs, and on the under tail-coverts. They are exceedingly active, and I think could be taught to whistle. The one I have could now almost be mistaken for an American soldier attracting his girl friend's notice. The bird I have is very fond of Pigeon carcasses; a thing I remembered from earlier days. I have had the Bearded Barbet which has a really uncouth head and is rather a clumsy bird altogether. However, being very greedy, it was easy to keep until I had finished painting his portrait.

Easily identified Waxbills are the Red-cheeked, Cordon Bleu, Black-rumped, Orange-cheeked; and several Fire Finches, which I have not yet identified. The Senegambian Melba is difficult to see, but there are quite a few about. The most conspicuous Whydah is the Yellow-mantled. There are many species of Weavers which I have not had time to place. Unlike Benin there are no Chestnut and Black where they swarmed in flocks of three to five hundred.

About ten miles from my hut I always put up Quail Finches. They really do give the impression of a miniature Quail in flight, and they flop back into the grass exactly like their namesakes. The impression is that they fall with their wings raised. There are scarcely any Europeans I have met who take even a passing interest in birds, and books of reference are few and far between. I can borrow a volume of Bannerman now and again, but not long enough to be of any practical use to me. Actually this is good for me, as I have to keep independent notes and measurements, and make water-colour sketches; without this I think I would be in a padded cell.

BREEDING OF RED-HEADED PARROT FINCHES

By N. NICHOLSON

I have been asked by the Secretary to give a brief account of breeding Red-headed Parrot Finches (*Erythrura psittacea*) to the eighteenth generation, and it gives me much pleasure to do so.

The habitat of this species is the island of New Caledonia. The plumage of the male is forehead, throat, and cheeks, rump, and tail, scarlet, and the rest of the body is green. The female is similar to the male.

More years have passed than I care to recall since I set my heart upon breeding this beautiful finch, and resolved that should the opportunity ever present itself, I would try and establish an aviary-bred strain. I must confess that at the time the possibility of procuring such rare birds seemed remote. I knew that many difficulties would be encountered, and furthermore much perseverance and patience would be required. Upon reflection I remembered the many small insectivorous birds I had hand-fed to maturity, and the innumerable times I had, for almost two seasons, presented an artificial fly to a fine specimen trout before it finally succumbed and was safely in the landing net. This gave me hope that the necessary patience would be mine.

With the advent of the 1932 breeding season it was possible to make a start with two pairs from which young were reared. In the season of 1933, young were also reared. The beginning of the 1934 breeding season found me in possession of several more, wild imported birds, from which young were successfully reared, thus forming the strong nucleus of a strain bred in captivity.

In the space of a brief article it is not possible to record in detail what happened up to the commencement of the war, but by this time the birds were well established. With the advent of the war it seemed as though I might have to sacrifice the Parrot Finches. After much thought I decided to try and keep them going as long as possible, and with this object in view a limited number were bred each season during the war.

When the war had been in progress some time, the stock of seed was speedily diminishing. Expecting the worst, I had tried all manner of substitutes, but the Parrot Finches would not co-operate. I quickly came to the conclusion that if they were to be preserved they must have their staple diet of canary and millet seeds. I was grateful to get the offer of five cwt. at a cost of £450, and even this had to be supplemented by a further quantity at a similar rate. This brings to my mind a lady aviculturist who was determined to rear two broods of Shamas. A monetary reward was offered in the neighbourhood for live insects. The Shamas were all successfully reared, but as she

remarked to me, "What those young Shamahs cost to rear I shall never know." I can echo her sentiments with regard to the Parrot Finches.

During the war we in this area had our share of air attack, and during one particularly heavy raid one night in mid-winter, I feared the Parrot Finches would be no more. At the time I had quite a flock flying loose in a large shelter shed at the bottom of the garden. The enemy dropped a land mine in the near vicinity, and at the sound of shattering glass I felt that surely this was the end of the Parrot Finches. When things had quietened down, and I had time, I went down to the aviary in trepidation, to see how the Parrot Finches had fared. With the aid of a torch I found a window had been blown out, leaving a large gaping empty space. It was pitch dark, but I managed to locate some ruberoid which was hastily fixed over the aperture, but there was not much more that could be done until the dawn broke. When it was light enough to do so, I investigated further, and found the aviary floor covered with splinters of glass, and a wire frame which had been fixed at the back of the window on the floor also, but the Parrot Finches seemed as perky and cheerful as ever and not one had been even injured. By the number of flight and tail feathers about, and their general behaviour, I knew they had had a scare. A check up on numbers revealed all present, and it was remarkable that none had fluttered against the aperture and escaped. However, they survived the war with no casualties from enemy action.

In the process of building up the strain, I experienced difficulty in getting the birds to conform to our breeding season proper. In their wild state their breeding season is, of course, directly opposite to ours, so the cycle had to be completely reversed. This change was gradual, but now the cycle is identical to our own native birds; that is, a complete moult takes place at the end of the breeding season. It is interesting to note, however, that a colour change without a moult takes place in the spring. At this period the plumage brightens up considerably. I have also noted that whilst this colour change is taking place, the birds are a little less active than usual, which seems to suggest that the change is a physiological one.

When paired off for breeding, Parrot Finches never seem amiably disposed towards each other until mating has taken place. This takes place on the nest and is accompanied by a low purring noise. After this the male will always be found to be in close attendance on the female, following her about the aviary wherever she may go. The male builds the nest and shares the duties of incubation during the day, whilst the female herself incubates through the night. Often when on the point of hatching both incubate together.

The incubation period is fourteen days, and both parents feed the young, which leave the nest at twenty-one days. The sides of the

mouth of the young birds are ornamented with four luminous beads which light up in the darkness of the nest and so enable the parents to feed them. Upon leaving the nest the young are a drab green with tail dull red. Some have a certain amount of red on the face, but this varies in individual birds, even out of the same nest. The lower mandible of the beak is bright yellow, which gradually changes to black, as in the adult. Within a short period of leaving the nest, a moult takes place, and the full adult colouration of red and green is assumed. I have found that the change from immature to adult plumage may be accelerated or retarded by weather conditions, but on an average full colouration is acquired when approximately four months old.

Aviary bred Parrot Finches in my experience are fairly hardy, but it is a fact that they are very difficult when first taken out of their native haunts and placed in captivity. I have noticed that upon giving my birds an apple (of which they are exceedingly fond), cut in two with the pips partially exposed, there is keen competition to get at the pips first. A friend of mine who spent some time on the Island in connection with the mining of a particular kind of ore, told me that there were various fruits growing, so possibly the pulp and seeds form at least part of their diet in the wild state. Many species of birds with red in their plumage do not retain the red when kept in captivity. Therefore, it is interesting to record that after such a long period of breeding in captivity the brilliancy of the red in the Parrot Finches is just as intense as it was in the parent stock. Furthermore, there has been no decline in stamina or fertility, and as for size I would say that by and large they are superior to their progenitors. Breeding has been strictly controlled, young ringed, and parentage recorded, which is absolutely essential in generation breeding.

Now a word about keeping Parrot Finches healthy. The staple diet should be canary and millet seed. By nature they are very active, so at all times should be given as much flying space as possible. From the beginning my practice has been to turn all young, after being taken from their parents, into an open flight 15 feet long by 5 feet broad by 5 feet high, with shelter shed attached. Only two natural branches are put in the flight, one at each end, thus ensuring plenty of wing exercise and conditions conducive to a healthy and quick maturity. They are also very particular about their toilet and bathing facilities must not be neglected.

Perhaps after my success in breeding this species to the eighteenth generation, other aviculturists will be inspired to try and perpetuate more species. I know it is a great achievement to win a coveted medal for a first breeding, but the continuous successful breeding of a species brings its own particular reward.

I think it was Lord Tavistock who in writing about a lutinistic

Barnard's Parrakeet stated that if a species was bred long enough in confinement, a sport would appear sooner or later, so who knows but that one day I may breed a new colour Parrot Finch and finally establish that colour.

* * *

FAIRY PENGUINS

By KARL PLATH

Curator of Birds, Chicago Zoological Park, Brookfield, Illinois

Probably the most interesting of the many duties we had during the return trip from Australia in October 1949 was our care of the tiny Fairy Penguins (*Eudyptula minor novaehollandae*). There really was a feeling of exaltation because I knew that it would be the first landing in America of these delightful little birds and best of all, they were all willing to eat. From the time of their being put aboard the S.S. *Sonoma*, 6th September, 1949, until date of writing (June, 1950) they have not missed a meal.

There were, and are, eight of them and all travelled in a large crate about 3 feet square and 3 feet high. With this we also had a galvanized tank about the same size and 12 inches deep. We started out with 330 pounds of frozen fish, part of which was for Herons, Spoonbills, and Ibises, and each morning we would take a large slab which would be thawed out by feeding time. These fish were fine for filleting and enough was cut up so that each bird would have from twelve to fifteen finger-sized pieces. One of the first duties in the morning was to hose out their crate and tank and they would march out down the ramp into their pool. There would be much splashing and preening. Three o'clock was feeding time, so they were put back in the crate and one by one taken out, put in my lap, and offered their fish which were eagerly gulped down until each had its full quota and put back in the tank. The surplus fish were tossed to those who were still unsatisfied. This procedure was followed faithfully for the thirty-four days on the ship and the two days in the baggage car, which was rather crowded with the eighty-four other crates containing from one to thirty-six individuals according to what they might be. The two crates with the highest number carried the pretty Australian Finches, but the other crates contained Kangaroos, Wombats, native Cats, Sugar-gliders, Possums (not opossums but phalangers), Tasmanian Devils, Lizards, Black Swans, Cassowary, Crane, Heron, Kagus, Spoonbills, Ibises, Ducks, Geese, Frogmouths, and a host of smaller birds, enough to make a quota of over three hundred specimens. There were twenty-two species alone of Parrot-like birds, comprising seventy individuals.



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[Ralph Fallick.]

FAIRY PENGUINS FROM AUSTRALIA IN CHICAGO ZOOLOGICAL PARK, BROOKFIELD, ILL.

To face p. 252.



In spite of the inconveniences and crowded condition of the baggage car the little Penguins were not disturbed. They got their food and baths which were enjoyed to the fullest extent.

At the zoo a beautiful all-glass wall-cage had been made ready. This cage is very attractive with its rock work and pool and measures 15 feet across by 10 feet deep and 12 feet high. Since our return we have changed the diet so now they get from twelve to fifteen small smelts apiece. Each bird gets a fish which has had a capsule of cod-liver oil inserted in the body and a drop of potassium iodide solution in the fish-head. This approximates their natural sea food and apparently keeps them in good condition.

Coming from the mild climate (for Penguins) of Australia we do not fear the dread disease aspergillosis—a mycotic infection of throat and lungs. They seem to be immune from the spore-filled atmosphere of our climate and which is negligible in the air where those species of Penguins live down near the Antarctic. For those species, the large magnificent King Penguins and the smaller Humboldt's Penguins, we keep in a very large air-conditioned cage which also has germicidal lamps so the air they breathe is free from infectious bacilli which is the deadly hazard for these southern forms.

Many people do not know that the family of Penguins (about twenty species) is confined to the regions south of the equator. In the Galapagos, cooled by the Humboldt current, we find the small Galapagos species which has been shown here in the past. The Humboldt's Penguin ranges from the southern extremity of South America up the west coast to within 6 degrees of the equator and the very similar Magellan Penguin ranges up to Chile on the west coast and southern Brazil on the eastern side of South America. The Black-footed Penguin is found on the coasts of South Africa. These four species all belong to the same genus, *Spheniscus*, and have a superficial resemblance. All of the remaining species have natural habitats south of these latitudes; the largest of all, the Emperor Penguin, and the Adelie Penguin, have the southernmost range, Antarctica.

The smallest species is the Fairy Penguin, also called the Little and the Blue Penguin. It inhabits the seas of the south-eastern coasts of Australia, Tasmania, and New Zealand which is the home of a similar species (*Eudyptula albosignata*). It is seldom that one can see the metallic sheen of blue reminiscent of the blue on a live mackerel, which prevails on the back. It was noticed particularly under the tropic sun when the birds were in the water. These little fellows are about a foot in height—bluish-slate above and silky white below. The flippers are margined with white on one edge but in the very similar New Zealand form the white edge extends all around the flipper.

Hoping to induce housekeeping ideas in our flock we placed twigs and leaves on the pebble-covered floor of their enclosure, but none

seemed interested. Finally, in February of this year we noticed mating, so we made a cave of rocks also placing a supply of twigs and leaves. About three weeks later a pair appropriated the "cave" and one of them, presumably the male, carried the leaves one at a time to the opening and the bird inside took them and arranged them until finally they had a leafy mattress. On 7th April, 1950, the first egg was laid and a week later the second. They were dull white and about the size of an ordinary hen's egg. The sexes appear to be quite indistinguishable but we managed to band one so could see that they alternated in incubating, morning and afternoon. A month later one of the eggs disappeared and as there were strict orders not to disturb the nest we did not find out until later what had become of it. The birds fed eagerly as before but whichever one was on the nest would come to the opening at feeding time and eat a lesser number of fish. None of the other birds was permitted near the cave opening.

All during this time we had been trying to find the incubation period for this species. No records seemed to be available excepting for certain other species whose periods ranged from twenty-eight days to ninety days in the great Emperor Penguin. Finally, frustration! For on the forty-second day we found the egg rolled out and quite cold. Saddest of all was to find that it contained a chick almost ready to hatch, and dead, of course. Why this had to happen we do not know. The egg was sent to the Chicago Natural History Museum. It was opened so skilfully that the chick was removed intact to be preserved and the egg saved as a specimen. On cleaning out the nesting place we found a few pieces of egg shell indicating the fate of the missing egg.

Now we wait for renewed ambition on the part of the Penguins and better luck.

Since the above was written, word has come from Mr. R. W. McKecknie of Plympton, South Australia and also from the Australian Museum in Sydney that the period of incubation is 38-39 days. We appreciate this information.

* * *

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By EDWARD BOOSEY

(*Concluded from p. 218*)

The birds which inhabited my planted garden aviary—which I looked upon as my own hobby, and separate from the farm—were over a period of years, numerous and varied, and included at different times : Yellow-backed, Crimson-ringed, Red-collared and Giant Whydahs ; Nonpareil, Indigo, Rainbow, and Versicolor Buntings ; Pope, Red-crested, Virginian, and Green Cardinals ; Red-crested and Pileated Finches and Lined Finches ; Yellow, Rose-breasted, and Blue Grosbeaks ; Scarlet Tanagers ; Spree and Royal Starlings ; Golden Hangnests ; Shamas ; Dhyal Birds ; Verditer Flycatchers ; White-capped Redstarts ; Rufous-bellied Niltavas ; Short-billed Minivets ; Pittas ; Golden-fronted Fruitsuckers ; Yellow-winged Sugar Birds ; Pekin Robins ; Zosterops ; Golden-eyed Babbler ; and last, and I certainly think least, an excessively wild and entirely mud-coloured bird called, for some extraordinary reason, a Crimson-breasted Thrush !

What memories these names bring back, and what a galaxy this list must seem to the younger generation of austerity-ridden present-day aviculturists, and how I wish I could think those pleasant times might one day return.

As we had only one really roomy planted aviary, my policy was to change the population of the aviary almost entirely every year or so and thus have as much variety as possible, and also gain all the experience one could in the keeping of the various species.

On one occasion I devoted the aviary mainly to Waxbills, Cuban Finches, etc., and both Fire Finches and Cuban Finches successfully reared young.

Cordon Bleus are usually considered delicate, so it was interesting to see how hardy they become when kept under almost natural conditions where they have the chance to build up their stamina during the summer months in order to withstand the winter. Mine seldom entered the shelter, preferring to roost, even on the bitterest nights, in the evergreen bushes in the aviary. Although I felt sure the morning would come when I should find one of them with a chill, I never did, and they remained extremely lively and in the most perfect health and condition throughout the entire winter.

Occasionally, as in the case of the Niltavas and White-capped Redstarts, I found that when the time came I was quite unable to bring myself to part with them, so they remained as permanent residents among the changing population.

Many of the birds I have mentioned presented no difficulty as to maintenance, and they, or their near relatives had been widely kept for years, so I will try and single out a few that were less well known and not too easy to keep in perfect condition.

Of these I think first must come the Short-billed Minivets which are quite as beautiful as the rather better-known Scarlet Minivet, which I have never kept. They are purely arboreal, with the tiny feet of a Swallow, and in a wild state are said to spend most of their time flying about the tops of the tallest trees. They are most gorgeously coloured, the males in both the Short-billed and Scarlet Minivet being glossy blue-black and brilliant scarlet, while the females' plumage is a pleasing combination of grey, whitish and creamy yellow. Unfortunately, like so many insectivorous birds with large areas of red in their plumage, this colour fades, after a moult in confinement, to a sort of washed-out salmon pink.

In a large aviary they are both tame and charming, but I doubt if they would prove easy to keep alive for any great length of time. Like so many of the more difficult softbills they have such a passion for mealworms that, with the exception of other live insects, they are inclined to refuse all other food, even the finest quality insectivorous mixture.

The pair I had spent a summer in the planted aviary and were a wonderful sight, as they arrived in excellent feather and the cock was still in his brilliant importation plumage. In the end I had to give in to them and let them live almost entirely on mealworms and such insects as they caught for themselves. They died in a curious and unexpected way. The grass in the aviary was rather long, and at the end of August there was a terrific thunderstorm, followed by torrential rain. When I went to the aviary some time later, all seemed well, most of the birds having doubtless taken shelter during the downpour. But I missed the Minivets and after a prolonged search they were eventually both found dead and drenched to the skin in the long grass.

I found the Sprees very easy to keep in perfect health, but the Royal Starlings, though they presented no difficulties in the feeding line, proved terribly prone to "gapes", such as often afflicts young pheasants. They were however incredibly beautiful, particularly with the sun glinting on the wonderful metallic blues and purples of the upper parts of the plumage which are such a striking contrast to the orange-yellow of the breast. Their only rival I can think of in metallic brilliance is a cock Monaul Pheasant.

The White-capped Redstarts flourished exceedingly and proved extremely hardy and long-lived. They are rather sombrely clad in deep chestnut and black, but this only makes the contrast with their dazzling white caps all the more striking.

All the Buntings were beautiful, but I particularly admired the mysterious smoky-blues and purplish-mauves of the Versicolor.

Of the Grosbeaks I think my favourites were the Rose-breasted, which twice bred successfully in the aviary, the young in each case rather disconcertingly leaving the nest long before they were fully-feathered. The hen is brown with rather thrush-like breast markings, while the cock during the breeding season has much the same simple but effective colour scheme as a Red Admiral butterfly, except that the latter's pillar-box red is replaced in the bird by rosy carmine. The Rose-breasted Grosbeak, among his other attractions, is a really fine songster with many of the powerful liquid notes of an English Black-bird, and the cock I had for so many years not only sang a great deal during the day but also had the curious habit of suddenly bursting into song at night, particularly if there was a moon. Blue Grosbeaks were beautiful, but as far as I can remember, very bad-tempered in an aviary.

The single male specimen of the Yellow Grosbeak which I had for many years was—for a Grosbeak—an enormous bird with a terrific pewter-coloured beak with which when handled he could give you a very nasty bite. His tail and wings were a mixture of black and white and different shades of brown, most of the rest of his plumage being bright canary yellow. In spite of the strength of his beak he was the most peaceful of aviary birds, and for some reason always irresistibly reminded me of a large brightly-painted carved wooden toy!

The Verditer Flycatchers fully lived up to their name, and were fascinating to watch as they hawked for insects of a summer evening. They were attractive little things, being coloured that curious shade of bluish sea-green which is rather seldom met with in birds.

A Common or Bengal Pitta also inhabited the aviary in summer, and used to spend the winter in a heated birdroom in a large cage with peatmoss as the floor covering, and furnished with decaying moss-covered logs and branches for the bird to perch on, the whole being regularly sprayed to keep it moist. Extremely beautiful as most of them are, I think Pittas are of all birds the least to be recommended as aviary inhabitants. I used to be able to admire my Pitta's beauty during the winter while it was caged, but from the moment it was put back into the planted aviary for the summer one scarcely saw it again until the following autumn. Very occasionally one would catch a momentary glimpse of a fleeting shadow hurrying away into the undergrowth, but that was all.

Doubtless the best of all ways to keep Pittas is in the moisture-laden atmosphere of a heated greenhouse or conservatory, as Monsieur Delacour did so successfully, but failing this I think the method I have outlined is the next best thing as my bird (seldom as I saw it!) was always in perfect condition when I did catch a rare glimpse of it. If kept in

even the largest cage with the ordinary dry sanded floor, their feet invariably go wrong. They *must* have moist conditions.

The Golden-fronted Fruitsuckers were pretty enough, but proved extremely cantankerous in a mixed collection and soon had to be removed, as they had the maddening habit of standing guard over the food containers and keeping all other birds away from them, although not wanting to feed themselves.

It may be of interest to mention here two experiments I carried out with the breeding of birds at "controlled liberty", the two species being Shamas and Dhyal Birds.

Shamas were tried first and the following year Dhyal Birds. In both cases the same procedure was followed, the pair being put in spring into an aviary with the back and one-third of the top and sides boarded over, the remaining two-thirds being wire netting, and the nest box hung under the covered part.

So many tales had I heard of the dangerous ferocity of male Shamas when first introduced to their prospective wives, that I took what seemed afterwards rather ludicrous precautions to prevent her being murdered. The cock was first put in the aviary, and the hen gingerly introduced (in a cage hung under the sheltered part) several days later. After about 48 hours, greatly daring, I let her out of the cage into the aviary, and the cock was so delighted to be with her that I am quite sure all the caging business was utterly unnecessary. Possibly, though, it may all depend upon the temperament of your particular cock Shama.

They very soon went to nest in a half open-fronted box, and as soon as the young ones hatched the parents were given full liberty through a small square hole cut in the wire of the front of the aviary with a wooden alighting platform inside and out, upon which mealworms were placed to enable them to locate the hole. The hen soon vanished and returned with a beakful of caterpillars from the garden, and when she went straight in and fed her brood I knew there was no more fear of their straying. The hen continued to work like a trojan, while the cock, a charming but idle bird, contented himself with remaining on guard close to the aviary, and filling in his time by lying on his side on a grassy bank with feathers well puffed out and one wing extended, having a sun-bath. Both birds were extremely tame, the cock particularly—since he led such a life of leisure—always coming to sit on the rungs of our deck chairs as we had tea on the lawn beside a lily pool, while sometimes his wife came to have a hurried bath in the shallow water among the irises that bordered the pool. It was all very idyllic while it lasted, but it ended in a most distressing tragedy. The hen was always pestering me for mealworms if she saw me with the livefood tin, and one morning as I was walking along the concrete path by their aviary, one must have dropped just beneath my

foot and the hen swooped after it with such lightning speed that I had hardly time to realise what had happened until I saw her lying crushed and dead on the path. It was one of the most horrible moments of my life, but, as I realised when I could think of it calmly, quite unpreventable.

If there is a drawback to these very tame insectivorous birds at liberty, it is that such is their passion for mealworms that they are inclined to pester one perpetually for them, even to the extent of alighting on one's back as one bends to open an aviary door, and flying up into the aviary much to the consternation of its rightful inhabitants.

Although the nestling Shamas were so very young, I hoped that the cock might bestir himself and rear them single-handed but in this I was disappointed, for though he continued to visit the aviary and perhaps occasionally to feed his brood they soon died of neglect.

Although he had seemed quite attached to his wife during her lifetime he showed not the slightest sign of sorrow at her death, and when shortly afterwards, to his manifest delight, another hen Shama was obtained, he quickly paired up with her and they went to nest at once. On this occasion the hen was not nearly so tame, and all went well until the four young Shamas were on the point of fledging, and as I normally saw very little of the hen in any case, my first intimation that anything was wrong was that awful charnel smell coming from the aviary.

What had happened really was very tragic. All four young Shamas were dead in the nest, and after a prolonged search, their mother, together with a very small mouse, was discovered drowned in a sunk water tank in the greenhouse, having, no doubt, lost her life in pursuit of the mouse. It was doubly disappointing because if only one could have been aware that the hen had met with a fatal accident soon after it happened, it would have been such a simple matter to finish off by hand the rearing of the almost fledged young Shamas.

The following year a liberty experiment with a pair of Dhyal Birds followed almost exactly the same course as that with the Shamas, and once again the hen must have come to grief, this time about a week before the young ones were due to leave the nest. As to what actually happened to her I have no idea as her body was never found.

Interesting as all three experiences were, they were also terribly disheartening particularly as, anyway in two cases, complete success had been so very nearly achieved. However, I suppose it is true that the more obstacles that are put in the way, the more one is spurred on to overcome them, and I know I would dearly love to try some more controlled-liberty breeding experiments with these two as well as with other foreign insectivorous species.

During the twelve years between the farm's conception and the

outbreak of war, we imported and sold many thousands of Waxbills, Weavers, and Whydahs, etc., as well as hundreds of imported Gouldians and other Australian Finches, in addition to those bred at the farm. Writing this sentence has recalled very vividly to me a particular occasion when we had a consignment of several hundred Gouldians. The acclimatizing aviaries were furnished with natural twiggy branches nailed to the back, and these, covered with hundreds of Gouldians sitting in the sun, looked as though the leafless branches suddenly had burst into fabulous bloom, and made a quite unforgettable picture.

It soon dawned on people that it was a better policy to pay more for acclimatized birds that had already spent weeks in out-door aviaries, rather than throw away a smaller sum on ones that had all too often been bundled straight into travelling boxes without being given any chance to rest and recuperate after their already long and tiring journey to this country.

I first started keeping foreign birds about 1909, when I was seven years old and was permitted to have what was then known as a "Crystal Palace Aviary" of Waxbills in my nursery, so I have had forty years' experience of bird keeping, and though one is inclined to talk glibly of the good old days, I think in some respects they were very bad old days indeed. Therefore, even if we had achieved nothing else—such as the breeding of aviary-bred stocks of the rarer Australian Parrakeets and Finches—I should still be proud to think that we were the first commercial firm to import, *on a really large scale*, such cheap and common little birds as Waxbills and save them a great deal of unnecessary suffering, and their purchasers much unnecessary disappointment, by resting and acclimatizing them before they were sold.

On reading through the previous instalments of the History of our farm, I find I have unaccountably failed to mention a first breeding for which we were awarded the Avicultural Society's medal in 1936—namely that of the charming little Varied Lorikeet (*Psittuteles versicolor*) with its green plumage streaked with mauve and gold, the whole being set off by a brilliant scarlet cap.

One young one was reared which proved to be a cock. The usual description of immature specimens as merely "differing from their parents in having a duller colouration generally" is incorrect, as our young male left the nest with an extensive patch of orange-yellow on the back of the neck which gave it a quite brilliant appearance, though the patch subsequently disappeared when the bird reached maturity.

Varied Lorikeets inhabit Tropical Northern Australia where they are sometimes seen in vast flocks feeding on the nectar of the blossoms of their favourite trees, and it is easy to imagine how vividly their red caps show up, and what a lovely sight they must make when a large flock are seen feeding together on a single tree.

They are sociable and would appear to have a considerable sense of

loyalty to any member of their society which comes to grief, and it is recorded that a man who picked up a wounded specimen was instantly settled upon by a swarm of sympathetic members of the flock to which it belonged.

The alleged delicacy of Varied Lorikeets in confinement is entirely fictitious, for they are quite as hardy as Swainsons—provided, of course, that they have always a nest box to roost in at night, which is absolutely essential for all lorikeets when kept all the year round in outdoor aviaries in this country.

Ours at Keston were housed in open aviaries, the back and half the top and sides of which were boarded to afford protection from wind and rain, and were provided with a fairly deep hung-up nest box with a filling of peatmoss and decayed wood.

They always roosted in the box and a young one was heard being fed in December, but as the sound subsequently ceased, it presumably died at an early stage. In March, however, there was again the sound of a young one being fed, and it was this bird—a very fine young cock—which finally left the nest about the middle of May, and was the first young Varied Lorikeet in the world ever to be bred in confinement.

It seems strange that this should be the case, as it is not infrequently kept in aviaries in its native Australia, though it was always one of the rarer lorikeets in confinement in this country. It has now, however, been successfully bred in an Australian aviary, the event taking place in 1949, as has been recently recorded by the eminent Australian aviculturist Dr. Lendon.

Our youngster was reared on the ordinary lorikeet nectar and sweetened stewed apple, of which latter the parents were very fond.

No account of the history of our farm would be complete without our putting on record our great appreciation of the services of Mr. R. W. Cason, who, in his capacity of Foreman-carpenter, has been with us almost ever since my partner and I started our venture in 1927.

Not only were practically all the, by now, very large number of aviaries which constitute the farm made by him, but he personally looks after our stock of rare parrakeets when we are away and he has, in addition, a very retentive memory which has, on more than one occasion, during the writing of this article, been of considerable help to me.

Finally, as this account of nearly 22 years of bird-farming draws to a close, inevitably one comes at last to that dreadful day in September, 1939, when war was declared.

It all seems to me now—as it must to most other aviculturists, particularly those who lived on the outskirts of London or other large cities—as a sort of confused nightmare from which one obscurely felt that one was bound to wake up sooner or later.

I remember our car being twice loaded with travelling cages containing most of our hurriedly caught up and rarest Parrakeets, of which, among many others, I recall most clearly the pairs of Splendid Grass Parrakeets and Princess of Wales', the former's wonderful sapphire masks and crimson chests still aglow in the depths of even the dingiest travelling cage, and the Princess of Wales', a bit brainless for all their beauty, chortling away quite happily unaware that a world had just come to an end.

Loaded with this precious cargo our car made its long journeys into the West Country to deliver them to a friend who offered to house and feed them in a very much safer area than ours was likely to be.

Although during the war years the farm was almost entirely given over to ducks and chickens for egg production, we did manage to retain a nucleus of our breeding stock of parrakeets.

Naturally, during the war, there were no breeding results of particular interest, but in 1945, the year the war ended, there was one breeding result at Keston of very great interest as a pair of African Grey Parrots successfully reared a young one for which event we were awarded the Avicultural Society's medal, as it was the first young African Grey ever to be bred in confinement in this country, or, I believe, in Europe.

As soon as the youngster was fledged the parents went to nest again and hatched another young one, but unfortunately too late in the year for it to be reared, and it died in the nest in November when quite big and starting to feather.

The African Grey is so famous as the most brilliantly gifted of all "talking" birds, and indeed so well known generally, that no description of it is necessary.

It was probably about the first foreign bird ever to be imported into this country and there is, I believe, an authentic record of a pet bird of this species which belonged to King Henry VIII about four hundred years ago, and it is, therefore, doubly satisfactory to have been the first to breed a bird which has been well known in confinement for so long—a far greater thrill, I always think, than to breed for the first time some extreme rarity which probably few other aviculturists have ever had the chance to possess.

The writing of this history of our farm has taken me a considerable time to complete, and was done as opportunity allowed—chiefly during the winter evenings.

It was—as my readers will have gathered from the title—started last year, and now, as I come to the end of my task, it is pleasant to record how much conditions for the aviculturist have improved: food is easier and the importation of foreign birds is again permitted without a licence, except for psittacine species.

It is nice to have most of the Waxbills, Whydahs, Weavers, and

Diamond Doves, etc., again, and though our varied pre-war breeding stock of Australian Finches is still reduced to pairs of Zebra Finches and Long-tailed Grassfinches, we hope to get some of the rarer ones shortly and, for my part, how glad I shall be to possess and—I hope—breed Gouldians again!

We have a hen of the very rare Orange-bellied Grass Parrakeet whose mate—an over-fat and obviously ancient specimen with an overgrown upper mandible—died from a fit, and an even rarer and most enchanting little Double-eyed Dwarf Parrot of the genus *Cyclopsittacus*, from New Guinea, almost certainly the first of his kind to be imported into Europe. We also have a pair of the rare Australian Pileated or Red-capped Parrakeets which reared a fine brood of six young ones here at Keston this (1950) season—the first time they have been bred in England for forty years.

And finally, Turquoisines and Splendid Grass Parrakeets: The hen Splendid proved a hopeless mother letting all her newly-hatched young ones die at once, yet, even so, three fine young Splendids were reared by foster-parenting under Bourkes.

Two pairs of Turquoisines on the other hand, one of the hens of which was reared here last year, have done wonders, hatching, between them, 21 young ones and fully rearing 17 of them, thereby proving that the prolificacy of Turquoisines of which one reads in books written about the end of the last century, really was fact—and not merely wishful thinking.

We are gradually getting our blitzed terrace aviaries back into commission again, and as these have lain for eleven long years beneath a tangled growth of wild clematis or “old man’s beard”—which, in our chalk-laden soil, smothers everything almost as quickly as the jungle does—they perhaps provide as fitting a symbol as any, of the gradual reclaiming of lost ground, and of the continued vitality of our farm.

* * *

AVICULTURAL SOCIETY OF SOUTH AUSTRALIA MEDAL AWARDS

For the season 1949–1950, the Avicultural Society of South Australia awarded only one medal—to A. Phillips, for the breeding of the Black-backed Wren (*Malurus melanotus*). This success was also deemed worthy of the award of the silver medal, which is usually given for the outstanding breeding achievement of the year. As far as can be ascertained, this rare Wren has only once previously been kept in captivity in South Australia.

ALAN LONDON.

A LIBERTY BLACKBIRD

By the Rev. J. R. LOWE

It is over a year now since you so kindly allowed me to write about an orphan Missel Thrush that we all became very fond of. "He" was a hen, and she became very restless and unfriendly in the latter part of August, and so we gave her her liberty, and after a somewhat prolonged leave taking she left our district, I think in company with the two wild pairs that had been raising families in the garden and churchyard. This year we reared another young Missel Thrush who thrived and grew, and became wonderfully tame. This was a cock, and he sang to us in July, but in August the same spirit of wanderlust seized him, and he also became wild and restless, so he departed with local friends. It seems that Missel Thrushes leave their breeding quarters at the end of the summer and move with their families to other feeding grounds, perhaps they take the children to the seaside; but no more young Missel Thrushes for us.

This April our Siamese cat disgraced herself by bringing into the house an infant Blackbird; this was rescued, undamaged, and too young to be hopelessly shocked. He joined the young Missel Thrush, and the consumption of brown meal in milk, and worms, was tremendous. They both spent quite a lot of time on the back seat of the car, and went to two Point-to-Points and a tea party, as they had their meals pretty frequently, they had to come, and it mattered little to them if they received a worm in a car or in the kitchen.

In early May the Blackbird went back to school with my small son. He had an excellent summer term, and spent a lot of time flying round the classroom and tasting the ink in every inkwell. The school authorities seem to have been very patient, and the Blackbird arrived back for the summer holidays, a little thin, but very tame and cheerful, and an almost complete diet of live insects and fruit has resulted in a perfect moult, and we are looking forward to the time when his beak clears completely, yellow goes so well with black velvet; he treats us to a little sub-song every day now. He comes out of his cage and sits on the back of my chair and drops his wings and cocks his tail over his back, and "clinks" if he is not offered something to eat at meal times.

He enjoys fighting a finger, and regards the Siamese cat with contempt, and she takes no notice of him at all, but they are never left alone together.

The most interesting accomplishment that the Blackbird treats us to is "Anting". It began when he was half-way through his moult, when he was offered a pot of fresh ant cocoons and some live ants. He immediately seized an ant, compressed all his feathers till he looked half his size, sat back on his tail, and opened both wings, and

tucked an ant under each wing in turn at great speed ; all this was done within six inches of my face. I understand that the formic acid in the ant acts as a stimulant on the skin, which is enjoyed by the bird, like a bath. I have seen Starlings do this frequently, but not the Thrush family before. How did my Blackbird, who had never seen an ant before, know how to deal with it ?

How valuable are elderberries ; the Blackbird eats quantities, and a Whitethroat that I have lately acquired eats them just as freely. This sprite sits on my hand and takes a mealworm from my lips ! Catering for these small warblers in the winter is anxious work, and my friends and parishioners look concerned and worried at my constant desire for spiders and earwigs, until the mystery is explained.

Oh ! where this autumn are those fat-bodied spiders with a cross on their backs that sit gloating in huge cartwheel webs in every bush ? My Whitethroat would so enjoy them.

* * *

BRITISH AVICULTURISTS' CLUB

The twenty-fifth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 8th November, 1950, at 6 p.m., followed by a dinner.

Chairman : Miss E. Maud Knobel.

Members of the Club : R. M. Adamson, Major J. E. Adlard, The Duke of Bedford, Miss K. Bonner, W. Brain, G. T. Clark, Mrs. G. T. Clark, T. Crewes, O. E. Dunmore, A. Ezra (Patron), J. F. M. Floyd, Miss D. Gask, C. F. Harding, H. J. Harman, Miss M. H. Knobel-Harman, G. C. Lynch, P. H. Maxwell, G. S. Mottershead, S. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), J. H. Reay, D. H. S. Risdon, R. C. J. Sawyer, D. Seth-Smith, A. E. Sibley, E. N. T. Vane, C. S. Webb, H. Wilmot, Mrs. M. K. Woodford, S. A. Wright.

Guests : J. Bailey, Mrs. V. M. Bourne, Miss I. Dix, F. E. Fooks, Miss P. Fooks, Mrs. B. H. Claeson Gordon, Miss H. Hoise, Capt. R. Linzee, Mrs. H. G. Maurice, Mrs. E. G. Mills, Mrs. S. Murray, Mrs. J. H. Reay, H. R. Tutt, Miss D. Walker, Mrs. H. Wilmot, Mrs. S. A. Wright, A. N. Other.

Members of the Club, 32 ; guests, 17 ; total, 49.

On opening the meeting the Chairman said it gave her great pleasure to welcome on behalf of the Club Mrs. Maurice, well known to so many Fellows of the Zoological Society, and Mr. Fooks and his daughter, who were paying one of their all too infrequent visits to London from Clères.

Mr. Tutt then showed a series of slides to illustrate " A Selection of British Wild Birds and their Habits ". The species dealt with were

Goldfinch, Willow Wren, Whitethroat, Great Tit, Ringed Plover, Lapwing, Reed Warbler, and Sparrow Hawk.

The speaker described some of the more interesting habits of these birds, well illustrated by the many good photographs.

The audience, mainly, of course, aviculturists, showed by its warm applause that it was fully capable of appreciating the skill and patience that had been exercised by Mr. Tutt.

Will members please note that the next meeting will be held on **3rd January, 1951**, and *not* on the 10th as previously announced.

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

OFFICERS FOR 1951

A Council Meeting was held on 8th November, 1950, in the Council Room, Zoological Society of London.

There were the following appointments and retirements :—

Council.—Dr. M. Amsler, Mr. Terry Jones, and Mrs. L. N. Phipps retired by seniority ; The Duke of Bedford, Mrs. G. T. Clark, and Mr. C. S. Webb were elected to fill the vacancies.

Elected Honorary Members.—Dr. M. Amsler, Dr. Alan Lendon.

Elected Honorary Life Member.—Mr. G. E. Lodge.

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

PERSONALIA

Miss P. Barclay-Smith has been elected a Corresponding Member of the Deutsche Ornithologen Gesellschaft.

Jean Delacour has been elected Hon. President and Miss P. Barclay-Smith a Vice-President of the Permanent Commission on Migratory Game-Birds of the Conseil International de la Chasse.

Captain Veitch has again been successful with his Alexandrine Parrakeets. This year four very good young ones have been reared. One pair of parents is at least twenty years old.

G. af Enehjelm, in spite of absences from Helsingfors, has bred quite a number of birds : 15 Guiana Parrotlets, 4 Masked Lovebirds, 14 Painted Quail, 13 Magpie Mannikins, 6 Fire Finches, 6 Indian Silverbills, 3 Red-headed Parrot Finches, 6 Cuban Finches, 2 Yellow Sparrows, Bengalese, Zebra Finches, and three Eagle-Owls.

“ Rich beyond the dreams of aviaries.”—*Dick Bentley.*

A. A. P.

REVIEW

BRITISH WADERS AND THEIR HAUNTS. By S. BAYLISS SMITH.
G. Bell and Sons, London. Price 21s. net.

Anyone interested in this fascinating group of birds will wish to possess *British Waders and Their Haunts*. Not only is the book most interesting and informative, but the author writes so vividly that he transports the reader, in spirit if not in body, to the mud flats and saltings so that you can almost feel the whip of the cold wind, smell the tang of the sea, and hear those haunting calls so full of music, the beauty of which to some ears far excels that of the song of the Nightingale.

Mr. Bayliss Smith has watched, studied, and photographed the waders at all seasons of the year, and at all hours of the day and night and secured a wealth of information concerning their intimate lives. He explains the technique of wader photography, the mastery of which he has undoubtedly achieved as is evidenced by the many beautiful photographs which illustrate the book, and he is well supported by other photographers. Twenty chapters are devoted to individual species and groups of species, with careful notes as to how they can most easily be differentiated, and at the end of the book there are detailed descriptions of thirty-six species. The distribution maps of waders nesting regularly in the British Isles, based on those already published by W. B. Alexander and James Fisher, and the map showing the places where rare waders have bred in the present century are excellent. There are some very good plates of waders in flight by Basil Laker.

P. B.-S.

* * *

NOTES FROM THE LONDON ZOO

By C. S. WEBB

Of the few recent arrivals the most notable are two species of Aracaris—the Chestnut-eared (*Pteroglossus castanotis*) and the Yellow-billed (*P. flavirostris*)—from Ecuador. They were collected by Mr. C. Cordier on his recent expedition and were sent in exchange from the Bronx Park Zoo, New York. Both species are new to our collection and make welcome additions as we rarely get anything from the Andean zone, which is so rich in bird life. They are most attractive, the former having a gaily patterned beak which is a distinguishing feature of most of the members of the genus.

Even more striking is the bill of the Lettered Aracari (*P. inscriptus*), a pair of which we are expecting shortly. This will bring our species of the Toucan family up to nine.

Other recent arrivals are one Indian Hornbill (*Anthracoceros malabaricus*), five Greater Flamingoes (*Phœnicopterus antiquorum*), two Sarus Cranes (*Grus antigone*), and one Quail Finch (*Ortygospiza atricollis*). It is many years since we have had the latter. They are attractive little creatures if given a chance but more often than not they are shipped in small boxes with hundreds of Waxbills and being non-perching birds they become badly fouled by the others.

An interesting collection of waders was received in exchange from Mr. Reventlow, of the Copenhagen Zoo:—1 Wood Sandpiper (*Tringa glareola*), 1 Green Sandpiper (*Tringa ocropus*), 1 Temminck's Stint (*Calidris temminckii*), 6 Dunlins (*Calidris alpina*), 2 Greenshanks (*Tringa nebularia*), 1 Redshank (*Tringa totanus*), 1 Spotted Redshank (*Tringa erythropus*) and 8 Ruffs and Reeves (*Philomachus pugnax*). The Temminck's Stint is new to our collection. From the same source we received a fine immature male Naked-throated Bell-bird (*Casuarhinchos nudicollis*), a few White-bellied Emerald Humming-birds (*Amazilia leucogaster*), and Swallow-tailed Humming-birds (*Eupetomena macroura*).

A fine Venezuelan, or Phoenix Cardinal (*Cardinalis phœniceus*) was presented by a seaman just returned from Trinidad. This is a very distinctive species that we have not had since 1917. From the same source we received a Thick-billed Finch (*Oryzoborus crassirostris*) and a Little Saffron Finch (*Sicalis minor*).

A Grayson's Dove (*Zenaidura graysoni*), which hails from Sorocco Island, West Mexico, was received in exchange from Mr. Decoux, of France. It is new to our collection.

Most of our Whydahs and Bishops have still (19th October) their summer plumage. An exception is the South African Giant Whydah (*D.p. prognæ*) which is now very "sparrowy" though the Delamere's Giant Whydahs (*D.p. delamerei*) from the Kenya Highlands still have their long flowing tail feathers.

As a contrast to this group which will soon all be in their dull winter plumage our northern Water-fowl are now at their best, having changed from the eclipse plumage of the summer months.

The death of old age of our only Trumpeter Hornbill (*Bycanistes bucinator*), takes me back to the time of its capture, twenty-one years ago, in Portuguese East Africa. On this collecting trip I noticed that Trumpeter Hornbills came to a certain ficus tree to feed. Some strenuous climbing enabled me to reach the upper branches where I arranged a platform of limed twigs close to a particularly tempting bunch of fruits. Such strong birds would never stick to a fixed object, so the technique was to have limed thin twigs—one or more of which would stick to the bird and thus sufficiently unbalance it when attempting to fly. This rendered capture quite easy. Hornbills have such ridiculously short legs that they have little chance of keeping their wings clear of such a trap. On this occasion a short wait was all that

was necessary for the capture of a true pair—both having descended to earth with a wobbly flight. They came to the Zoo and nested several times in a box provided for the purpose. The female was self-imprisoned in this box while she underwent her moult, the entrance hole being plastered until only a narrow slit was left. Young were never hatched though once she was observed to remain in the nest for ninety-two days without coming out. She was, of course, fed during this period by the male through the narrow entrance slit. When the plaster was finally broken the nest was found to contain many feathers but was beautifully clean, the excrement having been ejected daily by the sitting bird. It is strange that the female Hornbill moults rapidly when nesting but does so imperceptibly in captivity when unable to nest.

Both birds were adult when captured and were of unknown age. The female died during the war and her mate as stated above.

Our Great Indian Hornbill is still going strong after twenty-seven years in captivity.

* * *

NOTES

PURPLE-RUMPED SUNBIRDS.

About four months ago I obtained a pair of Purple-rumped Sunbirds (*Cinnyris zeylonica*). The species is new to me, for only as a museum skin had I seen the bird. While making my visit to the Calcutta bird bazaar the little fellows attracted my attention. The sun was on them, and I could not leave them, with the result that I now have them in a cage in my flat. The feeding habits of the *Nectariniidae* are unique in that they feed upon the nectar of flowers, fruits, and minute insects.

The problem of keeping them alive and happy presented itself, and I fed them sliced oranges smeared with marmalade (orange), a bit of banana, and a phial of concentrated orange syrup, known as "orange squash". With their thin down-curved beak they probe into the orange and obtain its juice.

Their transportation by air could be successfully carried out by supplying them with oranges and marmalade, and of course drinking water.

I may add that the numerous fruit flies that hover around the fruit in their cage are relished by the pair of birds.

MALCOLM DAVIS.

WATERFOWL RINGING SCHEME

Details of Recoveries

<i>Date Ringed.</i>	<i>Species.</i>	<i>Ringed by.</i>	<i>Date recovered.</i>	<i>Place where recovered.</i>
7.8.50	Gadwall (imm. ? ♂)	Peter Scott	27.9.50	Shot at Cockerham, near Lancaster.
7.8.50	"	Peter Scott	28.9.50	Shot at Keswick, Cumberland.
23.7.50	Mallard	Peter Scott	-10.50	Shot at Saredon, Wolverhampton.

A. A. P.

CORRIGENDA.

p. 10, *Ara noblis* = *Ara nobilis*; p. 157, *fastosus* = *fastuosus*; p. 156, C. Stoner = Stonor; p. 187, *Geokikla* = *Geokichla*; p. 187, *N. famosa aenigularis* = *eneigularis*; p. 187, *vaillantii* = *vaillantii*; p. 187, *Rhamphocelus* = *Ramphocelus*; p. 200, *Ardea cinera* = *cinerea*.

CORRESPONDENCE

AVICULTURE IN DENMARK

Referring to Mr. C. af Enehjelm's account of "Aviculture in Denmark" in the March-April number of the AVICULTURAL MAGAZINE, I should like to correct an error in the article.

Mr. Enehjelm writes "There is one important society in Copenhagen" and then proceeds to mention the number of members, etc. I suppose this is due to a lapse of memory, as Mr. Enehjelm is himself an old member of "Selskabet for Stuekultur", a society which brings together people with the following hobbies:—Aviculture, Aquarism, Terrariums, and indoor gardening.

This society was founded on the 29th October, 1903, and for more than 25 years Her Majesty Queen Alexandrine has done the society the honour of being patroness.

In 24 cities outside Copenhagen, local societies have been founded, and at a rough estimate the number of members is around 3,500, and of those at least 2,500 are aviculturists.

Furthermore I should like to point out that in 1949 the society in Copenhagen arranged two shows, and ten of the affiliated societies outside Copenhagen also arranged shows. For 1950 the number of shows, as far as I at present can estimate, will be bigger than in 1949.

All other details of Mr. Enehjelm's article are correct in every detail, and I can only compliment him being able to write so very accurately, as he has not been a resident in this country since 1939, after that only visiting Denmark on too rare occasions.

Aviculture in Denmark lost one of its most clever and ardent supporters when Mr. Enehjelm, as an officer of the Finnish army, had to leave Denmark to fight for Suomi, owing to the outbreak of war between Finland and Russia.

PAUL HANSEN.

GORMSGADE 3,
ODENSE,
DENMARK.

With reference to Mr. Paul Hansen's above remarks on my article on "Aviculture in Denmark", I beg to state that I very much regret my lapse of memory in not mentioning "Selskabet for Stuekultur" in my article, the more so as the local society of Odense, where Mr. Hansen is a resident, is one of the most active in foreign bird-breeding in Denmark, some of the members being among the most able fanciers in the country. I have been a judge at their shows on many occasions, and the show in Odense, 1939, was the last one I judged for very many years, and that in 1949 the first at which I judged Foreign birds after the war. As Mr. Hansen quite correctly supposes, it is a lapse of memory on my side, for which I hope the members of Selskabet for Stuekultur will forgive me.

C. AF ENEHJELM.

HÖBHOLMENS DJURGÅRD,
HELSINGFORS,
FINLAND.

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Great Britain :

British Birds.

Cage Birds.

The Ibis.

Our Zoo News (Chester Zoological Gardens).

Australia :

Australian Aviculture (official organ of the Avicultural Society of Australia and the Avicultural Society of South Australia).

Belgium :

Le Gerfaut.

Le Monde Avicole.

Natuurwereld

Zoo (La Société Royale de Zoologie d'Anvers).

Denmark :

Dansk Ornithologisk Forenings Tidsskrift.

Stuekultur.

France :

*L'Oiseau.**La Terre et la Vie.*

Germany :

*Die Gefiederte Welt.**Die Vogelwarte.**Die Vogelwelt.**Ornithologische Abhandlungen.**Ornithologische Berichte.**Ornithologische Mitteilungen.*

Netherlands :

*Ardea.**Onze Vogels.*

South Africa' :

*The Bokmakierie.**The Ostrich.*

U.S.A.

*America's First Zoo (Philadelphia Zoological Garden).**Animal Kingdom (New York Zoological Society).-**The Auk.**Aviculture.**The Wilson Bulletin.**Zoologica.*

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The objects of the Society are to encourage the study, care, and breeding of foreign aviary birds, particularly of those species which may be threatened with extinction; and the dissemination to the members of the knowledge so acquired, through the publication of a magazine devoted solely to the interests of lovers and breeders of foreign cage and aviary birds.

The annual dues of the Society, which include subscription to the magazine, are \$3.50 per year (foreign dues \$3.75 or £1 7s.), payable in advance. There is no entrance fee, and as the Society is not conducted for profit, all officers and contributors to the magazine donate their services.

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AVICULTURAL MAGAZINE

Division of Birds



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THE AVICULTURAL SOCIETY

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STANLEY PARRAKEET.

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JANUARY-FEBRUARY, 1951

THE STANLEY PARRAKEET

(*Platycercus icterotis*)

By EDWARD BOOSEY (Keston, England)

This charming little Parrakeet has everything to recommend it as an aviary bird, and is much the smallest of the Broadtails, being not so very much larger than a Redrump.

As this article is accompanied by a coloured plate, a detailed description is unnecessary, and I will merely say that the male has the upper parts mainly green, with the feathers of the back and mantle almost black, some being bordered with red, but the majority with green. There is much rich dark blue in the wings, and the cheek patches are yellow and the whole of the breast bright red.

The female has the breast brick-red and the cheek patches dull yellow and not so clearly defined as those of the male; in fact in some hens the cheek patches are practically non-existent, being merely indicated by a few scattered yellow feathers. Young birds are not always easy to sex, and vary considerably, but most young cocks show slightly brighter red on the crown.

Despite the hen's duller colouring she is an attractive little bird and makes a pretty contrast with the cock, and I always think that fully to appreciate Stanleys a pair should be seen sitting side by side.

This marked difference in the colouring of the male and female makes adults easy to sex at a glance, is a great advantage from the aviculturist's point of view, and one not shared by most of the Broadtails, which can often only be sexed by the squarer head of the cock when compared with that of the hen, which is usually rounder and more feminine-looking.

There seem to me to be two fairly distinct races of the Stanley, both of which I have kept and bred. In the one the green areas are grass-green and the red ones vermilion; and in the other the green areas are a rather dark oily green, and the red ones a rich scarlet.

Stanleys inhabit South-Western Australia and are known in their

own country as the Western Rosella. They are said to be fearless and partial to cultivated land and the vicinity of farmsteads, where they are much disliked owing to their habit of raiding orchards and garden crops.

Stanleys were among my first loves in the Parrakeet line, and for the last thirty years I have seldom been without at least one pair, except during the five years I lived and worked in London, and at present we have several breeding pairs at Keston.

Never so easy to obtain as the Common Rosella, they became extremely scarce after the Parrot ban came into force, as hardly any aviculturists seemed to have breeding pairs of them, and the few odd ones occasionally offered for sale were usually miserably small, degenerate specimens which were not worth buying.

Having always been particularly fond of Stanleys, I decided to try and see if we could not remedy this sad state of affairs, and once more bring them back into circulation as aviary birds. Luckily, with the aid of our special import licence, we were able to obtain from Australia several very fine and reputedly wild-caught pairs of Stanleys with which to found our breeding stock at Keston. These proved excellent breeders and very prolific, and in addition to gradually increasing the number of our stock pairs, we annually marketed their young ones in ever-increasing numbers until the war broke out.

At first the results seemed disappointing as one only occasionally saw Stanleys advertised, but the numbers have steadily increased until nowadays there are few Parrakeet breeders who do not have Stanleys for sale.

They make excellent aviary birds, and if shut into their aviary shelter each night during the winter, are perfectly hardy and need no artificial heat.

They are the best and most reliable breeders of all the Broadtail family, and are often, though not always, double-brooded. I should think it might even be possible to breed them in a really large flight cage, but an outdoor aviary is much better, and one about 7 feet high by 5 feet wide with an overall length of 15 feet, suits them admirably.

Their nest-box, which should be about 10 inches square by 18 inches deep, should be hung up in the flight under overhead cover, and failing a half coco-nut husk fixed in the bottom—which is the ideal receptacle for the eggs—the box should have a 6-inch filling of decayed wood. Personally, I do not recommend peatmoss as I have found that the eggs tend to get buried in it.

Stanleys should be fed on canary, shelled monkey nuts, sunflower, and a little hemp, the latter being considerably increased when they have young in the nest. They should be given the usual greenfoods and are very fond of spinach beet, of which they will consume a

surprising amount when breeding. As long as they have plenty of the latter, perfectly good young ones can be reared without fruit. On the other hand they are very fond of apples, but, if these are given—particularly when the birds have young in the nest—they *must* be really ripe and sweet or they may well do more harm than good.

Stanleys have been crossed with other Parrakeets, and I myself have bred hybrid Stanley × Mealy Rosellas and a Stanley × Red-rump. As far as I can remember the former were rather attractive but in the case of the latter only one very uninteresting-looking young one was reared and died before moulting into adult plumage.

* * *

AMALGAMATION OF AVICULTURE AND THE AVICULTURAL MAGAZINE

During the year 1950 we tried to bring renewed activity to the Avicultural Society of America. It was not, however, without a struggle! Because of various formalities we started late. But we were full of pride and hope when No. 1-2 of AVICULTURE came out. At last, we were organized and had made a start. I left for Europe early in May, thinking that all was well in hand and smooth sailing. What an illusion! When I was across the Atlantic, deep in other, if more or less similar problems, I was surprised to find that no new number of AVICULTURE was appearing; there was a complete blank of news for a long time. I first put it down to postal delays; then I began to worry. It was only late in the summer that a torrent of unwelcome news arrived; our Editor had had to cease work owing to poor health; then two issues were lost between San Diego and New York; finally our young and active Assistant Secretary, David West, was drafted! We could hardly have had worse luck, and it sounded almost incredible. I got busy writing, trying to have things settled till I could return and discuss the situation with our officers and directors. One bright point, however, was that Mrs. Nancy Bode, of the San Diego Zoological Society, who had been helping Mr. Ken Stott edit the magazine, was willing to carry on for the time being, by the kind permission of my old friend Mrs. Belle Benchley. We owe them our deepest gratitude.

Back in New York, my spirits sank very low, and I was almost ready to give up. But I am not inclined to give up anything until the last chance has vanished. Mr. Crandall and Mrs. Erlanger were also ready to carry on. Soon the prospects began to look a little more promising; the lost issues had been insured and reimbursed, and they were being printed again. Steps were taken to make certain their safe distribution; we caught up with time, and all the 950 issues reached our readers.

At the beginning of 1951, our position is still difficult. We have no funds, and our income is insufficient as the number of our members is far too low, considering the possibilities of a half continent. We have no Editor, and we are always terribly short of copy, and we have no paid publicity to help towards expenses. During the past year, we have been able to carry on, thanks to the generosity of our Secretary-Treasurer, Mrs. M. Erlanger, and of the Zoological Society of San Diego. Now the cost of publication is greatly increasing in America, and we therefore have to face an entirely different situation.

Your officers and directors have therefore decided on a new policy. We have been most fortunate in reaching an agreement with the Avicultural Society, so that their periodical, the old and famous AVICULTURAL MAGAZINE, will also serve as the journal of the Avicultural Society of America and be distributed to the members of our Society. All American contributions and articles will be welcome, and several pages in each number will be reserved for American Avicultural news and notes. Our New York office will centralize the various papers, advertisements, and all other matter for publication, and forward them to the Editor in London. In addition, we will be in a position to publish a special yearbook for the members of the Avicultural Society of America. This arrangement, we feel, will give the best possible satisfaction to our members in the present circumstances.

The AVICULTURAL MAGAZINE has long been an international journal, and it has a tendency to become more so as time goes on. The present step establishes it as *the* world wide avicultural publication. It seems that, in the present difficult times, it is a better policy for all aviculturists to join in one joint effort. The amalgamation of AVICULTURE with the AVICULTURAL MAGAZINE is ensuring the prosperity of a united journal in English for the study of bird life and comportment in captivity.

JEAN DELACOUR,

President, Avicultural Society of America.

The present number commences a new era for the AVICULTURAL MAGAZINE, for from now on it will serve as the journal of both the Avicultural Society and the Avicultural Society of America. When the Council of the Avicultural Society received this proposal from the Avicultural Society of America, through its President, Monsieur Jean Delacour, all members were unanimous that the proposals be accepted.

We do not forget that it was mainly due to the unceasing help of Jean Delacour and other colleagues in the U.S.A. that the AVICULTURAL MAGAZINE was able to be kept going during those dark days of war, when the Editor was never quite sure whether she would be able to produce the next number or not. The close association

which Jean Delacour has always had with the Avicultural Society makes the present agreement an even more happy one, and it will undoubtedly make even closer the friendly relations between British and American aviculturists.

While maintaining complete independence the Avicultural Society of America in uniting with her older sister in Great Britain, will help to produce a magazine which will hold premier place of its kind in the world, for by this action our magazine becomes a truly international one.

On behalf of all members of the Avicultural Society I express a warm welcome to the participation of our American friends.

ALFRED EZRA,

President, Avicultural Society.

* * *

NOTES ON EUROPEAN AVICULTURE, 1950

By J. DELACOUR

The summer of 1950 has been much less dry in Western Europe than that of 1949, with both good and bad effects. I could only visit some collections in England and in France during the last season, but no doubt good results have been also obtained in other countries; I hear, for instance, that Professor Ghigi has reared many rare Pheasants in Italy, while Mme. Malisoux, in Belgium, was again very successful with Tragopans, Gray Peacock-Pheasants, and other unusual species. She has also acquired several Palawan Peacock-Pheasants and Indian Koklass during the year. Waterfowl were not very successful at Woburn Abbey, where the Duke of Bedford hatched 70 Red-breasted goslings, but reared only 14, many having contracted a disease when half grown. His very choice collection of Parrots and Parrakeets has now been established in new movable aviaries at Woburn, and some have successfully bred. A magnificent pair of Gang-gang Cockatoos have reared an equally magnificent young pair, and there were a number of young Rock-Peplers, Barraband's, Barnard's and Pileated Parrakeets. Budgerigars of all colours flew over that part of the garden, beautifully trained to go in and out of their flight, a lovely sight. The Duke of Bedford has long been a great master at training birds to stay at liberty. Budgerigars, being migratory, must be caught in the early autumn and kept in till the following spring.

There were also few young waterfowl at Whipsnade; but I saw there a fine young Manchurian Crane; several Whooper Swans; a few Brush Turkeys; 7 Crested Guineafowl; 3 Monals; 1 Satyr and 3 Temminck's Tragopans; some Edwards and Blue Eared Pheasants, and lots of commoner chicks. At the London Zoo a number of Horsfields Kalijis were raised from an imported pair; also 3 Sonnerat's Junglefowl and several other game birds.

Mr. A. Ezra had a young White-necked Crane, a number of Mandarin Ducks, 5 Ashy-headed Geese, 2 Leadbeater's Cockatoos, but only a very few Yellow Ringneck and Queen Alexandra's Parakeets.

In Gloucestershire, Peter Scott's waterfowl collection has been greatly increased. The grounds have become very attractive, with a lot of well-kept grass, growing trees, and bushes. The series of Swans, Geese, and Ducks are really outstanding, to-day the most complete in the world. Valuable recent additions are a pair of Nenes and a pair of Hawaiian Mallards, both nearly extinct species. Others are 5 pairs of Maned Geese, Chestnut-breasted Teal, and Gray Teal imported from Australia, a pair of South American Comb Ducks: imported Blue-winged Geese, Spur-winged Geese (both forms), Red-billed Pintails, and Cape Teal from Africa. Nearly 300 goslings and ducklings have been reared, including Ross, Lesser White-fronted, Chinese, Emperor, Lesser Canada, Cereopsis Geese; European and New Zealand Sheld-Ducks; Ruddy Ducks, and ten Gray-breasted Red-billed Whistling Ducks (*Dendrocygna autumnalis discolor*), a bird which has seldom bred in captivity, while its northern close relative, the Black-bellied, nests freely.

Leckford is always a wonderful sight in the summer, with its hordes of young waterfowl and game birds. During my several visits there, I saw Black and Black-necked cygnets; 20 Ashy-headed, 1 Ruddy-headed, 7 Magellan, 8 Emperor, 2 Ross, 10 Blue-winged, and other common goslings; 10 or 12 young each South African and Ruddy Sheld-Ducks, and Andean Crested Ducks. There were hundreds of ducklings, among them 10 Chestnut-breasted and 6 Falcated Teal, two species nearly extinct to-day in captivity which had hardly been bred since the war; 2 Radjah Sheld-Ducks; 8 Marbled Teal, seldom if ever raised before. Unfortunately, an epidemic of crop worms later on caused the death of 4 Emperor, 1 Ross, and 1 Red-breasted goslings, the latter the only one hatched this year. Among the Pheasants, 1 Satyr and 20 Temminck's Tragopans; about 20 each Mikados and Gray Peacock-Pheasants; 2 Brown and many Blue-eared Pheasants; Edwards, Swinhoes, Impeyan Monals were raised. There were also 5 Stanley's and 7 Queen Alexandra's Parakeets. To finish with England, my friend Captain S. Stokes reared 5 Red-breasted Geese after many years of failure with these birds.

Early in August I spent several days at Géry, near Limoges, central France, with my old friend, Mr. A. Decoux. His large collection of Parakeets, Doves, and small birds still is one of the finest in existence, and he had a number of young birds of many species, particularly of Australian Parakeets, Finches, and Doves. We motored north a hundred miles one day to Scorbé-Clairvaux, a village in the Poitou, long famous in avicultural circles. For many years the local vicar, the

late Abbé Leray, was an outstanding breeder of Parrakeets and Pheasants and met with very considerable success. His nephew, now very old, still keeps and raises birds, mostly Zebra Finches, Diamond Doves, Budgerigars, Lovebirds, and Swainson's Lorikeets. But Mr. and Mrs. Bertin, now in their seventies, who were also the Abbé Leray's pupils, still breed innumerable birds, and continue making a fair living out of them. Their old stone house is adjoined by a walled-in yard and garden. Flights are built all around, with very large shelters, mostly open in front, right along the walls. They are very practical, very cosy, and evidently most suitable. About 30 in number, rather shallow but fairly wide, they contain Lovebirds and Budgerigars of all colours, including the most recent mutations; Cockatiels; various Zebra and Society Finches; Diamond, Peaceful, Bleeding-heart, Bronze-winged, and Brush Bronze-winged Doves. The bulk of the breeding, which brings in money, consists of the Budgerigars, Zebra and Society Finches, and Diamond Doves, which are raised and sold annually by the hundreds and possibly the thousands to bird dealers in and outside France. The demand always exceeds the supply. Mr. and Mrs. Bertin love their birds and are devoted to them. They feed them on a great deal of sprouting wheat and oats, and they believe that a good part of their success is due to such a practice.

There are many other similar bird breeding establishments in central France, as well as amateurs' collections, which I hope to visit next year.

I will end with a few words about Clères. Thanks to Mr. F. Fooks' incredible energy and ingenuity, it has regained almost completely its pre-war standard. Despite the disturbance caused by thousands upon thousands of visitors, who are necessary due to the very heavy cost of upkeep of the grounds, a number of young birds were reared last summer, mostly waterfowl, game birds, pigeons, and parrakeets. Among the more interesting species, I should like to mention 5 Red-breasted and 4 Greenland White-fronted Geese, the latter for the first time in captivity. A number of ducks were allowed to raise their broods on the lake. It simplifies matters a great deal, and remarkably few are killed by rats, Crows, and Magpies. The only drawback is to have to catch the ducklings and pinion them before they can fly. A Red-crested Pochard hatched and raised 9, and a Chilean Teal 5 ducklings. The last few years the lake has been partly overgrown with a submerged weed that we never had before (*Potamogeton trichoides*). It is tiresome as it looked a bit messy, but it provided wonderful feed to the birds, not only the leaves and shoots that they eat eagerly, but also the shrimps, daphnies, and insects which swarm among them. We also reared Temminck's Tragopans, Mikado, and Edwards' Pheasants, Green Peafowl, and other commoner species; many Doves, one pair of

Bronze-wings having produced 8 young in less than six months. A pair of Bleeding-hearts raised two without any live insects, entirely on softbill mixture and egg food. Budgerigars of many new colours, and various Lovebirds were also reared.

During the past year, a large number of new birds were acquired in America, in England, in France, and elsewhere, and the collection has been greatly improved. It has become much easier to acquire birds in Europe during the past year. Permits for imports have been more liberal in France and in England. Indian, African, and Mexican consignments have arrived in both countries on a large scale, as well as some birds from China, South America, and Australia, while Belgian and Dutch dealers continue to offer large assortments from many parts of the world. In number and varieties of the birds, the European markets are fairly similar to the American, and prices are pretty much the same everywhere.

* * *

MY GREAT HOBBY

By A. TADESON (Niagara Falls, Ontario, Canada)

Having to work with a bird fancier may at times be a headache to more than one worker who had the pleasure or displeasure in listening to his many ravings about the bird he had just bought, raised, sold, or might have seen somewhere ; but to me it was the birth of a wonderful hobby. I spent my boyhood days on a farm, but most of my bird fancying had been done only from the side lines, just observing them when the occasion arose. However, listening to the many experiences my friend had had, and the unbounding pleasure he used to get when he raised a good bird, be it domesticated or a wild one, seemed to spark a desire in me to raise them, to be closer to them, and to study them more.

My younger days on the farm had instilled in me a great admiration for the graceful and beautiful Pheasant and when my thoughts turned to raising birds, my first love was the Pheasant ; later came other birds.

The problem of building suitable pens and aviaries confronted me first. Being on a small city lot worried me at first, but my friend insisted I would have enough room to raise a goodly number of birds. I knew I wouldn't be satisfied with keeping just one or two species, so I had to keep the size of the pens down, and yet each one big enough to hold several birds if need be. I started with pens approximately 5 feet wide, 17 feet deep, by 6 feet high. I built the framework with 2 by 4, and 2 by 2, and used 1 inch mesh chicken wire to cover it. At the back end of each pen I built a shelter right on the pens, covering three sides, and a roof. I boarded up the front end of the shelter just part way up from the ground, and from the roof down. Under the

roof I placed the roosts. This gives the Pheasants shelter from rain, sleet, and wind. I took precautions against rodents getting in by burying sheet metal down one foot all around the pens. I also placed a board or two all around the bottom of each pen to protect their tails from wear and tear of rubbing against the wire. I put lake sand in the pens. This certainly keeps the birds cleaner, besides giving them plenty of dusting material. Fruit trees growing around the pens supply most of the shade for the birds ; I planted additional small trees in the pens to give more shade and to improve the general appearance of the pens. All the older Pheasants spent the year round in these pens and don't seem to mind our climate here. Late hatched birds sometimes have to be put inside when wet and cold weather sets in.

The first pair of Pheasants I decided to get were Lady Amherst's. I thought they were the most beautiful I had ever seen, and to-day I still think that. Next came the Golden and then the Reeves and the Silvers. The past year or so I introduced different species of Doves into the Pheasant pens, and they seem to get along very well together. They have their own little coops to get into if they so desire, or can roost on the limbs of the small trees growing in the pens. When cold weather comes they are put inside.

I try to keep my pens as clean as possible. I like to feed the birds a good variety of grain and seeds. Occasionally I give them additional treats such as apples, grapes, and raisins. I always make sure that they get enough fresh water and greens such as lettuce, dandelions, or grasses that may be available, each and every day. I think this is very important to their health and well-being. The Doves are given extra seeds and treats they like.

Every spring, when the egg laying season rolls around, I am filled with new interest and excitement. I wonder how the hatch will turn out and how many birds I will raise. I wonder how my new ideas will work out, if I will raise any young from that new pair that I bought. I have raised Pheasants in home-made brooders and with broody hens. I think that I have had best results with bantam hens. I have small coops made that have a wire run attached to them and can be moved to fresh ground.

The few short years that I have raised birds has given me a tremendous amount of pleasure and relaxation from daily routine of work.

Many interesting experiences keep the interest up in this great hobby. For any disappointments that may come, there is also the good luck that follows. I think the greatest thrill that I have received from my hobby yet was when I set my first clutch of Pheasant eggs and got a perfect hatch. My worst disappointment was seeing these fifteen beautiful chicks die one by one within forty-eight hours. I had made the mistake of using the largest Rhode Island Red hen, I think, in Welland County.

I plan to build up my hobby to a point where I will be able to keep at least one pair of the rarer species of birds. I think the need is great for fanciers to breed and study the rarer birds. With civilization cutting more and more inroads into the habitats of the birds, many species are surely becoming scarce and are fast nearing extinction. Too much cannot be said for the value of propagation of these birds.

Bird raising is one of the most interesting and worth-while hobbies any man or woman could find to-day.

* * *

MY MAGPIES, PAST AND PRESENT

By DEREK GOODWIN (Virginia Water, England)

With mixed feelings I comply with our fair Editor's request to "write something about your Magpies". With pleasure because to write about this unique and beautiful member of the corvine tribe cannot but conjure up happy memories, but with misgivings when I realize how skin-deep is my knowledge of the bird.

When writing previously about Jays I said that they are seldom aggressive with other birds that share their quarters. The same cannot be said for the Magpie. I have read of tame Magpies that lived peaceably with other birds, even in one case with Waxbills, but of such a bird one may say as Cicero said of a good government, that it "is something to be hoped for rather than a possibility". In a wild state the Magpie is rarely a killer of adult birds, probably never unless they are badly injured, but then he has plenty of other things to occupy his mind and energies. In a tame or captive state it is usually a case of "how oft the sight of means to do ill deeds makes ill deeds done". Generally, Magpies are safe enough with such birds as Golden Pheasants, but even then one must watch out for the first sign of aggression. It is usually correct, and certainly wisest, to assume that if a Magpie playfully plucks a tail feather from one of his aviary companions he will kill it, or attempt to kill it, sooner or later if they are left together. Lest some anti-corvid crank should suggest that this proves that wild Magpies take a great toll of bird-life I would add that except in so far as its smaller size limits its sphere of activities the Great Tit when in captivity is a far more bold and persistent bird-killer.

My first Magpie was taken more years ago than I like to remember; she was hand-reared in an outhouse much frequented by domestic Pigeons and apparently became "imprinted" on them. When she could fly she lost much of her early tameness and consorted with the Pigeons, roosting in the loft with them whenever permitted to do so. When they took their circling flights around the house she flew with

them, her short wings beating frenziedly in her efforts to keep up, and usually getting thrown out of the flock at every turn. Strong winds caused her much trouble, and one day when a fair gale was blowing she was whirled right away and vanished from sight, still heading for home and chattering wildly in alarm. I was in a state of mental agony and fearing the worst, but fortunately the wind slackened a little and after some minutes there appeared in the distant sky "first a speck and then a Magpie" (with apologies to Longfellow) who gradually battled her way nearer and nearer and at last, to the joy of her young owner, dropped safely on the roof among the Pigeons.

I forget when or how she first started to rob the Pigeons' nests of their eggs and young, but certainly before she was a year old the habit was firmly established. True, the depredations of a single Magpie could not prevent the successful breeding of all of some twenty pairs of Pigeons, but she took a heavy toll and usually managed to get hold of any young ones that I particularly wished to keep. To keep her out of the Pigeon loft was no easy matter for she not only learnt to go in through the bolting wires but also how to lift them up with her head and get out of them again. At various times she was kept in "preventive detention" but she was as quick to see and take a chance of escaping as any Borstal inmate and she took her confinement so hardly that I seldom had the heart to keep her imprisoned for long. On one of these occasions she achieved a signal albeit unwitting revenge by contriving in my absence to seize and pull through the $\frac{1}{2}$ in. wire mesh every one of a brood of four young canaries that had just left their nest in an adjoining aviary. The killing and eating of young birds belonging to her owner did not by any means complete the list of her annoying ways. Like many other bipeds, she believed in fighting for her rights and resisting aggression. Like some modern statesmen, she considered any defence of self or property on the part of her victims as aggression that must be punished, although in her favour it must be said that she took some risk and trouble to punish it in person. One of the many disadvantages of being born a "sub-human" creature is that one can never hope to attain a position of domination over ones fellows without need of courage, or to fight ones battles by proxy without personal risk. Still, all right-minded people will at once agree that such delights should be—as they are—reserved for those who have been made in God's own image.

To return to the Magpie. Her bitterest feud, and one that lasted some months, was with a Bantam hen. Exactly how it started I do not know, but I can guess who started it. The Bantam had been sitting on seven eggs in an old open rabbit hutch. I first realized all was not well when I observed her engaged in furious battle with the Magpie on the ground and getting the worst of the engagement. I rescued the Bantam, whose comb had been torn half off, and carried

her indoors to dress her wounds. There was a broken egg on the ground and three still left intact in the nest, which latter—I having foolishly left the hutch open—the Magpie removed and hid whilst I was attending to the Bantam.

Having come off best did not in any way mitigate the Magpie's resentment at the Bantam's resistance, and for several weeks after she attacked the unfortunate bird, and harried her till she took cover every time she noticed her. The Bantam was one of seven sisters, all Partridge-coloured and much alike, but the Magpie never made a mistake and attacked the wrong one.

She showed no interest in wild Magpies which sometimes visited the garden but appeared to respond socially only to the Pigeons. In her third year she built a nest on top of some boxes in the Pigeon loft and laid six eggs. The nest was typical in every respect except that the dome of interlaced sticks overhead was absent, as it may also be in wild Magpies' nests if they are built in positions unfavourable to its construction. As her eggs were, of course, infertile and I could get no Magpies' eggs for her I substituted three Jays' eggs. These she hatched, but apparently made no attempt to feed them and they all died of starvation, their plight being discovered too late to attempt to save them. Possibly, as is the case with the Rook, the male Magpie alone feeds the young in the early stages. In any case, in all corvine birds—so far as is known—the cock supplies the food at first, and possibly in the absence of a mate the hen would feel no impulse to collect food for newly-hatched young.

The nesting was her grand finale, for shortly afterwards she vanished, probably killed by some human predator. No Magpie I have possessed since has been quite such a forceful character, but equally none has been half so destructive. The spring after her death I again succumbed to temptation and this time procured two young Magpies. They were at first delightfully tame, and when I called them to feed would come flying in from the wood behind the garden, swoop down and alight on my head and arms in the most spectacular and delightful manner. But alas, they soon became wilder and would not approach nearer than a few yards. They still, however, made the garden their headquarters and roosted in a shed at night, so that they were under control and at the same time a most interesting and ornamental couple. So far as I can remember they did no appreciable damage to my other birds; they were certainly in no sense the scourge that their predecessor had been. One never looked really fit in spite of good food and constant liberty, and when about eighteen months old it died.

The survivor, a cock, then began to associate with a wild hen Magpie and to roost, presumably with her, out in the woods. She came regularly with him to the garden for food, always perching on

the trees and never on the roof as her mate commonly did. Soon there was nothing to choose between them for wildness and neither would come to the garden whilst anyone was in sight. This was about 1938, and their visits, accompanied in summer by grown up young, continued until 1940. Thereafter, my absence from home caused me to lose track of them. When I returned in 1945, Magpies were no longer visiting the garden and, indeed, had decreased markedly in the immediate neighbourhood.

I had intended to concentrate on Jays and keep no Magpies, but fate decreed otherwise. "Grip" was found sitting disconsolately on the ground outside a thicket in which was a Magpie's nest. Since she was not more than two weeks old it was obvious that she must have been taken from the nest and marooned by some callous person. Her rescuer was unable to get to the nest to return her, or at least so he said and probably thought, but since someone had quite clearly taken her out I have no doubt that he could have put her back had he *really* wanted to do so. Anyhow, he made a good job of hand rearing her and she grew up a most delightfully tame and fearless bird. Owing to various circumstances, which I will not bother to go into here, she was, however, offered to me when a few months old, and need I say what my answer was?

That was in July, 1949, and since then she has been with me and quite captured my affections and, even more, those of my friends, most of whom I feel sure find the Magpie far more entertaining company than her owner! Human beings she shows great interest in and affection for, hopping up to them with her white parts fluffed out and tail switching sideways, usually finishing by edging up to their faces, uttering soft conciliatory notes, drooping her head, and flicking the white nictitating membrane sufficiently slowly across her eyes to reveal for a moment the brilliant orange of its upper part. Unfortunately, this fixation on human beings inevitably means that when allowed her liberty she enters other people's houses and makes a general nuisance of herself, so I am reluctantly obliged to keep her more or less permanently confined. She is liable to panic at odd things, as when for three weeks she hid in one corner of the aviary terrified at some wooden poles that were being used for the construction of a new aviary. As soon as the wire netting was put round the poles the Magpie lost all fear of them and behaved normally once again. In general, however, she is little afraid of inanimate objects and when one is cleaning out the aviary she comes and hops on to broom and wheelbarrow with a lively and quite unapprehensive curiosity.

In February of 1940 she began to build, and from then until she commenced to moult in mid-May she spent much time carrying sticks and fussing about her nest, although the latter never got further than a rough pile of sticks. This may have been due to immaturity, but

I fear a more likely reason is that she regarded me as her mate, and I was a very inadequate substitute for some devoted cock Magpie. A third possibility is that Grip may be a cock "herself" for, although I do not think this is the case, I have a well-founded mistrust of my "intuitive" sexing of corvids. As soon as she noticed me engaged elsewhere in the garden she would fly to her nest-site and utter the long-drawn loud throaty nesting call as if to try to call my attention to my duties. When I went up to the nest she would go into ecstasies of affectionate excitement, fidgetting with sticks, uttering soft tender notes, and flicking her nictitating membranes like windscreen-wipers.

In July, 1950, I was given a cock (?) Magpie, a big Crow-like brute with a very large bill. He had been hand-reared along with two Jays and when I had seen him some months before had appeared to be reacting socially both to his owners and the Jays. Since I have had him, however, he has shown no social behaviour towards humans, and although tame enough to feed from the hand, is inclined to panic at the sight of anything strange.

The newcomer soon made himself master of the aviary. Grip fears him a little and dislikes him more, but for the most part they ignore one another. Since September she has resumed nest-calling and fiddling about with sticks on her nest-site in a rather half-hearted way but the male bird shows no interest in these proceedings.

Since the beginning of last month a most pleasant development has taken place (date of writing this, 10th December, 1950). I mentioned the post-war decrease of Magpies in my immediate neighbourhood. There has, however, for two or three years been a single pair in the vicinity and early last month they discovered the aviary with the tame birds. They showed at first great excitement and for several days spent much of their time desperately trying to get into the aviary. Their motives seemed chiefly aggressive. This may, however, have been because Grip usually got panicky and flew wildly to and fro, when one—usually the presumed female—of the wild pair dashed after her above the wire. The captive cock (?) bird was bolder and often tried to fight through the wire, but at first he also seemed rather intimidated than otherwise. I think this was possibly because the attackers were always above him. Within a week or two the hostility of the wild birds largely decreased and the captives lost their fear of them. Their visits now seemed social rather than aggressive, with of course, the added incentive of the tit-bits that I took care to put out for them. The difficulty of distinguishing the two wild birds one from another tempted me to catch and ring them, but I resisted temptation since I was afraid the fright entailed might make them keep away for good. All birds are terribly frightened at being handled for ringing and although most species soon get over their fear and are too stupid to be able to recall the actions leading up to their unpleasant experience

sufficiently coherently to avoid visiting the same place again it is very different with the more intelligent types. At least in the case of the Jackdaw one usually finds a complete desertion for at least three or four months of any garden in which it has been caught and ringed, with the exception of young Jackdaws, which, if still being fed by their parents, will follow them again into an area in which they have been caught and ringed only a day before. The Jay, who is not the equal of his relatives in brain-power, although even more charming as an aviary bird, will, on the other hand, freely come again to the trapping-area and even enter the same trap.

I was uncertain in which way Magpies would behave and decided not to risk scaring my beautiful and welcome guests. Fate, however, decided otherwise, since on going to the aviary this morning I found that one of the wild Magpies—I think the hen—had found a broken wire and got inside. I had no option but to catch her, an unpleasant process for all concerned since my tame male bird imagined I was trying to catch him and panicked as well, to a lesser extent. Only Grip was completely indifferent, flying up and clinging to my shoulder as I dodged about the aviary, and when I was ringing the wild bird utterly ignoring it as she hopped about my arms “talking” affectionately to me.

On being released the wild bird did not stop flying till she was in the wood. Later I saw her and her mate in some trees near the garden, but whether they will again regularly visit a place where one of them has suffered so much fear remains to be seen. A still more burning question is whether my two birds will prove a pair and if so whether they will finally accept each other as a mate and attempt to breed. If they do I must admit I shall be rather surprised—and greatly delighted.

PS. Since writing the above (date now 15/1/51) my cock Magpie escaped in a panic whilst some workmen were messing about with ladders in the garden and has not been seen since.

The two wild birds still visit the garden but show less interest in the aviary and are *both* extremely wary and timid, far more so than they were before they were caught and ringed.

BREEDING RESULTS AT AMERSFOORT, HOLLAND, 1950

By A. F. C. A. VAN HEYST

1950.	Dates of Laying.	Number of Eggs		Number of Birds	
		Laid.	Incubated.	Hatched.	Reared.
<i>Satyr tragopans</i> (<i>Tragopan satyra</i>). One cock and one hen ; cock two years old, hen adult ; cock from Belgium, hen imported from India.	No eggs laid.				
<i>Impeyans</i> (<i>Lophophorus impejanus</i>). One cock and one hen ; three and four years old ; imported from India.	April 15, 18, 21, 24 ; May 9, 11, 14, 17, 20 ; June 4, 6, 9.	12	12	9	6
<i>Blue Eared Pheasants</i> (<i>Crossoptilon auritum</i>). One cock and one hen ; two years old ; cock imported from U.S.A., hen from Holland.	April 16, 18, 20, 23, 25, 27, 29 ; May 1, 3, 5, 7, 9, 11, 13, 14, 16, 19, 20, 22, 28 ; June 4, 6, 8, 10.	24	23	18	14
<i>Blue Eared Pheasants</i> (<i>Crossoptilon auritum</i>). One cock and one hen ; two years old ; cock from Holland, hen imported from U.S.A.	April 11, 14, 16, 18, 20, 22, 24, 26, 28, 30 ; May 2, 4, 6, 8, 9, 11, 15, 17, 19, 28, 30 ; June 1, 3, 4, 6, 8, 10, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29 ; July 1, 3, 5, 7, 9, 11, 13, 15, 17, 20.	47	21	0	0
<i>Swinhoe Pheasants</i> (<i>Hierophasis swinhoii</i>). One cock and one hen, four years old ; imported from U.S.A.	March 17, 20, 23, 25, 28, 31 ; April 2, 13, 16, 18, 29 ; May 1, 4, 6, 15, 16, 18, 21, 25, 27.	20	20	32	20 (7♂, 13♀)
<i>Swinhoe Pheasants</i> (<i>Hierophasis swinhoii</i>). One cock and one hen, four years old ; imported from U.S.A.	March 18, 21, 23, 26, 28, 30 ; April 2, 12, 14, 17, 22, 25, 27, 30 ; May 3, 25, 27.	17	17		

1950.	Dates of Laying.	Number of Eggs		Number of Birds	
		Laid.	Incubated.	Hatched.	Reared.
<i>Cheer Pheasants (Catreus wallichi).</i> One cock and one hen; adult birds; imported from U.S.A.	April 22, 25, 28; May 1, 3, 5, 7, 9, 11, 13, 20, 22, 24, 26, 28, 30; June 1, 3, 5, 7.	20	20	10	8 (4♂, 4♀)
<i>Elliot Pheasants (Syrmaticus ellioti).</i> One cock and one hen; adult birds, pinioned; imported from U.S.A.	March 18, 20, 22, 24, 27, 29; April 1, 3, 5, 7, 9, 11.	12	12	0	0
<i>Lady Amherst (Chrysolophus amherstiae).</i> One cock and one hen, four years old; imported from U.S.A.	April 23, 25, 28, 30; May 2, 4, 6, 8, 10, 12, 14, 17, 19, 21.	14	10	10	7 (4♂, 3♀)
<i>Ashy-headed Geese (Chloephaga poliocephala).</i> One male and one female; adult birds; imported from Chile.	April 21, 23, 26, 28, 30; May 2, 4, 17, 19, 21, 23, 25, 27, 29; June 4.	15	15	7	4 (1♂, 3♀)
<i>Upland Geese (Chloephaga picta).</i> One male and one female; adult birds; male apparently very old bird, from Holland; female imported from Chile.	April 4, 6, 8, 10, 12, 13, 15, 27, 29; May 1, 3, 4, 6, 27, 29, 30; June 1, 3, 5.	19	17	0	0
<i>Chiloe Wigeons (Anas sibilatrix).</i> One male and one female; adult birds, unpinioned; imported from Chile.	May 6, 8, 10, 11, 13, 14, 16, 18, 21, 23, 24, 25, 27, 29; June 2, 3, 4, 5, 7, 8, 9, 13, 15, 16, 17, 18, 24, 25, 27, 30; July 1, 3, 19, 21, 22, 24, 26, 27, 28, 30.	40	39	19	8 (3♂, 5♀)
<i>Mandarin Ducks (Aix galericulata).</i> One male and one female; adult birds; from England.	April 26, 28, 30; May 2, 4, 6, 7, 9.	8	15	4	3 (1♂, 2♀)
<i>Mandarin Ducks (Aix galericulata).</i> One male and one female; adult birds; male from Holland, female from England.	April 29; May 1, 4, 6, 8, 10, 12.	7			

1950.	Dates of Laying.	Number of Eggs		Number of Birds	
		Laid.	Incubated.	Hatched.	Reared.
<i>Carolina Ducks (Aix sponsa)</i> . Eight males and eight females; different ages; from Holland and England.	First egg, March 15; last egg, June 5.	203	194	155	100 (44♂, 56♀)
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AN UNUSUAL COLLECTION OF CANADIAN BIRDS

By DR. W. E. HURLBURT (Vineland, Ontario, Canada)

About fifteen miles from Toronto, near the village of Erindale, there is a most unusual collection of birds, owned by a remarkable man. It consists mostly of native birds, which can only be kept by government permit, but it differs from the ordinary aviary in the great confidence which the birds display toward their keeper. It is true that a certain proportion are hand-reared, about half of the ninety-two birds that were there when these notes were made, and also about a dozen more had been bred in confinement. Nevertheless, there is no doubt that Mr. Ivor has a way with them, as I have seen wild Chickadees and Nuthatches follow him from his home to the entrance of the property, about a quarter of a mile, and fly to his hand for peanuts as we walked along.

A short account of Mr. Ivor's avicultural career may be of interest. He was born in the Old Ontario village of Strathroy; he moved to the Western prairie province of Saskatchewan, and lived there for sixteen years. Always interested in birds, he and his brother were first to find the nest and eggs of Richardson's Merlin (*Falco columbarius richardsoni*), a bird of the plains. This is mentioned in Macoun's *Catalogue of Canadian Birds*. About twenty-five years ago Mr. Ivor returned to Ontario and bought his present place, which is ideal for his purposes. The house is a small shingle-covered cottage, situated in a clearing of about 4 acres, and surrounded on two sides by the mixed coniferous and deciduous woods of Southern Ontario. It is approached by a winding path leading through a wooded valley and is quite secluded. It was here that he began keeping birds through obtaining two tame Crows, and from that start the hobby gradually developed to its present proportion.

The following is a probably incomplete list of the native species kept. The nomenclature followed is that used in P. A. Taverner's *Birds of Canada*, 1934.

(1) Golden Eagle (*Aquila chrysaetos*), (2) Nighthawk (*Chordeiles minor*), (3) Yellow-shafted Flicker (*Colaptes auratus*), (4) Prairie Horned Lark (*Otocoris alpestris praticola*), (5) Barn Swallow (*Hirundo erythrogaster*), (6) Canada Jay (*Perisoreus canadensis*), (7) Blue Jay (*Cyanocitta cristata*), (8) Steller's Jay (*Cyanocitta stelleri*), (9) American Magpie (*Pica pica hudsonia*), (10) American Crow (*Corvus brachyrhynchos*), (11) Black-capped Chickadee (*Penthestes atricapillus*), (12) White-breasted Nuthatch (*Sitta carolinensis*), (13) House Wren (*Troglodytes aedon*), (14) Mockingbird (*Mimus polyglottos*), (15) Catbird (*Dumetella carolinensis*), (16) Brown Thrasher (*Toxostoma rufum*), (17) American Robin (*Turdus migratorius*), (18) Wood Thrush (*Hylocichla mustelina*), (19) Hermit Thrush (*Hylocichla guttata*), (20) Olive-backed Thrush (*Hylocichla ustulata*), (21) Gray-cheeked Thrush (*Hylocichla minima*), (22) Wilson's Thrush (*Hylocichla fuscescens*), (23) Eastern Bluebird (*Sialia sialis*), (24) Bohemian Waxwing (*Bombycilla garrula*), (25) Cedar Waxwing (*Bombycilla cedrorum*), (26) Loggerhead Shrike (*Lanius ludovicianus*), (27) Common Starling (*Sturnus vulgaris*), (28) Red-eyed Vireo (*Vireo olivacea*), (29) Bobolink (*Dolichonyx oryzivorus*), (30) Eastern Meadowlark (*Sturnella magna*), (31) Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), (32) Baltimore Oriole (*Icterus galbula*), (33) Cowbird (*Molothrus ater*), (34) Scarlet Tanager (*Piranga erythromelas*), (35) Cardinal (*Richmondia cardinalis*), (36) Rose-breasted Grosbeak (*Hedymeles ludovicianus*), (37) Black-headed Grosbeak (*Hedymeles melanocephalus*), (38) Indigo Bunting (*Passerina cyanea*), (39) Evening Grosbeak (*Hesperiphona vespertina*), (40) Purple Finch (*Carpodacus purpureus*), (41) Pine Grosbeak (*Pinicola enucleator*), (42) Common Redpoll (*Acanthis linaria*), (43) Pine Siskin (*Spinus pinus*), (44) American Goldfinch (*Spinus tristis*), (45) Savannah Sparrow (*Passerculus sandwichensis*), (46) Vesper Sparrow (*Poocetes gramineus*), (47) Slate-coloured Junco (*Junco hyemalis*), (48) Tree Sparrow (*Spizella arborea*), (49) Chipping Sparrow (*Spizella passerina*), (50) Field Sparrow (*Spizella pusilla*), (51) Harris's Sparrow (*Zonotrichia querula*), (52) White-crowned Sparrow (*Zonotrichia leucophrys*), (53) White-throated Sparrow (*Zonotrichia albicollis*), (54) Fox Sparrow (*Passerella iliaca*), (55) Song Sparrow (*Melospiza melodia*).

The birds are kept in two aviaries. The older, or winter aviary, is attached to the eastern portion of the dwelling-house and faces south. It is 30 feet long, 10 feet wide, and 8 feet high, and is now provided with an outdoor flight. Inside, along the northern wall, are a number of roomy cages for the isolation of individual birds, especially combative males, in the spring. This aviary is heated with an oil stove and is used to house the collection from October to May.

About 30 feet south-east of the house is another aviary used for summer quarters and particularly for breeding pairs. This is a circular dome-roofed structure, about 20 feet in diameter, consisting of a large

central portion, and a number of smaller compartments for individual pairs around the periphery. Each of these compartments has an ingenious door which allows a pair to go out and re-enter, when the owner so decides. They can thus range freely about the garden, fields, and woods and capture much of the live food which is essential when rearing young. There are losses, of course, due to the capture of released birds by Hawks and Owls, and sometimes by fighting, from a tenant entering a neighbour's compartment. The birds almost never desert their young and fly away, the only instance that I heard of occurred with a pair of Redpolls. There is no doubt that some of the success attained in breeding is due to this free flight of the parents.

The staple food used for both seed and insect eaters is a powdery mixture of about eighteen ingredients which is based on a formula given by Dr. Robert B. Boucher, of Pennsylvania State College. This has been modified somewhat by Mr. Ivor. In addition to this food, considerable amounts of screenings from a local milling company, home-grown millet, and dried wild fruits are supplied. The birds appear in excellent condition.

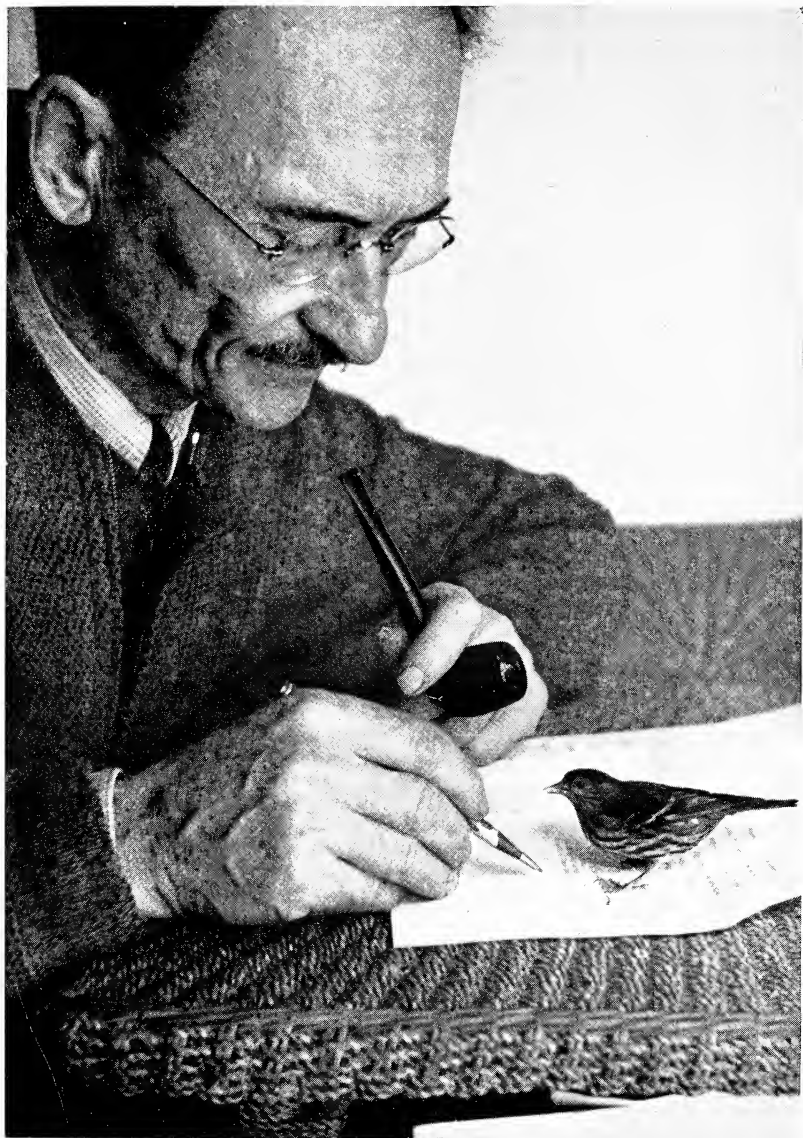
Study of the habits and behaviour of his birds provide the chief interest for Mr. Ivor. He feels that they display much the same characteristics as man and the other higher animals, only differing from these in degree, and that they are not mere automatons and slaves of instinct, as is claimed by some authorities. Quite a difference has been noticed among various species, in general adaptability and the ability to solve problems. The Crow and Blue Jay are rated as most intelligent, followed by the Rose-breasted Grosbeak and the Catbird. The European Blackbird is put at the head of the Thrush family, then the Bluebird and the Wood Thrush, the American Robin bringing up the rear. The brain of the Cardinal is not highly rated.

The peculiar action known as "anting", in which a bird holds an ant in its beak and rubs it over its feathers, has been studied by Mr. Ivor and his observations published in *The Auk*, July, 1941, and January, 1943. Motion pictures have been taken of the birds while performing. In the experiments sixty-three birds of thirty-one species were observed. The majority were American, but a few European and Asiatic species were used.

The following twenty species anted: Blue Jay, Catbird, American Robin, Hermit and Wilson's Thrushes, Pekin Robin, Cedar Waxwing, Bobolink, Baltimore Oriole, Cardinal, Rose-breasted Grosbeak, Black-headed Grosbeak, Indigo Bunting, Slate-coloured Junco, Harris's, White-crowned, White-throated and Song Sparrows.

The following ten species did not ant but ate the insects: Flicker, Horned Lark, Brown Thrasher, European Blackbird, Cowbird, Evening Grosbeak, Purple Finch, Greenfinch, and Brambling.

The Pine Siskin neither anted nor ate the ants. None of the birds



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MR. IVOR WITH TAME PINE SISKIN.

[Hugh M. Halliday.

[To face p. 20.

was seen to ant while at liberty, but only in the aviary, a shovelful of earth containing ants being put inside. The ants were rubbed on the ventral surface of the primaries, but not on the legs. They were not rubbed on places where parasites were most likely to occur, such as under the wings, on the rump, or near the vent. Comical contortions took place while doing this, the birds often tumbling over backward. The birds apparently often ate the ants after rubbing them over their feathers.

Although breeding birds has not been a primary object to this aviarist, considerable success has been attained ; moreover, a number of species have been bred for more than one generation, which shows skilful management. The following are some of the successes :—

American Magpie.—A species not native to this part of North America nested in a tree by the house. The eggs were destroyed by Crows, then the Magpies left and reared a brood about twenty miles away, in complete independence.

Blue Jay.—10 to 12 young reared—two generations bred.

Catbird.—5 reared—one generation.

Wood Thrush.—8 reared—two generations.

Bluebird.—15 reared—two generations.

Cardinal.—10 to 12 reared—two generations.

Evening Grosbeak.—3 reared (1 each year)—one generation.

Rose-breasted Grosbeak.—20 reared—three generations.

Black-headed × *Rose-breasted Grosbeak*.—Two hybrid males reared. These two species hybridize in freedom, where the two species meet, in Western North America.

Ages attained by some of the birds is noteworthy. Some examples follow :—

Catbird.—Male 9 years.

Wood Thrush.—Male 5 years, female 5 years.

Hermit Thrush.—Male 8 years.

Bluebird.—Males 7 and 9 years, female 6 years.

Bobolink.—Female 6 years.

Rose-breasted Grosbeak.—2 males 8 years.

Black-headed Grosbeak.—Male 10 years.

Indigo Bunting.—Female 7 years.

Evening Grosbeak.—2 females, 8 and 12 years.

White-crowned Sparrow.—6 years.

White-throated Sparrow.—6 years.

BREEDING RESULTS IN AN AMATEUR'S COLLECTION

By H. MURRAY (*Brentwood, England*)

Sufficient time has elapsed since the end of the war to enable a more or less balanced set of opinions to be formed by a person whose active participation in Aviculture has been, in the main, a post-war development.

I feel it is right to say how much we comparative newcomers owe to the more experienced people, and how readily these latter will always give advice when asked. Actual experiences are quoted and although no one person can solve the problems of another's birds, general lines of management can be laid down and it rests with the owner of the birds to adapt this information to suit his own particular circumstances. I myself appreciate very much the advice I have received from people who have set my wandering steps, speaking aviculturally of course, on the right road.

The itch to buy any bird offered and to fill one's aviaries at all costs lasted for my first two seasons, but after that I became a lot more discriminating, although even now I often find it fatal to my financial stability to talk to anyone who has birds to sell. I should imagine that this also applies to about ninety-five per cent of the members of the Avicultural Society.

One aspect of bird-keeping that must have been well known to aviculturists before the war has struck me very strongly, particularly this last year when a wider variety of birds has become available, the immense superiority as aviary birds of the common favourites—Zebra Finches, Orange Cheeks, Cordon Blues, Cuban Finches, etc., as compared with the much more expensive and difficult species.

I have no doubt that many will disagree with me, but I contend that for general liveliness and even for looks, there is no comparison between say a Lavender Finch and a Melba, or a Cordon Blue and a Ruficauda.

It is probably the extreme liveliness and vivacity of these smaller Finches and Waxbills that makes them do so much better over here than the more lethargic species. These latter birds seem to sit and brood over the hardships of their lot and put up little resistance to an early end. In spite of the fact that I consider the cheaper birds the better, I regret that this does not stop me from buying the more expensive ones as they and the necessary finances become available.

Softbills are more attractive and I hope that in the future I shall be able to go in for them in a bigger way, but for a person whose time for looking after birds is limited the Finches seem to be the best

choice if only for the fact that so many more can be attended to in the time available and in a restricted space.

Waxwings are still the apple of my avicultural eye and the appearance of these birds in a large aviary is very fine. They also have one advantage over the general run of softbills, they are perfectly hardy and can stand the greatest cold without difficulty.

The two Waxwings in my possession keep very fit on a diet of dates and such oddments as they find for themselves about the aviary. They often go down on the very large pile of seed thrown down in the flight, and as far as I can see eat groats that have been shelled by the Parrakeets. The normal soft food provided for them is usually untouched, and indeed, if eaten, generally passes straight through them and thus they become one of the dirtiest birds that one can keep in a cage.

The reputation that they have for being greedy and getting over-fat is quite unjustified and in my opinion is purely the outcome of wrong feeding and the lack of sufficient exercise. Dried leaves and empty husks of seeds are also eaten, this presumably providing the roughage that is so necessary to their well-being.

Like many others, I have found this last summer interesting. For the first time for eleven years it has been possible to buy birds in a wide variety and I now possess a reasonable collection of some hundred or so birds of about thirty species.

Breeding results in 1950 have not been very spectacular, but have been sufficient to prevent disappointment.

Parrakeets did fairly well, ten young Cockatiels and three Bourkes Parrakeets being reared. The Elegant Parrakeets made no attempt to nest, and late in the summer the cock hit his head and died of concussion.

British birds were only moderately successful. Redpolls reared two nests, and the Linnets also. The Siskins hatched four fine young birds, but the cock decided to take no interest in his family and the hen reared one bird only. This was unfortunate for I had hopes of doing fairly well with these difficult but most attractive little birds.

Last year Bullfinches bred very freely, but the old hen bird died in the spring and her daughter, although she laid innumerable eggs, only sat closely on one clutch. The young were reared up to ten days old and then died.

A pair of Hawfinches progressed as far as making a nest, but the hen became egg-bound and decided that she had done enough for one season and retired from further efforts in that direction.

It is possible that not many members have seen the mating display of cock Hawfinches, but it is not without interest. As is usual, the wings are drooped and the tail spread to show off such beauties as they possess, but apparently the superlative charm of the cock bird is the

grey on the neck. The head is lowered and twisted slowly from side to side so that the hen may miss no detail, but as usual she seems more bored than excited at the cock bird's attentions and one can only hope that he gets some amusement from displaying. Once paired, cock and hen Hawfinches are very affectionate in their manners and are reputed to sit side by side with the cock's wing shielding the hen. I did not observe this with my pair, neither did I have the terrific pre-mating fights that seem to be general. The cock bird sang all the summer in a rather Bullfinch-like manner.

Among the small foreigners there were many nests, but not much in the way of fledged young. Three Firefinches were reared and three Cuban Finches, but Orange Cheeks, Cordon Bleus, Green Avadavats, Scarlet Avadavats, Red-eared Waxbills, Golden-breasted Waxbills, and Ruficaudas all nested without result.

The old joke about fishermen and the "One that got away" had a parallel with me this year. In the late summer some bird nested and laid one egg, but although I watched very closely I could not trace it; the bird never sat and I still do not know to which species it belonged. I have never seen a nest like it before and the egg was mottled. I think it was a Nonpareil Bunting.

The 1950 season is over and although compared with many people my results are too unimportant really to warrant recording, I have enjoyed it and feel that I have learned a lot.

Avicultural Society Medals are for the fortunate few, but for the many amateurs like myself what more can one wish for than amusement and the gaining of a little knowledge from one's hobby?

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GAME-BIRD AND WATERFOWL BREEDING IN AMERICA IN 1950

By JEAN DELACOUR

Last summer was comparatively cool and damp in Eastern and Midwestern North America, but abnormally hot and dry in the West, which proved unfavourable to several species. A good number of birds, however, have been reared. Mr. R. H. Gibson, St. Helena, N. California, bred one cock pure White Crossoptilon and 9 hybrids Blue \times White, 3 Imperials, 49 Sonnerats, 2 Curassows, 9 Vulturine Guineafowl, a number of Monals, many commoner Pheasants, and 45 Mandarin Ducks. Mr. W. J. Parsonson, Paramount, and Mr. D. Rich, San Gabriel, S. California, reared several Cereopsis and Maned Geese, Java and Sonnerat's Junglefowl, and Specifer Peafowl. Many Monals, Siamese Firebacks, Edwards' Pheasants, and Blue Crossoptilons have been raised at various farms in California as well as large numbers of the commoner species, but very few Brown Crossoptilons

and Germain's Peacock Pheasants. Unfortunately, Mr. C. Hooke had to give up his collection for reasons of health, and Mr. J. W. Steinbeck had all his birds destroyed by the State authorities because of a possible contamination by diseased birds imported from China. It is a very great loss, which could have been avoided by less extreme and just as efficient measures. He had a marvellous breeding stock of Tragopans, Monals, Peacock Pheasants, the best series of Pigeons and Doves in captivity and a great many Australian Finches. Mr. Steinbeck however has been indemnified and has partly reconstituted his collection. But several rare species are now irreplaceable.

Mr. R. Statler, Sheboygan, Wisconsin, has bred a number of Mikados. Mr. H. Lehman, in Pennsylvania, who owns one of the best collections of Pheasants, has raised many as usual, including Siamese and Bornean Firebacks, and Germain's Peacock Pheasants. Mr. W. J. Mackensen, Yardley, Pennsylvania, has reared lots of Pheasants, Peafowl, and waterfowl, including Magellan Geese, Chiloe Wigeon, Red-crested Pochards and Cinnamon Teal, and many Elliot's Pheasants, as well as some Brown Crossoptilons. A number of waterfowl, including 3 Red-breasted Geese, have been reared on Mr. Dillon Ripley's pond at Litchfield, Connecticut, and at West Redding, in the same state, Mr. J. Livermore, the owner of a very large collection, had young Rosybills and Red-crested Pochards, Chiloe Wigeon, Ruddy Sheldrakes, Bar-headed and Cereopsis Geese, etc., as well as Edwards' and other Pheasants.

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BRITISH AVICULTURISTS' CLUB

The twenty-sixth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 3rd January, 1951, following a dinner at 6.30 p.m.

Chairman : Dr. E. Hindle.

Members of the Club : Major J. E. Adlard, Dr. M. Amsler, Miss P. Barclay-Smith (Vice-Chairman), Miss Kay Bonner (Assistant Secretary), W. Brain, Captain A. Clarence, G. T. Clark, Mrs. G. T. Clark, T. Crewes, Sir Godfrey Davis, B. H. Dulanty, A. Ezra (Patron), H. Fenton, H. A. Fooks, Miss D. Gask, F. Grant, G. T. Iles, H. J. Indge, Terry Jones, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, C. J. Morny, G. S. Mottershead, H. Murray, S. Murray, A. A. Prestwich (Hon. Secretary), D. H. S. Risdon, R. C. J. Sawyer, E. N. T. Vane, C. S. Webb, H. Wilmot, Mrs. M. K. Woodford.

Guests of Honour : Mme J. M. Derscheid, Field-Marshal the Rt. Hon. Viscount Alanbrooke.

Guests of the Club : Sir Philip and Lady Manson-Bahr, Dr. and Mrs. Sheffield Neave.

Guests : J. Bailey, E. Banks, Mrs. E. Banks, H. Bartlett, Mrs. V. M. Bourne, J. Champ, Miss J. Crone, A. H. D'Aeth, Lady Davis, L. G. Ellis, Miss Ruth Ezra, Mrs. H. A. Fooks, Mrs. F. Grant, Roland Green, E. J. Klapper, Mrs. H. G. Maurice, Mrs. C. J. Morny, Mrs. S. Murray, T. N. T. Vane, H. F. Vinall, Miss D. Walker.

Members of the Club, 34 ; guests, 27 ; total, 61.

The Chairman, opening the meeting, said that for the fourth year in succession the Club had the honour and pleasure of the presence of Madame Derscheid. He also welcomed Sir Philip and Lady Manson-Bahr, Sir Godfrey and Lady Davis, and Dr. and Mrs. Sheffield Neave. A very welcome guest was Lord Alanbrooke. He did not propose giving a list of the many offices held by Lord Alanbrooke, but he would like to mention that he recently accepted the Presidency of the Zoological Society of London, a fact that would give satisfaction to many. (Applause.)

Lord Alanbrooke said it gave him great pleasure to have the opportunity of visiting the Club and of showing his colour films of the Golden Eagle. The first film was the result of sixty hours' observation of a nest in Banffshire, in 1949. The hide was erected about 15 feet from the nest and this enabled the taking of many interesting "close-ups". The second film dealt with two further young ones in 1950, and included some excellent head studies of the female parent.

Thanking Lord Alanbrooke, the Chairman said it appeared as though Lord Alanbrooke had almost led a "double life"—as Great Britain's No. 1 soldier and as a bird photographer of very great skill. The large audience showed by its enthusiastic applause it had thoroughly enjoyed and appreciated the films shown.

Madame Derscheid was presented with a bouquet of spring flowers, tied with the Belgian national colours, by Miss Kay Bonner on behalf of the Club.

The next meeting of the Club is on **14th March, 1951.**

The Treasurer begs to remind all members *who have not already paid*, that subscriptions (5s.) became due on 1st January, 1951.

ARTHUR A. PRESTWICH,

Hon. Secretary and Treasurer.

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NEWS AND VIEWS

INVITATIONS :—Council has decided to accept the following :—

Foxwarren Park, by invitation of Mr. and Mrs. A. Ezra.

Woburn Park, by invitation of the Duke of Bedford.

The Dudley Zoological Gardens, by invitation of the Dudley Zoological Society, Ltd. (through D. H. S. Risdon).

The New Grounds, Slimbridge, by invitation of the Severn Wildfowl Trust (through Peter Scott).

Details and dates will be announced later.

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Miss Phyllis Barclay-Smith has been elected a Corresponding Member of the Ornithological Society of Bavaria.

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Mrs. I. Darnton left for the West Indies by air on 28th November, 1950, to study the bird life.

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During the visit to London of H.M. the Queen of the Netherlands and H.H. the Prince of the Netherlands, Major C. C. Geertsema attended Prince Bernhard as A.D.C.

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R. W. Haddon, chairman of Poultry World, Ltd., proprietors of *Cage Birds*, but best known to readers as President of the National Council of Aviculture, was created a Knight Bachelor in the New Year Honours List.

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Kenneth Smith left on 23rd November, 1950, for a four or five months zoological collecting trip in the Colony of Sierra Leone, and hopes to bring back some of the rarer birds when he returns in the spring.

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G. E. Lodge, the eminent artist, celebrated his 90th birthday on 3rd December, 1950. A congratulatory telegram was sent on behalf of the Society. An exhibition of his Falconry, Bird and Animal pictures was held at Rowland Ward's Galleries, 28th November to 28th December, 1950.

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Mrs. Vera Harmon, Inglewood, California, writes: "So far this season we have about 105 young Gouldians from 11 pairs, mostly Yellow-heads. That is not a very good record, but some of the pairs have not started yet—and there are quite a few eggs in nests again now, so we will see what happens."

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A. H. Scott writes: "You will remember the pink and lavender cock Bullfinch I sent to the National Show—a most beautiful creature. This summer I managed to get three strong young ones from him, so quite hope to produce a strain of this very lovely colour. There were two hens and a cock. The expectation, according to my records of such matings, is all daughters normal and half the sons similar to the father. The normal son should be a carrier, so, with two of them, next season should reward my efforts."

W. J. C. Frost returned early in November with yet another collection of birds. Included were twenty Birds of Paradise: 15 Red (*Uranornis rubra*), a pair of Twelve-wired (*Seleucidus ignotus*), 2 Magnificent (*Diphyllodes speciosa*), 1 Wilson's (*Schlegelia wilsoni*): also 21 Crowned Pigeons (*Goura coronata*), a pair of Palm Cockatoos (*Microglossus aterrimus*), 2 Burmese Peafowl (*Pavo muticus*). The London Zoo took two Red Birds of Paradise; B. H. Dulanty the pair of Twelve-wired and the Wilson; and G. E. Whitmore one of the Magnificents. The Black Cockatoos went to P. H. Maxwell.

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From Helsingfors, C. af Enehjelm writes: "There is, of course, no breeding news just at present. I got 7 Cinnamon Zebra Finches (5, 2) from Holland, and am now expecting a pair of White-backed Zebras—the latest mutation.

"I have been striving for Silver Zebras, but have only got a cock, which paired this year with a normal hen gave me 5 youngsters (3, 2). They are normal in colour, of course, split silver. In an article about a year ago by a South African aviculturist it was stated that the silvers are dominant to normal. This has, at least in Denmark never been the case, but it is quite possible they have another mutation in South Africa similar in appearance to ours. If I remember correctly Keston has advertised split silver, so it seems to be the same in England."

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Aimé Decoux, Géry, writes: "On 31st October I lost my old Purple-headed Glossy Starling. I bought him in 1924. He was still very pretty and did not die of old age: he was moulting and was killed by another Starling.

"The breeding season was grand for doves and finches, not so good for parrakeets.

"I bred the following birds: Ashy Doves (*Claravis pretiosa*), six young from a single pair, Pigmy, Diamond, and Peaceful Doves, Triangular-spotted Pigeons, Common and Brush Bronze-wings, Crested Pigeons, Senegal and other common species.

"A pair of Chinese Painted Quail brought up 23 young ones; another 16, and a third, 9.

"The following Parrakeets were bred: Swainson, and Red-collared Lorikeets, Stanleys, Crimson-wings, Red-rumps, Queen Alexandra, Blue-winged Grass, and some Bourkes. The Many-colours did not lay, and the Port Lincoln had clear eggs. The Rock Peblers reared three fine young ones. The Blue Masked Lovebirds had only two young which were not reared; they were killed in the nest by an odd cock."

A. A. P.

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NEWS FROM AMERICA

The Southern California Chapter of the Avicultural Society has held the following meetings :—

10th September, 1950, at Encino Park, corner of Genesta and Venture Boulevard. Mr. Sedley gave an interesting story of his Crimson Finch which lived to be 14 years. Mr. Wilms Herbert asked all the members to save feathers for an Indian tribe in New Mexico.

1st October, 1950, at the home of Mr. and Mrs. David Ramsay, 8343 Tunney Avenue, Northridge. Members enjoyed looking at the aviaries and the Mexican Parrot which talks very well. Mr. Cochran, from Oxnard, spoke on raising eleven Gouldians from one pair. Mrs. Behrens, who has been raising finches for twenty-seven years, and is an authority on these birds, gave an account of nests which could be looked at and those which could not, saying the Cordon Bleu was the most touchy of all. She also told how eggs were moved from a Diamond Sparrow's to a Shafttail's nest and how the latter raised them. Mr. Rudkin, senior, said he had 105 aviaries and was still building more, and that he was raising lots of Gouldians; he also hand-fed an American Goldfinch and raised it. Mrs. Hazle Scott told of a Gouldian Finch belonging to Mrs. Harmon, a member of the Society, which talks, saying "Pretty baby"; this is the first time a Gouldian Finch has been known to talk. Mr. Wilms Herbert reported that he had raised a large number of Chinese Quail, Fawn Zebras, Java Rice Birds, and some ivory coloured Zebra Finches. Mr. Francis gave an account of his talking Crow which says "Buy old Crow" and many other words and sentences. Mr. Hodgkins said he had brought back some White Diamond Doves and Swamp Quail from Australia. Mr. Rudkin stated that 16-gauge wire was the best for making bands for banding birds.

5th November, 1950, at the home of Mr. and Mrs. Ferd Peck, 7407 Gloria Avenue, Van Nuys. Guests of the day were Mr. and Mrs. Beidebach, of Santa Monica. The following were nominated and unanimously elected for the new year: President, Harold Rudkin, jnr.; Vice-President, Ralph K. Whyte; Treasurer, Muriel K. Wright; Recording Secretary, Olive W. Gilmer; Directors, Mrs. Gilbert Lee, T. J. Brinker, Ferd Peck, Mrs. Hazle Scott, Ellis Wing Taylor, Wilms Herbert, Mrs. W. H. Towne, Dr. Hillard J. Wright. In a discussion on the nesting of Lovebirds, Mr. Brinker said it was good to rest the birds in the summer and for best results to put up nestboxes about September or October. He also asked members to get their birds paired up this fall so they would be ready for the breeding season in the spring. Mrs. Floyd Lyman reported that she raised twelve Blue Masks from one pair of Blue and Black

Mask Lovebirds this summer. Mr. Jerome Buteyn, from Luis Rey, spoke on the numerous birds he had procured during the past month ; he has a wonderful collection of psittacine birds and invited the Society to see them next spring or summer. Mrs. Lee spoke on the wonderful sea aquarium at Hermosa Beach, and said the San Diego Zoo has a pair of Gang Gang Cockatoos and a Banksian Cockatoo.

3rd December, 1950, at the Sepulveda Woman's Club House, at 15236 Parthenia Street, Sepulveda. Mr. Rudkin, Jnr. showed beautiful coloured pictures of his trip to Mexico and all the rare birds in his aviaries and those of his father.

OLIVE W. GILMER,
Secretary.

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LONDON ZOO NOTES

By C. S. WEBB

The most notable of recent arrivals was a collection of Sunbirds from Sierra Leone brought home by Mr. J. Lester. These arrived in excellent condition and included the following species : the Superb Sunbird (*Cinnyris superbus*), Splendid Sunbird (*C. splendidus*), Coppery Sunbird (*C. cupreus*), Buff-bellied Sunbird (*C. venustus*), Kemp's Olive-bellied Sunbird (*C. chloropygius kempi*), and Collared Sunbird (*Anthreptes collaris*). I think most people will agree that the first three species are outstandingly beautiful. The most interesting bird to me of this collection was a Grey-headed Olive-back Finch (*Nesocharis capistrata*). This was not only new as a species but was the first of its genus to be exhibited at the Zoo. This seems to be a rare or local West African species and in its rather nervous disposition and actions reminds one somewhat of the West African Twin-spot (*Mandingoa nitidula schlegeli*). It is a sprightly creature and most attractive. A brief description is as follows : head and neck grey ; rest of upper side yellowish-olive. Sides of head white ; throat and mark on either side of neck black ; under side mainly grey, but greenish-yellow on sides of the breast. There are two other species of *Nesocharis* which have never been imported.

A collection of Pheasants arrived from the U.S.A. through the auspices of Mr. J. Delacour. It included two Versicolor, two White-crested Kalij, three Elliot's and two Dusky Pheasants (*P. colchicus tenebrosus*). The latter are considerably darker than the melanistic mutants usually seen in this country.

Our collection of Toucans has been increased by the arrival of two Spot-billed Toucanets from South-East Brazil. These were received in exchange from Copenhagen. From the same source we obtained a collection of Fischer's and Masked Lovebirds and also a White-winged Trumpeter.

From Mr. Louwman, of Wassenaar, Holland, we received a Lettered Aracari and a fine pair of Piping Guans (*Pipile cumanensis*).

Among Indian birds two Black-chinned Yuhinas, one Larger Pied Wagtail (*Motacilla maderaspatensis*), one Large Indian Cuckoo-Shrike, and one Hunting Crow, or Cissa, were presented by Viscount Chaplin. Another Hunting Crow was purchased. The Yuhinas are attractive little creatures reminding one of Zosterops in their diminutive size and sprightliness. When in the Darjeeling area of the lower Himalayas I often used to see flocks of these birds actively engaged in searching for insects in the tree-tops. In their native country they withstand a considerable amount of cold. The Cuckoo-Shrike is new to us. He adores young mice and will eat as many as six at a time and an occasional lizard. An interesting bird from the Cape, and one new to our collection, was a Cape Sugarbird (*Promerops cafer*) presented by Viscount Chaplin which unfortunately did not survive. This bird has somewhat the same habits as Sunbirds but is more nearly related to the Honey-eaters of Australia. I have often seen them on the Cape Flats near Cape Town where they have the habit of sitting on the tops of bushes and then darting into the air to capture some flying insect. They are particularly fond of the nectar of the flowers of the Cape Sugar-bush (*Protea*).

An interesting addition to our Waterfowl enclosures were four Marbled Teal (*Anas angustirostris*). Although they occur in the wild state not far afield, viz. the Mediterranean region, these attractive birds have always been rare in collections.

Other birds of interest to arrive were a pair of Yellow Sparrows (*Auripasser luteus*) and a North American Ruddy Duck (*Oxyura jamaicensis*)—a curious Stiff-tail, of which we now have a pair. A Green-cheeked Amazon (*A. viridigena*)—a species from Mexico that is rare in captivity these days—was presented.

A pair of blue Masked Lovebirds that arrived in the late summer have bred and three young ones left the nest in a healthy condition on the 20th December !

There have been a few notable deaths recently : an Australian Pelican which was purchased twenty-six years ago ; a Fooks' Jay-Thrush of old age—a beautifully marked species from Indo-China ; and our Great-headed Maleo from Celebes. The latter is related to the Brush Turkeys but is even more primitive in its nesting habits which resemble those of reptiles. The Maleo lays its eggs on sandy beaches above the tidal limit and after burying them leaves them to hatch on their own simply by the heat of the sun. The young are active at birth and are able to fend for themselves.

NEW BIRDS FOR THE BROOKFIELD ZOO

By KARL PLATH

(Curator of Birds, Chicago Zoological Park, Brookfield, Ill.)

Among the new birds received at Brookfield during 1950 was a fine pair of Javan Jungle Fowl. The cock bird is very handsome and instead of having the hackles on the neck these feathers are scale-like and green like those on the upper back of the Golden and Amherst Pheasant. The hen, too, differs from the typical jungle fowls in being more Partridge-like in appearance and character.

For the first time we now have a Great Bird of Paradise. It is a magnificent creature much larger than our Raggi's or our Blue Bird of Paradise. It arrived in rather untidy plumage—the plumes being broken and soiled—but since its moult, which started in May, its plumage is perfect.

While Sun Bitterns, Tufted Ducks, Comb Ducks, and Brazilian Teal had been seen before we have never had them and they do add interest to the collection. Also a pair of Swan-geese were added, and it is surprising to me that we have not seen them in the past. They are very handsome, but the only Swan-like resemblance I can see is in the shape of the head and bill which in outline at least is much like that of the Swan. The colouring is pleasing also—shades of brown and buff with a dark brown band down the back of the neck. Other new Ducks were the Cape Sheldrakes and the Yellow-billed Ducks.

Of small birds, Orange-breasted Barbets, Red-eared Tanager, Hooded Tanager, Rieffer's Grass-green Tanager, and the Lesser Magpie Tanager are very satisfactory as exhibition birds. The Barbets are quite rare in captivity. The bird is illustrated under the name of the "Plaintive Barbet" in the AVICULTURAL MAGAZINE of March-April, 1950. The colouring in our birds is richer and brighter, perhaps a fault in the plate-making. The Red-eared Tanager was illustrated in the October number of 1938. It is mostly black with red under-parts and a small though prominent red spot on the side of the head. The bend of the wing and base of the tail are bright shiny blue. The Hooded Mountain Tanager is probably the largest of the family—being as large as our Robin. It is purplish blue above with a black head and yellow beneath. The Rieffer's Grass-green Tanager is more beautiful than one visualizes from description. It has smooth compact green plumage of various shades and reddish-brown on the sides of the head. The bill and legs are red. The Lesser Magpie Tanager is also sleek and lovely in white and glossy black. It has a long tail. At first we tried these four Tanagers in one large wall cage but soon found that the smallest of the four, the Red-eared, was also the most aggressive and vicious in disposition. He now gets along very well with the big Hooded Tanager.

Of Waxbills, our new species were the Dufresne's, Black-cheeked, Violet-eared, and Blue-breasted.

A sad loss was our Maynas Cotinga. We had waited months for it to get here only to have it live two days. This to me is the most beautiful of all the blue Cotingas. Almost entirely glossy sky-blue changing to the tint called "sea-green" in certain positions; its small throat-patch of wine purple was an effective contrast. It had very little black on the wing tips which hue is more or less prominent in the other blue Cotingas. It would have been an achievement to have it in our collection.

It is always exciting to a bird-lover to see for the first time in life a bird which heretofore had been seen only as a museum specimen—which so very rarely conveys the exact personality of the bird in life—even the bird artist fails in his delineation if he has never seen the live bird.

While this article is mainly to mention some of the new birds in our Zoo I cannot resist bringing to attention the Lyre Bird which I saw and heard for the first time while in Australia in 1949. The pose as we see it depicted with the tail upright—as on postage stamps or old illustrations—is quite incorrect. The tail is carried as does the Pheasant carry his and in display it is thrown forward over the back of the stooping bird. The underside of the long tail plumes are then a shimmering mass of silvery white. The song of the bird, remarkable because of its great size, is loud with a poignant, melodious quality. The first live Lyre Bird I ever saw was a female in the Taronga Park Zoo, in Sydney, and I heard her sing very beautifully even before I saw her in the very large aviary provided for her. Later I saw both male and female in the wild and also had the rare opportunity of holding a downy, quail-sized, young bird in my hand. Other thrills, also in Australia, were seeing the various Birds of Paradise display—so different from drawings and mounted specimens seen heretofore. These Birds of Paradise were in the unexcelled collection in Taronga Park: 150 birds, 22 species!

* * *

REVIEWS

THE FLAMINGOS OF THE CAMARGUE. By ÉTIENNE GALLET.
Basil Blackwell, Oxford, 1950. Price 15s. net.

The Camargue is one of the most interesting places in the world for bird-life, and whoever has visited this marshy spot in the delta of the Rhone remains for ever bound by its enchantment. Of all the birds which are found in the Camargue the Flamingo is perhaps regarded as the most typical, and Monsieur Étienne Gallet's book will be welcomed by all those who have visited, or hope to visit, the Camargue. Though books often lose much in translation, Mr. Summer Austin has not allowed this to be the case in *The Flamingos of the Camargue*, and he is to be congratulated on his lucid and attractive style which at the same time faithfully maintains the author's original version.

The book contains a wealth of careful and detailed observations, and many interesting facts are given, those on the bird's diet, and the growth and habits of the young being of special interest to aviculturists.

The first chapter is a description of the Camargue and its peculiar geological formation, and brings most vividly to the reader a picture of this wide desert-like space under a pitiless sun. The book continues with historical allusions to the "bird with wings of fire", its habitat and migration, life and habits, menu and appetite, and love and family life.

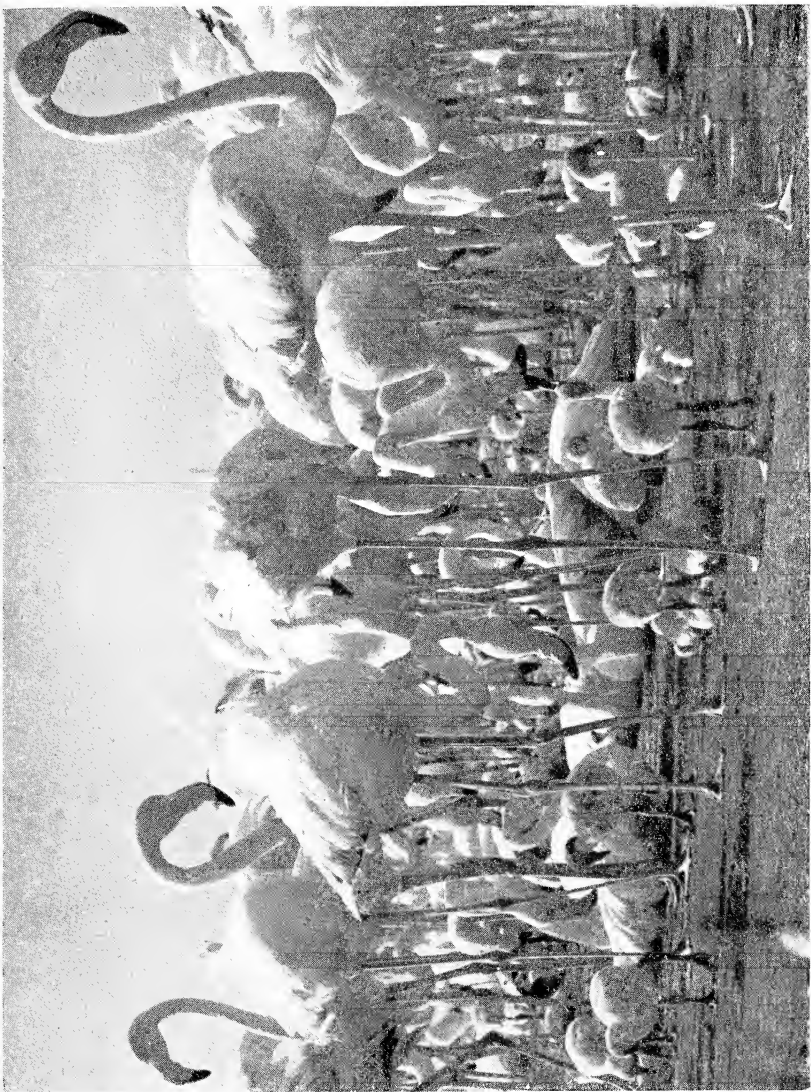
The description of the life and growth of the chicks in the flamingo "village" is particularly interesting, and the author describes how the mother bird gives the youngster tiny drops of a liquid, like clear water, which is secreted in her beak. He raises the question as to why this liquid is given and how it is produced.

The book concludes with an excellent series of biological notes on the Flamingo, including a section on the influence of the bird on its surroundings pointing out how it is mainly responsible for the destruction of its own breeding grounds. In the section "Foes of the Flamingo" the author writes:—

"Man is the real enemy of the Flamingo. As an aviator he terrifies the birds from nesting, as in 1944; as a native in search of food he comes to collect eggs or chicks. Again a so-called ornithologist will systematically rob a colony of almost all of its eggs, as happened in 1914. Others, like ourselves, disturb them by our mere presence, despite every precaution. Some of the birds will certainly take to flight, and in their panic will displace their eggs, which will thus be lost. Later on, man's mere presence will cause a premature dispersal of the chicks and a breaking-up of their little groups."

He goes on to mention that the other greatest foe is the Silver Gull, describing how this bird will take advantage of any disturbance caused by man, and concludes by saying—

"Man, then, is to be feared even more than the gull. He may constitute a deadly menace to the species, unless he can control his predatory instinct and discipline his curiosity, and so no longer jeopardize the future of this wonderful bird."



THE LONG DAY CLOSES WITH A FINAL WARM-UP IN THE SUN'S LAST RAYS BEFORE
RETIRING FOR THE NIGHT.

Reproduced by kind permission of the publishers from "The Flamingos of the Camargue."

[To face p. 34.]



“THE FEET OF THE CHICK HAVE SWOLLEN IN ITS EFFORTS TO ESCAPE FROM THE EGG.”
Reproduced by kind permission of the publishers from “*The Flamingos of the Camargue*.”
[To face p. 35.]

How true this is, and not only in the case of the Flamingo. So many people are now interested in bird watching, and so many do not realize the harm they do by too much watching that the birds if they could speak would undoubtedly say "Save us from our friends".

The fifty-three photographic illustrations by the author are truly exquisite, each one being a gem of photographic art, as is shown by the two plates which accompany this review.

P. B-S.

RECORDS OF BIRDS OF PREY IN CAPTIVITY. By ARTHUR A. PRESTWICH. London, 1950.

Birds of prey do not seem to appeal to aviculturists so much as do so many other groups of birds, but any one who has ever kept these interesting birds invariably expresses high satisfaction with them. Despite the fact that birds of prey are not extensively kept, the list of breeding successes is no mean one, the largest number, as might be expected, being among the Owls. There are several records of the successful breeding of Kestrels, but the records of Sparrowhawk are confined to one statement by Dr. W. T. Greene, that "This species has bred in confinement". The Buzzard's efforts are restricted to a number of hatching records.

The records are carefully compiled and efficiently presented in a readable and interesting form, and this book will be valued by all aviculturists.

P. B-S.

BLEDGRAVE HALL. By J. K. STANFORD. Faber and Faber. London. 8s. 6d.

A most pleasing fiction, based on the yet more pleasing fact of the return of the Avocet as a breeding species to Britain. The hero who has suffered much as a prisoner of war buys a derelict farmhouse and adjacent marsh on the east coast. Here, where he can once more feel at peace with the world, he settles down to rebuild the house and watch birds in his spare time. A chance remark leads to the discovery of Avocets nesting on his ground and another chance remark in a different setting acquaints an unscrupulous and determined egg-collector of the fact. From this point the action and excitement reach "thriller" proportions, but all ends well—at least for the Avocets and their guardian.

No reader can fail to sympathize with the hero in his struggles, whether against the blighting hand of bureaucracy or the crafty oologist. Some may, however, sympathize less with the author in his whole-hearted lumping of certain birds and beasts (and oologists) as "vermin". The reviewer, at least—who has in recent years known of Honey Buzzards, Ospreys, and Barn Owls killed in the interests of

game-preservation—cannot agree with the implication that the egg-collector is the greatest enemy of Britain's rarer birds and the game-preserver their unselfish guardian.

The book is beautifully and copiously illustrated with most lifelike sketches by A. M. Hughes. Those of the Little Terns are particularly delightful. It is, however, to be hoped that the slight but noticeable facial resemblance of the "villain" to a well-known ornithologist—who is not an egg-collector—is purely coincidental!

D. G.

* * *

NOTES

NEW GUINEA HARPY EAGLE.

Mr. Shaw Mayer, who has succeeded in collecting for the first time that rare species the New Guinea Harpy Eagle, wrote to Mr. Frost about the bird as follows:—

"Am writing this in camp some hundreds of miles from Lae and five days away from nearest airstrip. Have been here since last November and during that time have seen only one white man, a Father who spent the night at my camp. A few feet away in a makeshift wire enclosure is a lovely specimen of *Harpyopsis novæguineæ*, the first living one I've seen. Have had him since November, 1949. A young bird, now in his second year. How like he is to our friend the Monkey-eating Eagle. Smaller but with that same narrow deep bill. The breast white, and the feet bright yellow."

The bird was subsequently sent to the Taronga Zoological Park, for which Mr. Shaw Mayer is collecting.

LONGEVITY IN AN AMAZON PARROT.

There is considerable misconception as to the age to which many species of the Psittaci are reputed to live in captivity, most of them being alleged to survive much longer than is usually the case. In view of the fact that Flower¹ (1925) could find no evidence for the South American Blue-fronted Parrot (*Amazona aestiva*) reaching the age of twenty years in captivity and that there are but few records of its attaining more than ten years, the individual mentioned below seems worth recording.

On 23rd October, 1950, Mr. W. E. Lawrence, of the Zoological Society's Prosectorium, received for post-mortem examination (per Mr. S. Croucher, Head Keeper of Parrots), from Miss Hilda de Trafford, of Market Harborough, the body of a male Blue-fronted Amazon. The bird had collapsed suddenly on 21st inst. and died before treatment could be administered. It proved to be senile with extensive atheroma of the aorta and renal arteries. On inquiry as to its previous history Miss de Trafford kindly supplied a very full account of its confinement. It apparently had been in her possession for forty-nine years and was said to be eighteen months old on receipt. He had become more docile in his later years and had formerly been allowed considerable liberty out of doors in summer time. He had in 1940 suffered from bronchitis but recovered with careful nursing. His diet was very varied and apparently included some animal proteins and fat in the form of cheese. This is an important point in my opinion, as there is no evidence of feather plucking in his later years such as is often the case with aged captive Parrots. He does not seem to have been much of a talker but would imitate familiar noises and whistled a lot. He showed a preference for men when young, but latterly got on well with women; he was always fond of children.

W. C. OSMAN HILL.

¹ Flower, S. S., 1925, *Proc. Zool. Soc. Lond.*, p. 1387.

NATIONAL CAGE BIRD SHOW AT OLYMPIA, 1950

The decision to hold the National Cage Bird Show at Olympia invoked a record entry of some 4,600 birds. Even with the much greater accommodation the hall was frequently crowded to full capacity, in spite of the weather conditions, including snow and ice.

The foreign exhibits were provided with a generous classification, in spite of which a Striated Babbler thought he would stand a better chance elsewhere, so masqueraded as a Nutcracker in the British Section. The 250-odd Foreign exhibits were staged on either side of the main entrance for the full length of the hall, placed to attract the attention of all visitors. The lighting, however, could have been improved; it was placed directly overhead, thus putting many birds in the shadow of their cages. Heating also was far from adequate, and unless some improvement can be effected, many exhibitors will think twice before sending such attractions as Sunbirds, Humming Birds, and Birds of Paradise. Providing a hot room for casualties is worse than useless, as change of temperature is more dangerous than a reasonably cool, constant one.

The effect of the import ban on all Parrot-like birds was reflected in the comparatively small numbers, and absence of many of the most usual and attractive entries of former years. No Cockatiels were on view, no Pennants, no Kings, very few Parrots, Cockatoos, or Macaws, only one species of true Lovebird. Nevertheless, some very good birds were competing, and Mr. Benjamin's cock Derbyan secured the award for the best Parrot-like bird.

The seed-eaters, however, were very well supported, some classes having nearly thirty entries coming from all quarters; Grassfinches, Parrot Finches and Gouldians from Australasia, Waxbills, Weavers, and Whydahs from Africa, Buntings and Finches from the Americas, and Mannikins from Asia. Mr. Raymond Sawyer's cock Peter's Spotted Firefinch took the premier honours in this section, most deservedly.

It was among the softbills that the recent influx of birds was most noticeable. Mr. Brian Dulanty's pair of Lesser Niltavas were a delight, and well merited the award for the best Softbill. It was probably the first time a true pair had ever been benched. Another outstanding exhibit was our President's Swallowtail Humming Bird; Mr. Ezra had quite a team, including Sunbirds and a Blue Tanager. Once again we were able to see some Birds of Paradise—a Wilsons and a Red—both birds were in fine healthy condition, but neither was in full plumage unfortunately; it was a very sporting gesture on the owners' part to send their birds, obviously more for the benefit of the public than the hope of gaining honours.

Mr. Lynch's Touracou and Satin Bower Bird can now be accepted as perennials rather than hardy annuals; both won first prizes as usual, although competition had increased. In addition, great variety was provided by examples of several Starlings, Toucans, Fruitsuckers, Bulbuls, Flycatchers, Pekin Robins, Zosterops, Pittas, Barbets, Shamas, Tanagers, etc. Greatly as the return of these favourites is welcomed, it is to be hoped that the importation of birds in overcrowded cages will not become the practice of the trade; let us have only a few good birds rather than a few survivors from "large consignments".

Mr. Silver and Mr. Norris must have had a very pleasant task in judging these birds; the standard of quality was high, and many placings could only have been by very narrow margins.

The organizers are to be congratulated in putting on so good a show, and in the hard work of their stewards—the feeding and care of so large a number of birds in the Foreign Section is a point to which few rarely give a thought.

E. N. T. VANE.

CORRIGENDA.

Vol. 56, No. 6 (Nov./Dec.) List of Contributors. For author of Breeding Notes 1950 page 238 Duke of Bedford.

No. 5 (Sept./Oct.) page 205 for "the beginning is always a pecking in a vertical line" read "*horizontal* line".

* * *

CORRESPONDENCE

" BIRD-SHOWS "

In view of previous correspondence on the above subject, in which I contended that bird-shows did not exhibit aviculture in a favourable light to the lay public, I had intended visiting the 1950 National Show in order to ask the opinions of one or two non-fanciers present. This I was unable to do, but I was able to contact a non-fancier who is a keen bird-watcher, and whose opinion is likely to be similar to that of many others.

On the whole the show left him with a very definite bias *against* bird-keeping. He was pleasantly surprised to see that most of the exhibits were in perfect health and plumage, but he could not get over a feeling of repugnance at seeing such active birds as Grey Wagtails and a Redshank in tiny prisons, even though he realized—which most lay visitors of course will not have done—that they were not confined permanently in them.

He was amazed at the apparent ignorance of bird-fanciers as to the species they kept (or of the show officials responsible?) which resulted in such "howlers" as a pair of Blackcaps being labelled "Dartford warblers" and a bird which from his description was some species of Laughing-Thrush being exhibited as a "Nutcracker".

Above all he was revolted to see a Swallow on exhibition. This indeed I found hard to believe, but other witnesses who were equally displeased have since assured me that it was so. Few things seem likely most justly to prejudice the public against bird-keeping than exhibiting such birds as Swallows at a show of "cage-birds". One can conceive of certain circumstances under which it might be justifiable to keep a Swallow, but none under which it should be exhibited at a bird show, where the only inference the public will draw is that aviculturists are so insensitive to a bird's natural aptitudes that they consider a Swallow to be a suitable subject to condemn to life imprisonment in a small cage. I am quite sure not one aviculturist in a hundred would think of caging Swallows, and indeed I almost suspect it may have been some opponent of aviculture who showed the Swallow, which certainly did more than cancel out the good impression given by some of the other exhibits to at least two lay visitors.

TOFTS, MONK'S ROAD, VIRGINIA WATER.

DEREK GOODWIN.

BREEDING NOBLE MACAWS IN CALIFORNIA

You may recall a paragraph in my article in which I stated the meanness with which the male treated the female, much in the same manner as one would expect to see when they are getting ready to nest. You may also recall that I even suggested that they might be getting ready to nest again this season; well, nest again they did, and the following is the data compiled to date. It is not complete, but I am more interested in getting the information of the second clutch of eggs and subsequent hatching of young to you.

The female took up the task of sitting on 4th May, 1950, and after three weeks or so of quite complete absence from the pen she began to appear more often. On the 7th June, with the aid of a mirror, I could see two young and two unhatched eggs in the nest and I believe the young were from 10 days to two weeks old.

The old birds are very vicious, as they were on the previous occasion when with young in the nest, and I have to keep my eye on them the entire time I am inside their pen. I also have to with my African Greys, which too are very vicious as they approach their nesting period, but they both seem to become quite gentle after the nesting has been completed.

The Noble Macaw which was the weaker of the first hatching, is now a very fine-looking bird and flies around just as nimbly as the other. If the colouring of the adults is to be applied in sexing the young, then they raised a pair, and they are exceedingly quiet and gentle, even after taken from the old birds. It is my opinion they would make wonderful pets and talkers too; they have that deep raucous voice that seems to result in good talking.

I will report to you again on the second hatching of Noble Macaws, at the termination of the next stage of their development as soon as it can be determined. In the meantime I hope that the old birds continue to feed them and bring them through to adult stage. However the fact that they nested a second time in four months may be of more interest to you than the outcome of the second effort.

423 So. ELECTRIC AVE., ALHAMBRA, CALIF.

G. RAYSON BROWN.

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- Miss G. J. WOOD, Church Cottage, Tarvin, Nr. Chester. Proposed by G. S. Mottershead.

NEW MEMBERS

The fifteen Candidates for Election, proposed in the November-December, 1950, number of the *Avicultural Magazine*, were duly elected members of the Society.

CHANGES OF ADDRESS

- P. A. BIRCH, to "Avian Vale", Dodford, Nr. Bromsgrove, Worcs.
- E. W. COOMBS, to "The Woodlands", Walderslade Road, Nr. Chatham, Kent.
- JOHN F. GALLAND, to c/o Standard Bank of South Africa, Pietermaritzburg, Natal, South Africa.
- Miss D. GASK, to Twa Noon, Lincoln Road, Chalfont-St.-Peter, Bucks.
- Miss E. K. LEMON, to 786 Sutherland Avenue, North Vancouver, B.C., Canada.
- H. MCGOWAN, to 13 Robertsons Way, Ash, Nr. Aldershot, Hants.
- E. G. SHORNEY, to 15 Sandall Close, Ealing, W. 5.
- H. STRETCH, to 18a Wilton Road, Salisbury.
- Miss B. R. S. WEST, to 2 Battleton, Dulverton, Somerset.

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AVICULTURAL MAGAZINE

Division of Birds



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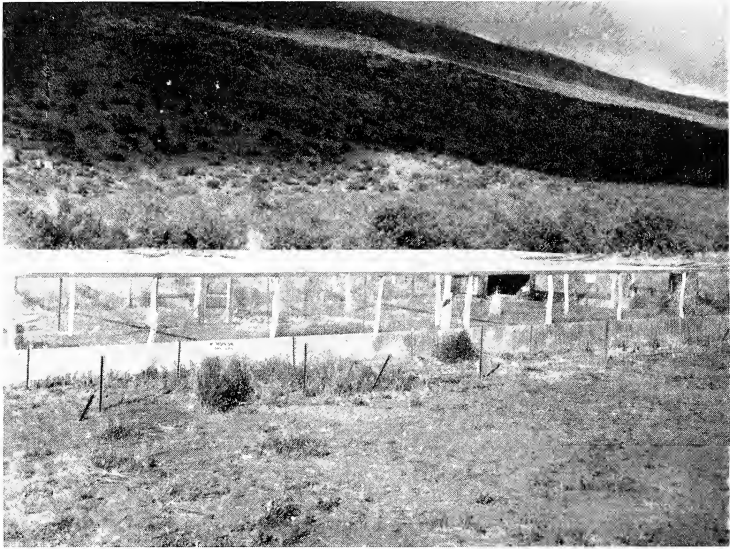
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PENS FOR REARING HAWAIIAN GESE AT POHAKULOA, HAWAII.



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AVICULTURAL MAGAZINE

THE JOURNAL OF THE AVICULTURAL SOCIETY
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MARCH-APRIL, 1951

NOTES ON SOME BIRDS OF HAWAII

By JOHN YEALLAND (Slimbridge, England)

The story of the unique avifauna of the Hawaiian or Sandwich Islands is for the most part an unhappy one, for within the past sixty or seventy years many of the birds have vanished and at the present time others are in danger of extinction.

A changed pattern of vegetation brought about by deforestation and cultivation, the introduction of predators, the destruction of large numbers of some species of birds by the Hawaiians, either for food or for the feathers used in the making of the feather cloaks worn by the chiefs or the feather leis and, quite possibly, the introduction in more recent years of such exotic birds as compete for the available food supply, have all contributed to the diminution or disappearance of many of the indigenous forms.

Now, however, the prospect is brighter, for the Board of Commissioners of Agriculture and Forestry and the National Park authorities are making every effort to preserve what remains of the native flora and fauna. Forest reserves have been fenced off so that sheep and cattle are no longer able to destroy the young trees and low-growing plants within, while the feral sheep, goats, and pigs on the inside have been or are being exterminated.

Strict protection laws are enforced, but the control of predators—the mongoose, the rats, and the feral cats and dogs—remains an almost insoluble problem.

During 1949 the Fish and Game Division of the Board of Agriculture and Forestry inaugurated a project designed to try to save the almost extinct Hawaiian Goose (*Branta sandvicensis*) by breeding and rearing the birds in vermin-proof pens. This is the second attempt of its kind, the first having been carried out some years ago with successful breeding results, but then the birds were given to various ranchers on the island, and I believe it is correct to say that there is now only one survivor.

This new project is under the supervision of Mr. J. Donald Smith, the Board's Game Conservationist, and the site of it is at Pohakuloa,

some 40 miles from Hilo on the "saddle" road between Mauna Loa and Mauna Kea at 6,000 feet.

Two pairs of the geese have been loaned by Mr. Herbert Shipman, who has kept a flock of them at Keeau, near Hilo, since 1918, and a third pair is made up of a gander loaned by Mr. Paul Breese, the Director of the Kapiolani Park Zoological Gardens in Honolulu, and a goose which, by some extraordinary chance, was caught uninjured by a hunter's dog.

One of the Keeau pairs bred, four eggs being laid during December, 1949, of which two hatched, though all were fertile, and the young ones were reared without difficulty.

The other two females and their mates took some interest in the artificial nests primed with hard-boiled, white painted turkeys' eggs, but no eggs were laid and it is possible that the one was too young to breed and the other could hardly be expected to do so soon after capture.

The pens are designed to provide each pair with 2,500 square feet of ground surface, and a good growth of clover and grass is ensured by fertilization of the fine sand-like soil and daily watering by means of a sprinkler system.

The main food of the goslings was the pualele or common milk thistle (*Sonchus oleraceus*), the species which grows commonly in gardens here, watercress (which has been successfully planted at the overflow of the water tanks further up the mountain side) being a second favourite and the grass and clover only occasionally eaten.

When the young ones were sixteen days old the mother moulted, losing all her flight feathers within a few days and, naturally, some of her capacity for brooding, but in spite of this and the coincidence of some night frosts, the little ones were not at all distressed but continued to grow so quickly that at eight weeks old (when I came away) they were almost as large as the parents. This is particularly encouraging, for it is hardly necessary to observe that the success or failure of the project will depend on the quality of the young birds much more than on their numbers.

The Keeau birds, being at sea-level, nested earlier, but unluckily all the eggs were infertile and the reason is not easy to see, for although the flock must by now be rather inbred, they are full-winged and live in what appears to be an excellent place, consisting of several acres of lawn and lake; also they have bred in the past and from two pairs in 1918 their number rose at one time to forty-three, but some were lost when a gardener sprayed the lakeside weeds with an arsenical preparation; others disappeared when, in 1946, a tidal wave, which caused considerable loss of life in Hilo, swept through the garden and from time to time others have reverted to the wild state.

Less than a century ago the Hawaiian Geese were estimated to

number 25,000 ; at the present time the wild population must be very few indeed, for during the first four months of 1950 no more than five, two of them young ones, were known to have been seen.

In captivity on Hawaii there are seventeen, and outside Hawaii only the pair which Mr. Shipman presented to the Severn Wildfowl Trust and now in the collection at Slimbridge.

Except for one or two reported occurrences on the neighbouring island of Maui, the Nene, as it is known, has not been found elsewhere than on Hawaii itself. It is said by Henshaw to have ranged from sea-level to 5,000 feet and upwards according to the season of the year. The islands are all of volcanic origin and Hawaii is largely made up of three mountains, Mauna Loa, an active volcano, Mauna Kea, an extinct one, and Hualalai, and it is on the slopes of Mauna Loa and Hualalai that the Nene lived and the few remaining ones have been seen. On the sides of Mauna Loa there are "islands" of vegetation more or less surrounded by more recent flows of lava on which little or nothing is as yet growing.

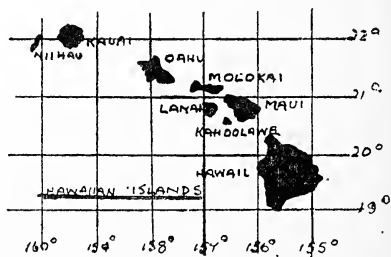
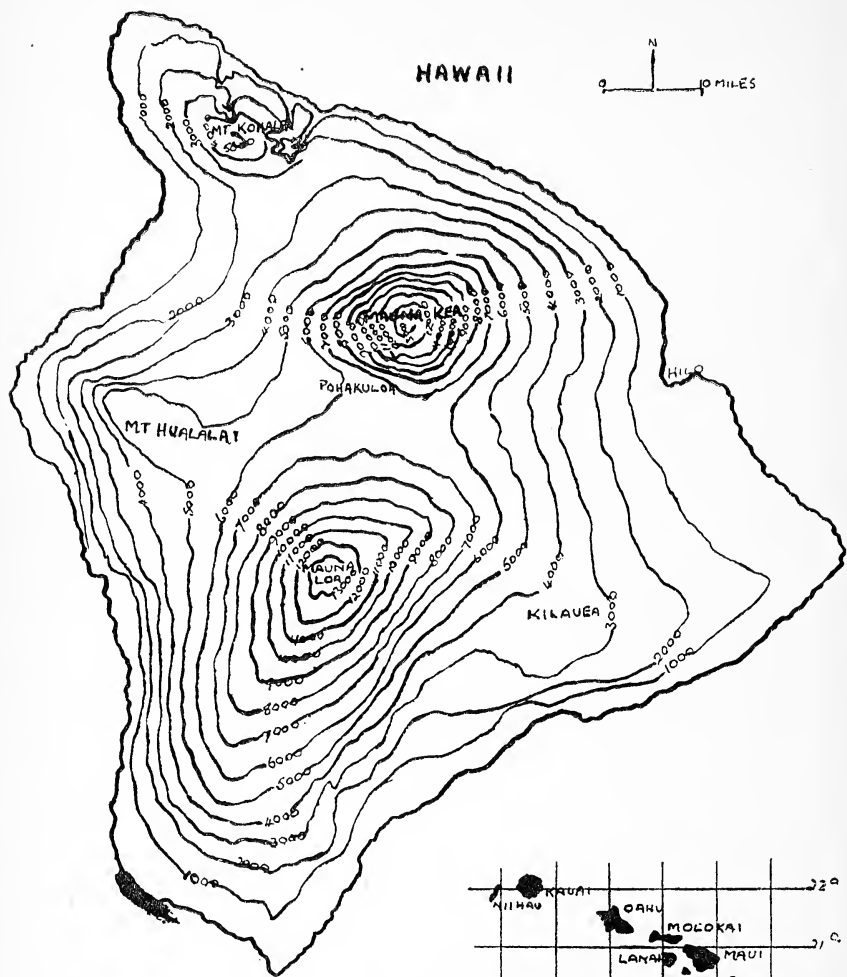
These "islands", some of them quite large, are very like moorland country—moss and lichen covered rocks, a few trees, some grass, and many low-growing plants, some of them bearing berries which are eaten by the geese, a favourite being the Ohelo (*Vaccinium reticulatum*). Here and there the lava is impervious enough to hold a little water, but there are no streams or large areas of water.

The Nene is said not to fly much except at the commencement of the breeding season and if the birds remain still it would be scarcely possible to see them among the lava rocks. This and the extremely difficult nature of the travelling across the lava makes any accurate estimate of their numbers almost impossible.

In the past many of the geese were killed, particularly during the flightless moulting period, by the Hawaiians for food. The mongoose was introduced some sixty years ago in the hope that it would destroy the rats which were doing much damage in the sugar cane plantations, but evidently it found other foods, including the eggs and young of the Nene, much easier to obtain, for the rats continue to thrive and the mongoose is now very common, particularly at the lower altitudes, though less so at 6,000 feet and higher because of the cooler conditions.

The Koloa or Hawaiian Duck (*Anas wyvilliana*) is another bird which has rapidly decreased in fairly recent times and mainly on account of the drainage of swamps and of being shot, but also, no doubt, because of mammalian predators on some of the islands. This bird formerly nested on certain islands off the coast of Oahu, bringing the ducklings across the intervening sea, a distance of some three-quarters of a mile.

Now the Koloa is no longer to be found on Oahu or, I believe, anywhere except on the island of Kauai where the mongoose has never been introduced, though efforts are being made to re-establish this



Duck on Maui where, no doubt, it formerly lived, for as Henshaw said, it "is widely spread over the archipelago, no island being without it".

This small Mallard has been successfully bred in the Honolulu Zoo and Mr. Breese kindly presented a pair to the Severn Wildfowl Trust, the first, I believe, to be brought alive to Europe.

During the winter the islands are visited by Pintail and Shoveler, and among the casual visitants recorded are the Black Brant, the Cackling Goose, and one each of the Lesser Snow, the Emperor, and the American White-fronted Goose, the Buffle-head, and one Red-breasted Merganser.

The commonest of the winter migrants is the Pacific Golden Plover (*Pluvialis dominica fulva*). These birds make a journey of some 2,000 miles from the breeding grounds in Alaska, the first-comers arriving at about the middle of August. They begin to leave the islands in April, and during those four intervening months complete a flight of some 4,000 miles besides raising their families.

These Plovers are far less numerous than in former years, and C. W. Schwartz (*The Game Birds in Hawaii*) says that "The only obvious factor in Hawaii which may have contributed to their decline was the former heavy toll exacted during the spring shooting season". He adds that at places along the coast visited regularly by the Plovers hunters used to erect stone hides and shoot the birds as they came in to decoys made from potatoes impaled on thin sticks stuck into the sand. In places where the grass has been grazed short these birds may often be seen searching for insects. During April I saw one, still in its winter plumage, sitting on the ground and placing pieces of dead grass around itself as if it was already thinking of nesting.

Two other winter migrants which are rare and which I did not see are the Wandering Tattler (*Heteroscelus incanus*) and the Bristle-thighed Curlew (*Numenius tahitensis*), both of which nest in Alaska, though it was not until 1948 that the nest of the Curlew was found—as recounted by Professor A. A. Allen, of Cornell University, at the Ornithological Congress held at Upsala during 1950.

Pohakuloa, with its rather sparse vegetation due to an annual rainfall of only 10 inches and very porous soil, is not a good place for the native birds and, apart from some of the Plovers not far off, the only ones I saw there were one or two pairs of the Amakihi (*Chlorodrepanis virens*), a pretty green and yellow bird which, from its habits and appearance, reminds one of the Anthreptes Sunbirds, for it feeds on insects and the nectar from the flowers of the Mamani tree (*Sophora chrysophylla*), a rather scrub-like tree which, both in foliage and flower, is somewhat like the Laburnum.

About twelve miles off, at a lower altitude, where the rainfall is heavier and frequent mists prevail, the Mamani branches are covered

with lichen which evidently harbours much insect life, for here the Amakihi is much more common and one sees the birds searching the lichen for insects as often as they feed from the flowers. I found a nest of this bird there in a very open and conspicuous place among the branches some 15 feet from the ground ; it contained two young ones.

Another bird which was fairly common in the Mamani forest was the Dusky Flycatcher or Elepaio (*Chasiempis sandvicensis*), a rather pretty and very vivacious bird, hunting, whenever I saw them there, in small parties for insects among the lichen-covered branches.

At about 4,500 feet and less, wherever the Ohia tree (*Metrosideros collina*) grows, the pretty black, red, and white Apapane (*Himatione sanguinea*) is common and conspicuous.

The flowers of this tree, glowing red against the dark foliage, appear as if entirely composed of stamens and they contain a little nectar, which seems to be the main food of these birds, for they fly from one flower to another, never resting for more than a few seconds at each.

At the varying altitudes, as might be expected, the Ohia trees are in bloom at different times of the year, so that at one place or another I expect there is blossom all the year round. The birds rarely come near the ground except in places where the Ohia trees are short or occasionally to feed from the flowers of some introduced shrub.

The larger Iiwi (*Vestiaria coccinea*), with its long curved bill, is very like a large Sunbird both in appearance and in feeding habits. It also feeds on nectar from the Ohia flowers. I did not see one and believe it is correct to say that this strikingly handsome vermilion and black bird is much less common than the Apapane.

The Hawaiian Owl (*Asio flammeus sandvicensis*) is comparatively rare on Hawaii and I saw only two or three of them in the grasslands at about 4,000 feet. The small Buzzard, known as the Hawaiian Hawk (*Buteo solitarius*), is also rare, and I saw only two of them soaring over the tree-fern forest near Kilauea.

In the great Kilauea crater I saw some Tropic-birds, and again in the Waimea canyon on Kauai, but in both cases they were such tiny specks of white that it was impossible to tell which they were—*Phaethon lepturus* or *P. rubricauda*.

On Maui I saw, quite near the road in a shallow lake, a pair of the Hawaiian Stilt (*Himantopus h. knudseni*). They were feeding with some Turnstones (*Arenaria interpres morinella*), which quickly flew off, but the Stilts continued feeding no more than 60 yards from the car. On the far side of this lake were some of the Hawaiian Coots (*Fulica americana alai*), which are extremely like the Common Coot.

These ten species were all the indigenous birds I saw, but I did not spend more than a very little of my two months' stay elsewhere than at Pohakuloa.

From time to time many exotic birds have been liberated on one or other of the islands. Most have failed to survive but others seem to be well established.

Various game birds are to be seen on Hawaii, among them the Ring-necked Pheasant (*Phasianus t. torquata*) and the Versicolor (*P.v. versicolor*), the latter rather local in distribution, and hybrids between the two.

The Californian Quail (*Lophortyx californica*) has a wide range and was quite common at Pohakuloa. I should not have the heart to shoot these delightful Quail, or the ability either, for they fly very fast and low and are quickly out of sight behind the bushes.

The Japanese Quail (*Coturnix c. japonica*) are not plentiful except in small localities and not often seen because of their habit of remaining hidden until almost stepped on.

The Chukor Partridge (*Alectoris graeca chukar*) and the Common Peafowl (*Pavo cristatus*) are present on Hawaii, but in small numbers. There are also feral Pigeons originating from one of the domesticated breeds.

The Common Mynah (*Acridotheres tristis*) is all too common, and Schwartz says of it that "It is known to pilfer the Lace-necked and Barred Doves' nests. Other species probably suffer from similar depredations". This bears out what Rothschild has said of them, but it seemed to me that they were more plentiful about the towns, villages, and other human habitations, so may not constitute any serious menace to the native birds.

The Pekin Robin (*Liothrix lutea*) is another well established bird and common even at Pohakuloa where the food supply could not have been very plentiful. When the Californian Quail were being caught there for banding, the Pekin Robins were sometimes caught in the traps, which were baited with broken maize. It seemed to me extraordinary that these birds could digest such hard food, and I kept one of them to see if it would thrive on a diet of maize alone, and found that it did (though the maize in this case was much softened by boiling), and even sometimes sang quite happily in its little cage.

It was liberated after about ten days none the worse for its plain diet, and it is evident from the large numbers imported into Europe in years gone by that this bird is very easy to please or it would never have withstood the dealers' treatment. It is possible that these birds eat some of the small orange bean-like seeds of the Mamani trees as the Californian Quail do, and if so its digestion must be robust indeed, for the pericarp of these seeds is so tough that horticulturists file it so as to obtain germination within a reasonable time.

The Pekin Robin is reputed to eat the eggs of other birds when kept with them in aviaries, and if it does so in the wild state in the Hawaiian Islands it would be a serious enemy of the native birds.

The Pekin Robins seemed to live a fairly gregarious life at Pohakuloa, where their pretty song sounded particularly sweet in an otherwise rather silent place, but they may move down to places where insect life is more abundant, to breed, and it was at about 5,000 feet that I found two nests, one with newly hatched young in March and the other with young nearly ready to fly in early April.

The Japanese White-eye (*Zosterops palpebrosus japonicus*) is also common, and in gardens where fuchsias are grown these birds pierce the flower tubes in order to reach the nectar. The flowers are never pierced until they are open, so evidently the birds are clever enough to know that the buds contain no nectar.

In the tree-fern forest I caught sight of one or two Spectacled Thrushes (*Trocalopteryx canorum*), while the Virginian Cardinal (*Cardinalis virginianus*) is not uncommon and may sometimes be seen in Hilo, where the Rice-bird (*Munia nisoria punctata*) feeds by the roadside with the ubiquitous House Sparrow.

In some places the Californian Linnet (*Cardopacus mexicanus frontalis*) is common and in the grasslands the Skylark (*Alauda arvensis*), introduced from England to New Zealand and thence to Hawaii, is flourishing.

I once went up on Mauna Kea to 9,500 feet on the very edge of the tree-line, where scarcely any grass could find sufficient moisture in the fine volcanic ash to sustain life, and even here one or two Skylarks were singing as blithely as in the pastures far below.

Oahu is the island on which most birds have been introduced, and Munro (*Birds of Hawaii*) gives a list which includes even Macaws, while as far back as 1892 Palmer shot Mealy Rosellas on Maui.

Sea-birds are noticeably absent from the coast of Hawaii, but between Honolulu and San Francisco one or two Brown Gooneys or Black-footed Albatrosses (*Diomedea nigripes*) followed the ship until it was some three or four hundred miles off the Californian coast, when they disappeared overnight.

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HOMING BUDGERIGARS

By THE DUKE OF BEDFORD (Woburn, England)

Although a limited degree of success has been obtained on the Continent with birds that have been allowed their freedom, the Budgerigar is not, by temperament and instinct, what might be termed a "natural" homer. In a wild state it appears to be largely a vagrant, like our Crossbill; appearing in a district, breeding there, and then wandering off not to return for an indefinite period.

The Budgerigar's swift and attractive flight and the many lovely colours in which it is now bred make it, however, a most desirable ornament to a garden, and a year's not unsuccessful work in evolving a homing strain have taught me lessons which may be of value to others inclined to make a similar venture.

For an experiment with homing Budgerigars it is desirable to have a garden reasonably free from cats and House Sparrows and there should be a tree quite close to the side of the aviary. There should, in fact, be two aviaries, one for the liberty birds and another "resting" aviary to confine those which it is necessary to restrain from over-breeding. You can take certain risks with liberty Budgerigars which you would not dream of taking with, say, exhibition stock, but the one thing you must *not* do is to let your birds exhaust themselves by over-breeding. An aviary for liberty Budgerigars must be made more comfortable and attractive for the inmates than a normal aviary. If the birds, and especially the young stock, have to sit in a row on an artificial perch in driving wind and rain or blazing sun, as long as they remain in the flight; if they have nothing to do all day, and if at night have to jostle and fight for a place on a crowded perch in the shelter, they are not very likely to achieve a warm regard for "home" nor resist the temptation to seek more comfortable quarters in the outside world. The aviary, therefore, must not be overcrowded even when a full round of youngsters have just left the nest. There must be ample perching accommodation in the shelter and in the flight there must be considerably more shade, shelter, and wind-break than is normally provided. It does not matter if this prevents you from seeing the birds very easily as the chief ornamental display will be outside the aviary and not inside. The flight should be well furnished with natural branches occasionally changed. These will provide the birds with occupation and amusement. The nest-boxes should be hung up in pairs round the flight, two being allowed for each hen, with a certain number of "extras" in addition for early breeding young birds.

Size, shape, and correct markings do not matter in liberty birds. What *are* required are hardiness, intelligence, activity, and prolificacy. Colours will be selected according to the taste of the owner, but

blues, whites, and yellows make a prettier show in flight than greys, olives, and greens and a shade that is bright in first plumage is also desirable. Red-eyed birds *can* be produced as homers but their defective eyesight probably makes them rather less suitable for liberty than dark-eyed specimens.

In the wire roof of the aviary flight there should be a hole, a few inches in diameter, which can be opened or closed. Immediately beneath it there should be a food tray on a tall stand, deep enough to avoid the spilling of seed, easily cleaned, and coming to within about a foot of the roof. To assist the Budgerigars in finding their way out there should be a small detachable "ladder" of cross perches, the top rung of which is level with the exit hole and the bottom one is only just above the seed. A small, detachable, inward-pointing funnel of wire netting about 4 inches long and just wide enough for a Budgerigar to climb down comfortably should also be provided to fit in the entrance hole. It is put in position towards the close of the day (but not later than midday in mid-winter), its object being to confine the birds as they come in for their last feed and prevent them from roosting out and being killed by Owls. Before the wire funnel is inserted the ladder is, of course, removed, being hung in position again next morning when the birds are released. A Budgerigar at liberty, feeling hungry or wishing to rejoin its companions, is quickly attracted by the sight of the latter on the feeding tray and enters through the hole or down the funnel. Seed should also be kept in the shelter, but the outside supply not only acts as a bait for birds at liberty but also supplies the soaked seed so useful to the birds' health, as rain usually falls on it. It must not, however, be left more than a week or it may become sour or mouldy.

Great care should be taken when feeding or cleaning out the aviary not to allow a single grain of seed to fall on the ground outside, as this will attract wild birds and lead to the nuisance of their entering the aviary. Sparrows which do so should at once be slain; less obnoxious birds should be caught up until some member of the household is able to release them many miles away—and it must be a *very* long distance away as their homing faculty is often surprising! It is of the utmost importance to remove *the first offender directly it gets in*. If the line be taken that "just one or two don't matter" there will quickly be a crowd, involving much disturbance of the Budgerigars and much net-chasing and trouble for their owner. If there is a danger of cats, or smaller four-footed vermin, getting on to the roof of the aviary a "projecting-rim" arrangement round the aviary must prevent them from doing so.

Until Budgerigars of a guaranteed homing strain become available the following procedure will have to be followed with regard to stock. Obtain whatever number of pairs your liberty aviary will accom-

moderate, from a breeder who keeps his birds in a large outdoor aviary. Avoid big, fat, show Budgerigars bred in indoor aviaries or cages. If these find themselves at liberty they are apt to behave like larger Parrots that have been long caged, which go towering up into the sky, settle only on the tops of the tallest trees, and by the time they learn to fly down are miles away from home and completely lost.

Keep the aviary closed until the young of the first round are beginning to leave the nest. In the ensuing test of homing ability an odd cock or two may go in and out and prove a homer, and a hen or two, and one-third of the cocks may stray. (Hens are always rather better stayers than cocks.) The rest will be "non-exits", i.e. birds that do not trouble to leave the aviary at all.

You can either try and replace the errant cocks for the second round or allow the remaining ones to commit bigamy, which they will readily do, their second wives rearing their young well enough with little help.

The young birds will soon begin to go in and out of the aviary freely and make a pretty show, but during the ensuing eight weeks two-thirds are likely to stray. This means (since there is no need to remove any eggs) that from each pair you should obtain in the first round about a couple of real homers. The second round, for some unknown reason, may produce less than half the number of homers that the first round produced and most, if not all, may be hens. If among the young Budgerigars there are one or two of particularly attractive colours you would be sorry to lose, it is not a bad plan, after they have found their way in and out a few times, to catch them and put them into the "resting" aviary until they are adult and ready to take their place in a breeding team.

When the hens of the foundation stock begin laying their third clutches they, too, should be transferred to the resting aviary and the eggs thrown away. The adult cocks can join them as soon as the second round young can feed themselves without paternal aid. By this time the homing young of the first round, though only three months old and still in immature plumage, will be coming into breeding condition and, shocking as the idea may be to orthodox Budgerigar fanciers, you can *let* them breed! When they have reared their first round, of which 50 per cent should this time prove homers, the hens may moult or they may try a second round, but in any case if, and when, they start to re-enter their nest-boxes they should be transferred to the resting aviary. The cocks can either be put with them or left in the liberty aviary for the winter. The second-round young from the foundation stock may moult and then start breeding at the same time as the young from the first generation of homers. As the cold is likely to induce egg-binding, especially in immature hens, it is well to transfer them also to the resting aviary as soon as they begin to enter the boxes freely. On no account, however, should you remove the

nests or you will have birds straying or nesting in trees, an undesirable habit to which Budgerigars are fortunately not naturally prone. The next season you can start by taking one round only from your foundation stock supplemented, if need be, by some homers. In place of the unsatisfactory second round you can then take a round from homers only and start getting rid of your non-exit foundation birds and of your less attractively coloured homers. From then onwards you can continue to improve your stock by selecting for homing propensities and for colour.

One final warning. Homers, when breeding, can be left to go out to find their own green foods, but do not try and force your non-exit foundation birds out by giving them no green food in the aviary.

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SOME NOTES ON CARING FOR THE SMALLER SOFTBILLS

By CARL NAETHER (Sherman Oaks, California, U.S.A.)

To me one of the most intriguing phases of bird keeping is caring for more or less tender softbills, of which I have quite a number. In this group I would place small Flycatchers, such as the Niltavas, Narcissus, and many other colourful species we occasionally receive from India, and used to get from Japan and China, as well as the numerous small Warblers, Wrens, and Robins, quite abundant in the Orient and also in parts of Europe.

Perhaps the main reason why we do not find such birds more often in the bird markets and stores is their very delicateness—they rarely endure crowded shipping boxes or lack of suitable care en route. Once their plumage becomes soiled to any appreciable extent they soon take on that bedraggled appearance suggestive of poor physical condition. However, I have seen such birds arrive in this country from the Orient, each in an individual wooden cage, quite alert and contented, and in excellent plumage. I well recall the sizable array of magnificent Blue-throats, Yellow-throats, Niltavas, and Redstarts that arrived in beautiful shape in this country from India some years ago, each one in a separate compartment, double-bottomed to keep these birds' tender feet clean and healthy. It was a delight to inspect that shipment—with not a single bird sick or injured.

When it comes to keeping small softbills in good health—either in cage or in aviary—one of the first rules is to avoid placing them in with much bigger birds for whom they are no match when it comes to defending themselves. These larger fellows will almost invariably boss cage or aviary, especially if either is not large and offers no escape for the smaller inmates ; and, worst of all, they will, so to speak, "hog" on to all the best food with the result that the smaller birds, having

constantly to fight for food and drink, will soon become discouraged and give up. I have frequently seen a Thrush, Bulbul, or other fairly sizeable bird kept with smaller birds boss the whole flock to such an extent as to prevent many of them from getting food and water regularly, or at all. Taking a position near food or water containers, the bully will not allow any other bird to get near them. Of course, one way to avoid this bad situation is simply to place a number of food and water dishes in the same aviary; but the most effectual remedy is to remove the big birds and to keep small softbills only with birds of their own size, always giving them ample space—space within which not merely to hop from perch to perch but really to let the wings go. In cages this usually means placing perches sufficiently far apart to compel the birds to fly often.

Naturally, being of somewhat delicate health, small insectivorous birds require more frequent and more painstaking looking after than do the larger ones with robust physiques and with plenty of resistance. Most of these little fellows are extremely fond of bathing. Thus, my Narcissus as well as my Blue Flycatchers will bathe every day, even in rather cold weather—of which even here in sunny Southern California we get a good deal. And they really wet themselves when they bathe—so much so, in fact, that often they are unable to fly at all, remaining on the ground until their feathers have dried. When they bathe late in the day they have to be watched, particularly in cool weather, for then their plumage may not dry quickly and the birds soon get chilled and may take sick. Moreover, a small bird in such condition, unable to fly and get away, is easy prey for larger birds who may “have it in for them”. A few days ago I rescued a Blue Flycatcher, all wet from bathing and wholly incapable of lifting wings in flight, from a Cuban Clarino, that was attacking him almost viciously on the ground and which would, quite probably, have killed him had I not removed this aggressive Cuban immediately.

Another and very important aspect to watch in keeping small softbills is the condition of their feet. If these get caked with dirt, infections develop quickly and are often difficult to treat, at times impossible to cure. The bottoms of the cages in which such birds are kept should be covered with soft, absorbent paper, and that paper should be changed at least once a day. In the case of heavy fruit-eaters, I change the paper twice a day. Anyone unwilling to keep birds in good condition by means of the right sort of care simply has no business owning them and should leave their care to more conscientious persons. Birds, such as Blue-throats, certain Wrens, and others that stay on the ground most of the time, must have soft footing that will not injure their tender feet—and it should be reasonably dry. Fine, washed sand, changed frequently, is quite suitable in cage and in aviary. Some birdmen use peatmoss, which is very absorbent, but

also somewhat dusty. Still others avoid foot troubles among their birds by simply providing cages with double bottoms, that is, placing a wire screen an inch or so above the regular cage bottom so that all droppings will fall through the screen. Fortunate is he who keeps softbills that prefer never to set foot in the bottom of cage or aviary. Thus, I have a few colourful Manakins whose dainty red feet are easily maintained in sound condition by providing clean perches and clean food and water containers ; for I have yet to see these dainty creatures alight on or hop on the bottom of their cage. They *always* perch.

When it comes to feeding tender softbills, special attention to their peculiar dietary requirements will often prolong, even save, their lives. My basic item on such birds' menu is Spratt's Mockingbird food thoroughly mixed with freshly grated carrot and a fairly generous portion of meatmeal. To this mixture I always add some finely cut hard-boiled egg. Most softbills, in my experience at least, like hard-boiled egg almost instinctively. Both Bewick and Canyon Wrens relish egg. All my Flycatchers pick it out of the mixture first of all. The Wrens get dried ant-eggs soaked first in hot milk for some time and then mixed into the soft food. The Manakins get diced sweet apple and skinned grapes, but best of all they like ripe avocado, which they get daily and of which I happen to have a steady supply, since I grow the fruit myself. While ripe banana is supposed to be the main item in the Manakins' diet, mine will not eat banana any more but give avocado the preference. I simply cut a fairly ripe avocado lengthwise in halves and place them in the birds' food dish. Practically all the small softbills relish sweet apple and also sweet currants, the latter thoroughly softened in warm water first. Another important and quite tasty item in their daily diet—one which I have used for many years with excellent results—is equal parts of spongecake and pablum mixed with sufficient milk to make a very soft, not too thick, mass. My Flycatchers, Robins and Orioles relish this concoction especially. Since it has a tendency to sour in warm weather, I feed it fresh daily year in and year out. Finally, I give the smaller softbills the smallest mealworms I can find, and other live food in season. If I cannot get small mealworms I take medium-sized ones and throw them in hot water first to soften their shells sufficiently to make them more digestible for the birds. I recall losing a very rare and precious *Uguisu* once for lack of small mealworms.

On the above-mentioned feeding regimen I keep Bulbuls, Wrens, Flycatchers, Robins, Manakins, Bluebirds, and other more or less dainty feathered creatures in good health. As you will have noted, I believe in ample variety and in very nourishing food. While some of it may have a tendency to fatten the birds, the exercise they get in spacious cages and aviaries prevents them from getting too fat.

Some of my readers may object to such a feeding scheme on the

ground that it requires too much time to prepare the various dishes. But I have not found this to be the case. One develops a definite plan in preparing food for softbills. It rarely takes me more than an hour a day to feed all my birds, in cage and aviary, and I keep about half a hundred. This hour passes rapidly, since feeding birds is one of the most enjoyable chores on my daily programme. Since I leave for work very early in the morning I always do my feeding in the late afternoon, several hours before the birds are apt to retire for the night. Moreover, I can leave sufficient feed for them to last several days if need be, even though regular daily attention is indispensable to success in keeping delicate softbills.

* * *

BREEDING OF THE GREEN-RUMPED PARROTLET

(*Forpus passerinus passerinus*)

By C. AF ENEHJELM (Helsingfors, Finland)

In the autumn, 1948, I got two pairs of Green-rumped Parrotlets from Holland. The birds arrived in quite good condition and the first winter I kept them together in a roomy box-cage in the birdroom in the dwelling house. I had ringed the birds and observed which kept together, as I have always believed in leaving the choice of mate—if at all possible—to the birds themselves.

In the spring I put one pair (pair No. 1) in an indoor flight in the birdroom, size about 8 ft. by 6 ft. and 8 ft. high. In the same flight there were several pairs of small birds: Red-headed Parrot Finches, Diamond Sparrows, Cherry Finches, Zebra Finches, various Waxbills, and a pair of Painted Quail, about a dozen pairs in all. The floor of the flight is elevated about 2½ feet above the floor of the room, thus allowing plenty of sunshine from the large window. The Parrotlets soon felt at home, and I never saw them disturb any other birds, not even in the neighbourhood of the nest. The nest-box was of upright pattern, rather roomy (18 in. by 18 in. by 10 in.) with concave bottom covered with a handful of sawdust. After about a month I saw the hen disappear into the nest, and on checking up some days later I found six eggs. Four youngsters hatched, of which one died and the other three left the nest at intervals of one day. The parents started another nest; six eggs were laid, five youngsters hatched, and all left the nest in fine condition. The parents started a third nest, again six eggs were laid, five young hatched and were reared. As the birds made an attempt at a fourth clutch I removed the nest-box, where I, by the way, found five eggs. I think that thirteen healthy youngsters is a very satisfactory result. The other pair (pair No. 2) was placed in a smaller flight (4 ft. by 4 ft. by 2 ft.) in

my other birdroom. They did not, however, make any attempt to breed until very late in the season, at the end of September, so I removed the nest-box, where I found four fertile eggs.

I am sorry that it was impossible for me to make any notes as to laying, sitting, etc., this first season, as I was away on longer and shorter journeys several times during the breeding season.

In 1950 pair No. 1 was kept in the same flight as the previous year and the same nest-box was hung in the same position. Even though I had to be absent on several occasions I succeeded in making some notes this time. The box was put up on 23rd February and the hen was observed visiting the box for the first time on 2nd March. On 9th March three eggs were seen in the box, and when inspecting again on 14th March six eggs were found. Some days later there were seven eggs in all. When inspecting again on 24th March there were four youngsters, on 7th April all seven eggs were hatched. On 1st May two youngsters left the box, followed by one each day on the following dates: 2nd, 7th, 12th, 13th, and 15th May, seven in all. The birds were fed by the father; I never saw the hen feeding them outside the nest. I had a very busy time, so I had no time for observing the nest, but as far as I could see she was sitting again. As I had to make a journey I thought it safer to take out the youngsters, and on 29th May they were put in another flight in my other birdroom. On returning from England I inspected the nest on 22nd June and found two youngsters and six eggs in the box. On 2nd July there were seven youngsters; on 5th July all eight eggs were hatched. On 27th July the first young left the nest and on 29th a second. At this time I had to go to Denmark so I cannot say when the others left the box, but on returning on 4th September all eight were outside and thriving well. The hen was again sitting on six eggs, but of the five young hatched one died on 5th October, followed by the other four at intervals of a few days. I think the strain of bringing up fifteen youngsters had been too much for the parents, so that the last clutch was not fed so carefully as the earlier ones. I then removed the box for the winter.

Pair No. 2 was put in one of my Budgerigar indoor flights (8 ft. by 2½ ft. by 7 ft.). In the same flight there was also a pair of Olive Finches. This pair brought up two youngsters in the first nest, three in the second. They also had a third nest late in the autumn but the youngsters (four) all died. Two pairs from 1949 had one nest each of two and three youngsters respectively, and made no further attempts to nest. These pairs were kept in flights like pair No. 2, with one pair of Cuban Finches and *Lophospingus pusillus* respectively. In no case was any damage done to the other birds, the Cuban Finches also bringing up their young at the same time. A fifth pair, consisting of an imported cock and a 1949 hen, did not make any attempt, and

the same was the case with a pair of Blue-rumped Parrotlets (*Forpus passerinus flavissimus*) and a mixed pair: Green-rumped cock and Blue-rumped hen.

As mentioned earlier, the Green-rumps do not seem to be aggressive towards other birds but they do not extend this friendliness to their own or nearly related species. Pair No. 1 ignored a pair of Bourke's in the next flight, but the pairs in the Budgerigar flights quarrelled a lot though not to such an extent as to keep them from nesting. I now prefer to keep them in every second flight only, with some other species in the flight between them. Certainly they ignored Lovebirds, Redrumps, and Cockatiels, but I should certainly hesitate to keep them with any other Parrots at breeding time. Out of the breeding season I have kept most of them in a bigger flight, 15 ft. by 8 ft. by 7 ft., about twenty together, without any trouble.

There is little doubt that my Pair No. 1 is something out of the ordinary. Most pairs I have at present, and have had in the past, usually had only four to five eggs in a clutch. I am anxious to see how this really prolific pair behaves in 1951. I have had no experience of this species in outside aviaries. The summer in Finland being so short I could hardly put them out earlier than the middle or end of May and possibly keep them outside until the end of September. By that time the days are already rather short. Now that I have sufficient material for further experiments and can put up some more unrelated pairs, the progeny from pairs 1 and 2, and an extra imported cock, I shall keep a couple of pairs back from breeding and put them out in the spring in some of my foreign finch flights. I am also expecting another Blue-rumped cock, so I can also put up two pairs of this (sub ?-)species.

As to feeding: the birds have at their disposal white and Indian millet, canary-seed, oats, and groats. They have a great preference for groats. All the year round I am feeding sprouted millet, canary, and oats. In the summer there is an unlimited supply of green food, chickweed especially. I also get a limited amount of chickweed, salad, and spinach in the winter from the greenhouse. Sprouted seeds and green food are highly appreciated, they also take a lot of egg food, insectile mixture, and even mealworms. Especially in the flight where Pair No. 1 is kept there is a big variation of foods for the other birds, more than in the single compartments. This may also be a reason for the great prolificacy of this pair.

As to the species, I assume my Green-rumps belong to *Forpus passerinus passerinus* (Linné)—previously named *Psittacula guianensis* (Swainson) (Peters' Checklist, vol. iii, p. 204). This species was previously the most commonly imported of the Green-rumped *Forpus*, according to Neunzig and *Aviculture*. They are certainly very nearly related to the Blue-rumped Parrotlet (*Forpus passerinus flavissimus*

Hellmayr)—formerly *Psittacula passerina* (Linné). I cannot distinguish the hens of the two species; they originate, however, from two different direct importations, so I think I have placed the correct females to the cocks. A crossing experiment would be of interest, but my attempt in this direction did not succeed this season.

There is no difficulty in distinguishing the sexes: the cocks have a brighter green colour, especially on the heads, and a cobalt blue patch above and below the innermost wing-coverts. The blue colour is completely missing in the hens. Even when still in the nest the sexes may easily be distinguished.

In order to keep exact records I have always ringed every bird with open aluminium Budgerigar rings, which are eminently suitable for this purpose. In order to distinguish the birds without catching them I have also used coloured celluloid Budgerigar rings, which is quite practical if you keep several birds together and want to see how the pairs mate, as I believe that the free choice is of importance for a successful breeding result.

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BIRDS I SHOULD LIKE TO POSSESS AGAIN

By ALEX HAMPE (Grub a. Forst. b. Coburg, Germany)

Since I had to leave my home in Königsberg, East Prussia, helter-skelter at the end of January, 1945, I have been "birdless". For a man who started aviculture at the tender age of five (with a pair of Barbary Doves) and has kept birds in many lands, even as a prisoner of war in a Japanese camp, this is a hard fate, but I dare say I have to share it with a good many of our members. Before my spiritual eye I visualize, however, some birds of which I was especially fond, and of these I beg to be allowed to write a few words so that members may acquire them should occasion be offered. Most, if not all of them have been mentioned by me in our Magazine, but I dare say my authoritative essays have been forgotten, and, besides, there are many new members. Let us start with the small insectivorous birds. Should I ever enter a Chinese bird shop in springtime again and only be able to buy one bird my choice would be *Larvivora cyane*. I do not know either its English or German name. One might call it Blue Ground Warbler. It certainly is a lovely creature, in size the same as our Robin but slimmer and more elegant. Its livery is simple but very *distingué*, shining marine blue above and silky white on the underside. The hen has, as far as I remember, the blue back tinged with brown. Its song is very pleasing and consists of different distinct stanzas. Only very few were for sale in the shops of the Chinese city of Shanghai in spring and only once I found a hen. When I asked a birdcatcher who had Colliopes, Blue Flycatchers, etc., for sale, why

he had no hens, he answered : " Hens number one good chow." Poor hens ! Two other very recommendable birds always for sale in the Shanghai bird market are the Ruby-throat and the Eastern Blue-throat. Both of them have only been rarely imported, which is certainly a pity for they are beautiful birds possessing a good song. They are great favourites of the Chinese bird fanciers. Ruby-throat hens were offered now and then but I never saw a hen of Blue-throats. I will also mention the two kinds of White Eyes (*Zosterops simplex* and *Zosterops erythropleura*). Both of them sing very pleasantly and are of a tame and confiding nature. Of smaller Japanese softbills the most desirable in my opinion is the Loochow Robin (*Erithacus komadori*). He is a very handsome bird and a really good songster. During my yearly holiday which I generally passed in Japan I always found a few on sale in the bird shops of Nagasaki and Kobe. As a rule also Blue Flycatchers, Narcissus Flycatchers, and the small Bushwarbler (*Horeites cantans*) could be obtained. The latter is an unobtrusive little bird of grey colour, but he possesses an agreeable very powerful voice. The Japanese appreciate him very much and call him " Unguisu ", i.e. Nightingale. I think he has been very rarely imported. Coming to the larger softbills I must mention the three kinds of Babblers which I have kept. The most valuable of them is certainly the Spectacled Laughing Thrush (*Trochalopteron canorum*). In my opinion its song can hardly be surpassed, and a well-trained " Hoamae " (flowery eyebrow) is a very nice pet. Besides, like all Babblers, it is a very lively bird and a very suitable co-habitant for Pheasant aviaries. I am not aware of its having bred in captivity, but in a well planted aviary it could easily be induced to propagate its kind. The smaller *Cinereiceps* and Berthemey's Laughing Thrush are also desirable birds and good songsters. Of Rock Thrushes, I had *Monticola albugularis* and *Monticola philippinensis*, the White-throated and the Chestnut-bellied Rock Thrush. Again, we have here two beautiful birds ; the Chestnut-bellied is a good, and the White-throated an excellent, songster. Of Chinese seed-eaters I can recommend the Chinese and the Japanese Hawfinch, both easily bred birds and suitable as an additional population for Pheasant aviaries. Of the Crow tribe I would like best Lidth Jay and the Blue Pitta from Formosa. Both birds have been imported, but on rare occasions only, and both are a great ornament for any aviary.

No doubt there are a good many other desirable birds in far off Western China which have never been imported and of which I have only seen coloured pictures in that old but excellent book *Les oiseaux de la Chine* (The Birds of China), by Père David. Of them I would like best a big Tit of the size of a Blackbird, clad in deep yellow and black. As far as I remember its name is " Sultan's Tit ". Further, in the same book there is the coloured plate of a bird which must be the

next relation to the American Bluebirds. The picture shows a Thrush-or, rather, Robin-like bird of the deepest blue in the regions of the eternal snow. So it must be a hardy bird and I imagine it is a good songster. If I remember right its scientific name is *Grandala coelicolor*.

May the days be near when these gems of the bird world reach our markets to delight the hearts of many bird lovers.

* * *

ON THE HARDINESS OF CERTAIN PHEASANTS AND WATERFOWL IN CAPTIVITY IN PENNSYLVANIA

By R. S. MACKENSEN (Yardley, Penn., U.S.A.)

It has occurred to me that an article on the hardiness of the various Pheasants and waterfowl in our collection here at Yardley, Penn., might be of interest and helpful to other collectors or would-be collectors in the same temperature zone.

It is not unusual for us to experience zero and even occasionally sub-zero Fahrenheit temperatures during the winter months. If you will keep this in mind as I describe our methods of wintering the various species, it should give you a good idea as to their hardiness.

Most of the ornamental Pheasants are kept in outdoor pens with two feet of boards around the bottoms of their sides and a small lean-to feed-shelter against these boards on one side. In such pens we keep Golden, Amherst, Silver, Bel's, Reeves, White, Versicolor, Cheer, White-crested Kaleege, Nepal Kaleege, Lineated Kaleege, Swinhoe, Elliot, Brown Eared, Blue Eared, and Impeyan Pheasants. All of these species seem perfectly able to withstand any deviations in the weather here.

The Tragopan and Mikado Pheasants might also be placed within this category. However, because of their rarity, we provide them with a little more elaborate enclosures. They are given shelters with board floors raised above the ground and closed on all sides except the south. No heat is provided. Bedding of some sort is placed over the floor.

In the same manner we also winter the Edwards, Imperial, and Siamese Fireback Pheasants. The Edwards will occasionally, and the Siamese Fireback will frequently, freeze their toes and feet if they are too much exposed to the bitter cold. We consider temperatures below 15 degrees Fahrenheit as dangerous to these birds. To avoid this danger, they are given shelters with no roosts inside so that they will squat in the bedding, thus affording protection to their pedal extremities.

The only Pheasants which we provide with artificial heat are the

Peacock Pheasants. These we winter in a closed building, providing just enough heat to prevent the temperature from going below 25 degrees Fahrenheit during severe cold.

All of our waterfowl are successfully wintered without artificial shelter. There are a few species which require open water during severe cold, to protect their feet from freezing. These are the Tree-Ducks, Black-necked Swans, and Orinoco Geese. In lieu of open water, they may be housed in sheds similar to those required for Edwards and Siamese Fireback Pheasants.

We find that the following waterfowl can take the coldest weather without even requiring open water : Mute Swans, Black Swans ; Canada, Richardson's, Cackling, Egyptian, Snow, Blue, Magellan, Indian Barheaded, White-fronted, Pink-footed, Bean, Gray Lag, Barnacle, Abyssinian Blue-winged, Cereopsis, Ashy-headed, Brant, and Red-breasted Geese ; Green-winged Teal, Blue-winged Teal, Cinnamon Teal, Shoveler, American Pintail, Chilean Pintail, Redhead, Gadwall, Wood (Carolina), Mandarin, American Wigeon, European Wigeon, Chiloe Wigeon, Lesser Scaup, Tufted, Red-crested Pochard, Ring-necked, European Sheld-duck, and Bahama Ducks. None of these species provide any problem for wintering them in our climate.

Thus it is quite apparent that even in rather cold areas one may keep a great number of Pheasants and waterfowl without going to extreme trouble taking care of them through the winter. In fact it has been our experience that the birds will stay more healthy and breed better if they are not coddled more than is absolutely necessary.

It goes without saying that such birds must be well fed at all times so that their body temperatures and resistance to the elements is maintained at a high level. We have developed a very simple and extremely successful feeding programme for Pheasants and waterfowl, which I shall perhaps describe at a later date.

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PSITTACORIAL

By E. N. T. VANE (Great Missenden, England)

A note appeared in the last issue of the American magazine *Aviculture*, regarding Mr. Rudkin's Leadbeater's Cockatoos not breeding until they were ten years of age. Owing to two pairs behaving similarly, it was assumed that this was the normal age for reproduction to commence. It may therefore be of interest to record that one of my pairs reared their first nest of three lovely young birds when the cock was two years old and the hen four. Both birds were aviary-bred in this country. I believe that their parents also were aviary-bred, but have no confirmation on that point.

This year the same pair hatched three young, which were doing well until a wretched farmer sited his hay-baling machine about fifty feet from their aviary. The noise so intrigued the inquisitive Cockatoos that the young were not fed and were lost. After the excitement died down, another attempt was made with a second clutch, a thing I had never heard of before with these birds, in England at any rate, but the cock would not take his turn at incubating, so it came to nothing.

Almost invariably my pairs seem to lay three eggs and rear all the youngsters.

The behaviour of my Noble Macaws compared with those in California is also rather interesting. Again my birds successfully reared four more young this year. In view of the lengthy time the brood are in the nest box, a second brood would be quite out of the question in our climate, even if the birds showed any inclination to go again, which they did not do. In 1949, however, when I had two hens with one cock, I believe the cock would have put the second hen to nest if another box had been provided, but I would not take the risk of losing the brood I already had from the first hen. Neither was I sure whether the cock took any turn at incubation or brooding, for unlike Mr. Rayson Brown, I am unable to this day to distinguish the sexes.

A second pair that I retained did not lay any eggs, but they always sleep in the nest box the whole year round. Again, there is no difference in the appearance of the sexes, neither have I been able to note any in any of the eight young reared, nor in the four original specimens. These young birds attained adult plumage when a year old. I have had several losses with pneumonia, but the birds appear to be more accustomed to our climate after three years, and are hardier. They have all lived outdoors all the year round without heat. They do not appear to feel the cold, although they have a habit of huddling all together in a row on the perch. They do this when warm as well as they preen each other.

In my opinion these birds are very attractive subjects for aviary life.

They are entirely different in their behaviour to the Australian Parrots, and are not guilty of causing great damage to the woodwork in their quarters. Many people seem to take it for granted that being Macaws, and moreover being called "Noble" that they are enormous and naturally destructive, but such is far from the case. They are little larger than a Rosella, and smaller than a Pennant. As for damage, when I had one in hospital recovering from a chill, it was allowed the run of the room which was lined with soft insulating wallboard, and no attempt was made to tear the boards. A Cockatoo would have wrecked the joint in a few minutes.

In Lord Tavistock's book it is stated that there are records of Kings being double brooded. I had never come across such an instance, therefore the fact that mine reared two broods in 1950, is probably worth recording. As a rule this pair—a Greenwing cock and common hen—go to nest in late April. This year they started early in the month, laid four eggs, and hatched and reared two youngsters, both very good specimens as usual. During August I was very busy making arrangements to move, and the birds were left mostly in the charge of an attendant. I was not aware that the hen was sitting until near the end of the month, when I thought I heard young birds being fed. It is quite a habit for this hen to go in and out of the nest after rearing her family, but hitherto she had always been leading me up the garden as Barrabands so frequently do. This time it was found on investigation that she had again laid four eggs, and hatched two more fine youngsters, which left the nest at the end of September. The sequel was not so happy, however, as the day the young left the nest they were both attacked by a pair of Amazons in an adjoining flight, and had their feet and bills damaged; one recovered but the other died. Another interesting feature is that this youngster, who is now only just over six months old, is plainly a cock, as there are many scarlet feathers already showing down the front of his chest. If only young Crimsonwings, Ringnecks, and some others would be so obliging in their early youth!

The Amazons mentioned above are the rather rare yellow-checked variety. They spent a good deal of time in and out of their nest box, and although they have been observed mating on several occasions, no eggs resulted last season. There is no red shoulder patch in this species, consequently this feature cannot help in sexing the birds. In this pair, however, the cock has a bright golden iris which is darker brown in the hen. In size and shape of skull or culmen no appreciable difference is noticeable. Both birds can talk, and are quite friendly when in a cage, but once out in an aviary they only remain docile when they look for a tit-bit, as soon as their thoughts turn to breeding they cannot be trusted. They may look quite harmless when hoping for a peanut or piece of apple, but become very aggressive if anyone

enters the flight. They are also quarrelsome with their psittacine neighbours as the poor young Kings discovered to their cost.

Last season eleven young Manycolours were reared successfully. Unfortunately there was only one hen among them, which rather reversed the balance for the previous year when there were four superfluous hens. One pair of birds had three broods, which would not have been permitted if I had been there at the time. The third brood were reared ready to leave the nest, but the nights turned cold and the young died ; of course they were both hens.

My pair of Hooded moulted in July, and then thought of going to nest in October, but as they had laid no eggs I removed them to their new address. The next morning the hen laid her first egg on the cage floor. They are again moulting at present (March), so may decide to try at a more reasonable season this year.

The longer one keeps birds and the more birds one keeps, the more does one become convinced that it does not do to generalize on a species through the experiences gained from the behaviour of one particular pair. It is all really a matter of individuality. For instance, many Princess of Wales hens persist in breaking their eggs as they are laid, and some cocks of these birds have to be removed when the hen is sitting, whilst other pairs behave perfectly as parents and rear brood after brood without any trouble. Possibly these faults are hereditary, and as the source of supply is strictly limited in this country, a large percentage of the young available inherit these bad habits or characteristics. The fact remains that many hens do break their eggs deliberately, yet eventually sit on a few and rear a family after laying as many as twenty or even thirty eggs. Similarly, some cocks insist on sitting alongside the hen during incubation, in which event better results are obtained by removing the cock once the first egg appears. He may be put back once the family is coming along, and will usually look after the young on leaving the nest, and also fertilize a second clutch. But it is undoubtedly a question of personal taste, and the best procedure to adopt with each individual pair can only be decided from observation and experiment. Such inherent defects as deformed beaks are in my opinion liable to recur in the progeny of any stock reared from such defective parents, whether the defect shows in the specimen itself or is concealed in the same manner as say a split colour factor in a normal coloured bird.

These notes are becoming like one of my telephone conversations. Someone asks "Where's father", the answer is "On the phone to one of his bird friends". This is greeted with a large "Oh!" with a world of meaning pushed into that short word. There is always something more to say when you are discussing birds I find . . .

BRITISH AVICULTURISTS' CLUB

The twenty-seventh meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 14th March, 1951, following a dinner at 7 p.m.

Chairman : B. H. Dulanty.

Members of the Club : Miss Kay Bonner, Mrs. V. M. Bourne, W. Brain, Captain A. Clarence, G. T. Clark, Mrs. G. T. Clark, Dr. J. N. E. Day, O. E. Dunmore, A. Ezra (Patron), Miss D. Gask, Tom Goodwin, G. T. Iles, H. J. Indge, Miss E. Maud Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, G. S. Mottershead, S. Murray, A. A. Prestwich (Hon. Secretary), J. H. Reay, D. H. S. Risdon, R. C. Sawyer, E. N. T. Vane, H. Wilmot, H. Wallace Wood, Mrs. M. K. Woodford.

Guests : J. Bailey, G. S. Cansdale, Miss Day, Mrs. J. N. E. Day, Mrs. E. Gask, Miss S. Indge, Mrs. R. Maurice, Mrs. S. Murray, Mrs. J. H. Reay, Miss T. Russell, Miss M. White, Mrs. H. Wilmot.

Members of the Club, 27 ; guests, 12 ; total, 39.

The programme for the evening was confined to a *conversazione*.

The next meeting of the Club is on **9th May, 1951.**

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

NEWS AND VIEWS

The Hon. Director of the Severn Wildfowl Trust invites members of the Society to visit the New Grounds, Slimbridge, Gloucestershire, on the afternoon of Saturday, 28th April. The party will gather there at 2 p.m.

It is much the better to travel by road. Slimbridge is 12 miles from Gloucester and 26 from Bristol. The side-road off the main Gloucester-Bristol road is half a mile from Cambridge village on the Bristol side ; and the signpost indicates both the New Grounds and Slimbridge. Follow the winding country road through the village, over the canal bridge, and along a very bumpy road, and you will arrive at the headquarters of the S.W.T.

Rail travel presents some difficulty. Coaley Junction is the nearest station (3 miles), but it is on the Gloucester-Bristol line, and there are very few trains. Stroud is the best station for those going from London, but it is ten miles from the New Grounds, and it is necessary to take a taxi.

Members intending to accept the invitation must notify the Hon. Secretary, 61 Chase Road, Oakwood, N. 14, before the 21st April.

Rowland Hutchinson is due to arrive in the *Gothic* about the middle of May. June and July will be spent on the Continent, but the three following months he will be in England.

* * *

Miss M. C. Maitland writes :—" My breedings for 1950 were : one Cockatiel, one Rock Pebbler, three Mealy Rosellas, and five hybrids from my old hybrid Stanley \times Red Rosella mated to his original Stanley hen, only four, however, were reared."

* * *

P. H. Tancred, Ashfield, Sydney, reports : " I have had a few breeding successes this season with Finches, Red and Black-headed Gouldians, Stars, Yellow-rumps, Black-throats, Long-tailed Grass, Painted, and Ruddy Waxbills. The only success with Parrakeets was with Bourkes, which after rearing three are on their second nest."

* * *

C. S. Webb, curator of birds and mammals to the Zoological Society of London since 1948, is resigning his appointment, and will leave the Zoo in a few months time. Before joining the Zoo staff he made some twenty-five collecting trips abroad—South America, Africa, Madagascar, and the Far East. He helped very considerably to restock the Zoo after the last war.

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V. N. Wall writes on 3rd February, from Erdington : " I would be interested to know whether the nesting of a Greenfinch hen at this time of the year is abnormal. The hen started making her nest on the 22nd of January, and by the 27th had laid her first egg. The nest now has four eggs, and the hen is sitting very tight. The aviary is what one might call a semi-enclosed type, 8 feet by 4 feet, the house section being enclosed on three sides, and the front half enclosed. The roof of both house and flight is covered, the flight being open to the most severe weather. The nest is situated among some twigs, hay, roots, and other bits and pieces thrown in to provide nesting material, in an exposed position, in the flight."

* * *

Kenneth Smith writes from Sierra Leone : " I thought you might like to know I have now collected three specimens of Hartlaub's Duck (*Cairina hartlaubi*). They were brought into my base camp here, at Koribundu, in the Bo district of the Southern Province of the Protectorate. I am hoping to get them safely back to England alive, included in the general zoological collection I shall be bringing about Easter time. I recently returned from a five-day visit to Lake Maberu, where I collected some interesting herons—six species in all. A Jacana was brought to me by an old fisherman, but unfortunately it had an injured toe, and was useless as a specimen."

D. Bowles reports that several interesting breeding results were obtained at the Edinburgh Zoo during 1950. The Sarus Cranes hatched two young ones. One was rather a weakling, and was trodden on soon after hatching; the survivor was fully reared.

A pair of Black-headed Ibises successfully hatched two youngsters in July, and went to nest again in October, hatching a further brood. Unfortunately, the weather was very much against these last two, and both were found dead, having fallen out of the nest during the night. Blue and Yellow Macaws laid three eggs, threw two out of the nest, but successfully hatched the third and reared the young one. The most important new arrivals were four Red-breasted Geese received in exchange for Penguins from the Antwerp Zoo, and two Black and White Pelicans.

* * *

WATERFOWL RINGING SCHEME—DETAILS OF RECOVERIES

<i>Date Ringed.</i>	<i>Species.</i>	<i>Ringed by.</i>	<i>Date recovered.</i>	<i>Place where recovered.</i>
11.8.50	Mallard	M. Thompson-Coon near Maidstone.	— Jan., 1951	Hegham Saltings, near Rochester, Kent. A. A. P.

* * *

NEWS FROM AMERICA

The Southern California Chapter of the Avicultural Society met at the Sepulvada Woman's Club House, 15236 Parthenia Street, Sepulvada, on 7th January, 1951. Mr. Brinker mentioned that his Ring-necks were showing signs of nesting, and that his Red Rosellas had eggs. Most of the birds were getting ready to nest owing to the warm winter. Mrs. Hazle Scott, just returned from New York City, gave an interesting talk about the birds she had seen in the various zoos. Mr. Francis Abella told how an opossum had got into the cage with his talking Crow and had almost killed it when he discovered it. The opossum had bitten the neck of the Crow and had its tail wrapped round the bird, but he succeeded in getting the opossum out, and took the Crow to a veterinary, who sewed its neck up, and it was now recovering, but it was a very close call for Mr. Crow.

OLIVE W. GILMER, *Recording Secretary.*

* * *

A. H. Isenberg, Palo Alto, California, who has already achieved many remarkable breeding successes, last year bred the Formosan Alcippe (*Alcippe nepalensis*), otherwise known as Tit or Quaker Babbler, and Nun Thrush. The pair had been with him eleven years and, although young were hatched and partially reared on many occasions, it was not until 1950 that success was finally achieved. Three young

ones left the nest—two soon died, but the third lived for a further ten weeks or so. An exciting event the previous year was the nesting of a pair of Quetzals. They sat for eight days on two eggs, but on the ninth both had been thrown out of the nest-box and broken. One egg was distinctly fertile.

* * *

Mr. David West, Sen., who is taking care of his son's wonderful collection of Parrakeets at Montebello, California, since the latter has joined the Armed Forces, writes :—

“The birds are going along nicely ; we hope this year to raise the first Many Coloured and the first Adelaides this summer. Also we should have about eight young Turquoisines to export. I finally learned how to cure the Australia eye disease. We had one cage contaminated from a shipment of birds from Salt Lake City, and even though that portable aluminum aviary had been in use for over a year, raising perfect Scarlet-chested, the moment a pair of Many Coloured was put in there, the female had the disease in one week. I took the male out, segregated the hen, and was going to kill her. But I went to the drug store, bought 2 per cent solution of yellow oxide of mercury, plus a tube of the new drug called “aureomyocin”, placed some in the eye, and the next day the eye was shut. Thereafter twice a week, I gave it the same, and in two weeks the disease was gone. Of course, I dare not use the bird for a couple of years. I cabled a doctor in Australia, who also had found a cure of the liquid type, but after reading his letters, decided mine was better, for his took a month ; mine took actually one week.

“I now experiment, and so far have saved a female Queen Alexandra that had pneumonia by the simple task of placing it in the hospital tent, giving it cod liver oil each morning, then taking the bird out to the aviary each day with its mate, regardless of the weather, bringing the bird back after about five hours. There seems to be some advantage in taking the bird out each day with its mate. If you don't, the bird seems to give up its will to live ; we have lost many, and it occurred to me this time to put the bird out each day, if only for its having a chance at a normal feeding if it wanted to.”

* * *

LONDON ZOO NOTES

By C. S. WEBB

Some interesting additions have been made recently in spite of the continued unfavourable weather (up to 10th March). The greater number of these have come from India. We were glad to receive two Yellow-collared Ixulus (*I. flavicollis*) as they are such sprightly creatures. They are exhibited alongside the Yuhinas, which they somewhat resemble in habits and appearance, though the latter have not such a heavy crest and lack the whitish eye ring of the Ixulus. This latter feature, coupled with their form and general behaviour, gives the Ixulus a marked resemblance to the Zosterops family.

A pair of Hoopoes (*Upupa epops indica*) are a joy to watch, for at the moment of alighting they always raise and lower their crests, giving them a most comical appearance. This Indian race is almost identical with the European race. We have them housed with a European Bee-eater which has been with us since August, 1948.

A notable arrival from the Himalayas was a Yellow-naped Great Barbet (*Megalaima marshallorum*). This is a magnificent specimen, equalling in size some of the Aracaris and Toucanets, with which the Barbets show many affinities.

A Lesser Long-billed (or Brown) Thrush (*Zoothera marginata*) from India is new to our collection. Its bill is quite remarkable in length for one of the Turdidae, and terminates in a pronounced hook. This and the Barbet were presented by Viscount Chaplin.

Another striking Indian bird is a Green-backed Woodpecker (*Brachypternus aurantius*) which is a large species with a prominent red crest. It seems to tame more readily than many others of the family. Other attractive arrivals from the same country are a Blue-winged Siva, two Black-headed Sibias, four Lanceolated Jays, one Tickell's Blue Flycatcher (deposited), and one White-capped Redstart.

We were fortunate to receive a magnificent pair of Cherry Finches (*Aidemosyne modesta*) presented by Mr. H. M. Luther. This is a beautifully-marked Australian species, and is all too rarely seen these days. The male, with his red cap, black throat, and exquisitely barred underparts, is a most attractive creature.

An unusual Tanager from Cuba—Pretre's Tanager (*Spindalis zena pretrei*)—was presented by Viscount Chaplin. The colour pattern of this bird is very distinct and reminds one, at first glance, of the colour scheme of the Golden-breasted Bunting (*Emberiza flaviventris*). This Tanager belongs to a genus peculiar to the West Indies in which the males are attractively coloured with black, white, and orange, whereas the females are dull.

A Military Starling (*Sturnella militaris*) arrived safely by plane from

Chile and just arrived, also by air, is a small but very colourful collection from Brazil, comprising two Festive Tanagers, two Scarlet Tanagers, two Superb Tanagers, two Yellow-winged Sugar-birds, two Brazilian Hangnests, six Saffron Finches, two Golden-crowned Conures, and two Jendaya Conures.

Our Black-footed or Cape Penguins (*Spheniscus demersus*) have reared three chicks this year. It is strange that this species breeds easily with us, whereas we have had no luck with the closely related Magellan Penguins from the Falklands. The latter got as far as breeding a chick last year, but it died soon after hatching. It may be that the colder habitat of the Magellan has some bearing on this.

Our old pair of Paradise Sheld-duck are nesting again this year.

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PARROTS IN THE ZOOLOGICAL GARDEN OF SAN DIEGO

By KEN STOTT, Jr.

General Curator, Zoological Park of San Diego, California

During the past twenty-five years no effort has been spared by officials of the Zoological Garden of San Diego to maintain as varied and comprehensive a collection of psittacine birds as could be properly housed and cared for. The popularity of the Parrot family, both with the general public and with aviculturists, renders most of its representatives ideal zoo exhibits. A further reason for the local emphasis on birds of this group is a generally mild climate, which is conducive to longevity and breeding. It is possible in southern California to exhibit nearly all forms of Parrot life out of doors throughout the year.

Since 1922, at which time the zoo first occupied its present location, one hundred and forty forms of Parrot have entered the collection. Many of these may be justifiably termed "choice items" here in the United States, to name a few: Pesquet's Vulture-head, Yellow-naped Macaw, Rothschild's and Puerto Rican Amazons, Golden-shouldered Parrakeet, Celebes Racquet-tail, Kuhl's and Cardinal Lories, Ducorps' Cockatoo, and the Solomon Pigmy Parrot.

The collection now (1st March, 1951) contains sixty-nine species or subspecies. For such interest as it may afford, a list of the currently exhibited forms is offered here, as well as one enumerating those species which have bred in the gardens.

PARROTS CURRENTLY EXHIBITED

Kea (*Nestor notabilis*), Yellow-backed Lory (*Domicella garrula flavopalliata*), Great Black Cockatoo (*Probosciger aterrimus*), Banksian Cockatoo (*Calyptorhynchus n. magnificus*), Gang-gang Cockatoo (*Callocephalon f. fimbriatum*), Greater Sulphur-crested Cockatoo (*Kakatoe g. galerita*), Citron-crested Cockatoo (*Kakatoe sulphurea citrinocristata*), Timor Cockatoo (*Kakatoe sulphurea parvula*), Dwarf Sulphur-crested Cockatoo (*Kakatoe sulphurea* subsp.), White-crested Cockatoo (*Kakatoe alba*), Moluccan Cockatoo

(*Kakatoe moluccensis*), Leadbeater's Cockatoo (*Kakatoe leadbeateri*), Bare-eyed Cockatoo (*Kakatoe s. sanguinea*), Slender-billed Cockatoo (*Kakatoe tenuirostris*), Rose-breasted Cockatoo (*Kakatoe roseicapilla*), Cockatiel (*Nymphicus hollandicus*), Hyacinth Macaw (*Anodorhynchus hyacinthinus*), Blue and Yellow Macaw (*Ara ararauna*), Military Macaw (*Ara militaris*), Red and Yellow Macaw (*Ara macao*), Green-winged Macaw (*Ara chloroptera*), Noble Macaw (*Ara nobilis*), Jendaya Conure (*Aratinga jandaya*), Petz Conure (*Aratinga canicularis eburnirostrum*), Brown-throated Conure (*Aratinga pertinax aeguinosa*), Nanday Conure (*Nandayus nenday*), Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*), White-eared Conure (*Pyrrhura leucotis*), Venezuelan Parrotlet (*Forpus passerinus*), Tui Parakeet (*Brotogeris st. thomae*), Red-vented Parrot; Blue-headed Parrot (*Pionus menstruus*), Spectacled Amazon (*Amazona a. albifrons*), Green-cheeked Amazon (*Amazona viridigenalis*), Finsch's Amazon (*Amazona finschi*), Salvin's Amazon (*Amazona autumnalis salvini*), Levaillant's Amazon (*Amazona ochrocephala oratrix*), Yellow-naped Amazon (*Amazona ochrocephala auropalliata*), Single-yellow Amazon (*Amazona ochrocephala panamensis*), Yellow-fronted Amazon (*Amazona o. ochrocephala*), Mealy Amazon (*Amazona f. farinosa*), Hawk-headed Parrot (*Deroptyus accipitrinus*), Senegal Parrot (*Poicephalus senegalus*), African Grey Parrot (*Psittacus e. erithacus*), Cornelia's Eclectus (*Lorius roratus corneliae*), Red-sided Eclectus (*Lorius roratus pectoralis*), Solomon Eclectus (*Lorius roratus solomonensis*), Alexandrine Parrakeet (*Psittacula eupatria nipalensis*), Indian Ring-necked Parrakeet (*Psittacula krameri manillensis*), Derbyan Parrakeet (*Psittacula derbyana*), Blossom-headed Parrakeet (*Psittacula c. cyanocephala*), Barraband's Parrakeet (*Polytelis swainsonii*), Rock Peplar (*Polytelis anthopeplus*), Queen Alexandra's Parrakeet (*Polytelis alexandrae*), Crimson-winged Parrot (*Aprosmictus erythropterus*), King Parrot (*Alisterus scapularis scapularis*), Peach-faced Lovebird (*Agapornis roseicollis*), Masked Lovebird (*Agapornis personata*), Nyasaland Lovebird (*Agapornis lilianae*), Pennant's Rosella (*Platycercus e. elegans*), Stanley's Rosella (*Platycercus i. icterotis*), Pale-headed Rosella (*Platycercus adscitus palliceps*), Brown's Rosella (*Platycercus venustus*), Barnard's Parrakeet (*Platycercus zonarius barnardi*), Twenty-eight Parrakeet (*Platycercus zonarius semitorquatus*), Pileated Parrakeet (*Purpurecephalus spurius*), Blue Bonnet Parrakeet (*Northiella hematogaster*), Red-rumped Parrakeet (*Psephotus hematnotus*), Hooded Parrakeet (*Psephotus chrysopterygius dissimilis*), Budgerigar (*Melopsittacus undulatus*).

PARROTS BRED IN THE SAN DIEGO COLLECTION

Violet-necked Lory (*Eos squamata guenbyensis*) × Blue-tailed Lory (*Eos h. histrio*): 1931 (1).

Black-capped Lory (*Domicella lory*) × Blue-tailed Lory (*Eos h. histrio*): 1932 (2).

Blue-faced Lorikeet (*Trichoglossus hematod hematod*): 1931 (2), 1941 (2).

Red-collared Lorikeet (*Trichoglossus hematod rubritorquis*): 1941 (2—did not survive infancy).

Swainson's Lorikeet (*Trichoglossus hematod moluccanus*): 1929, 1941 (3).

Perfect Lorikeet (*Trichoglossus euteles*): 1941 (2—parents and young destroyed on nest by bees).

Great Black Cockatoo (*Probosciger aterrimus*): In May, 1948, two fertile eggs were laid but deserted by parents; in August, 1950, one of two eggs was hatched, but the young was ejected from nest by parents and found dead upon cage floor.

Citron-crested Cockatoo (*Kakatoe sulphurea citrino-cristata*): 1941 (2—died in infancy), 1950 (2—died in infancy).

Timor Cockatoo (*Kakatoe sulphurea parvula*): 1950 (1—died in infancy).

Molucca Cockatoo (*Kakatoe moluccensis*) : 1941 (2—died in infancy).

Leadbeater Cockatoo (*Kakatoe leadbeateri*) : First young in 1935 ; since that year approximately 30 have been reared. Three generations are represented in the collection.

Bare-eyed Cockatoo (*Kakatoe s. sanguinea*) : First young in 1929 ; since that year approximately fifty young have been reared.

Cockatiel (*Nymphicus hollandicus*) : Many young reared.

Blue and Yellow Macaw (*Ara ararauna*) × Red and Yellow Macaw (*Ara macao*) : 1948 (2 hatched ; 1 survived).

Jandaya Conure (*Aratinga jandaya*) × Nanday Conure (*Nandayus nenday*) : Birds purported to be of this parentage produced an offspring in 1950.

Petz Conure (*Aratinga canicularis eburnirostrum*) : 1937 (2).

Nanday Conure (*Nandayus nenday*) : 1930 (5) ; 1948 (1).

White-eared Conure (*Pyrrhura leucotis*) : 1941 (4).

Quaker Parrakeet (*Myiopsitta m. monachus*) : A number were bred and reared here between 1929 and 1936, 5 in 1930 alone.

Lineolated Parrakeet (*Bolborhynchus lineola*) : 1938 (7).

Venezuelan Parrotlet (*Forpus passerinus*) : 1941 (2).

Black-headed Caique (*Pionites melanocephala*) : 1933 (1).

White-breasted Caique (*Pionites leucogaster*) : 1934 (1).

Red-sided Eclectus (*Lorius roratus pectoralis*) : 1929 (5, of which only one survived infancy).

Alexandrine Parrakeet (*Psittacula eupatria nipalensis*) : one, two, or three annually since 1946.

Indian Ring-necked Parrakeet (*Psittacula krameri manillensis*) : 1930 (3).

Moustached Parrakeet (*Psittacula alexandri fasciata*) : 1940 (2).

Blossom-headed Parrakeet (*Psittacula c. cyanocephala*) : First bred here in 1941 and many subsequently.

Madagascar Lovebird (*Agapornis cana*) : 1929 (2) and a number during ensuing three years.

Peach-faced Lovebird (*Agapornis roseicollis*) : First young, 1933 ; many subsequently.

Abyssinian Lovebird (*Agapornis taranta*) : A number of young between 1931 and 1933.

Fischer's Lovebird (*Agapornis fischeri*) : First young, 1930.

Masked Lovebird (*Agapornis personata*) : First young, 1930 ; many subsequently.

Nyasaland Lovebird (*Agapornis lilianæ*) : First young, 1928 ; many subsequently.

Pennant's Rosella (*Platycercus e. elegans*) : 1930 (1).

Pale-headed Rosella (*Platycercus adscitus palliceus*) : 1931 (2).

Pale-headed Rosella (*Platycercus adscitus palliceus*) × Pennant's Rosella (*Platycercus e. elegans*) : 1940 (1).

Red-rumped Parrakeet (*Psephotus hæmatonotus*) : Many between 1930 and 1938.

Blue-winged Grass Parrakeet (*Neophema chrysostomus*) : 1930 (4) ; 1933 (2) ; 1937 (4).

Budgerigar (*Melopsittacus undulatus*) : Many.

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REVIEWS

BIRDS OF PARADISE AND BOWER-BIRDS. By TOM IREDALE.

Georgian House, Melbourne, 1950. pp. i-xii, 1-239, 33 coloured plates. Price £5 5s. net.

Nothing is more welcome to ornithologists and bird amateurs than a comprehensive monograph of an attractive group of birds, with complete illustrations in colours. When these are the gorgeous Birds of Paradise and the interesting Bower Birds, the anticipation is great. Yet Mr. T. Iredale's book is a cause of deep disappointment and dissatisfaction.

Order in planning and clarity in writing are first necessities ; they are conspicuously wanting throughout this book. Peculiarity is pressed to the point of erraticness, and one can hardly ever find the information one wants. Unsuccessful attempts at humour such as heading the chapter on *Cicinnurus* " The Little King and his friends " are of doubtful taste in this sort of a work. Furthermore, the author's queer conception of nomenclature, species relationships, and affinities results in a number of fantastic and misleading statements which are likely to give the reader erroneous notions. Particularly Mr. Iredale's quaint and repeated assumption that a few odd specimens, found among tens of thousands of others, truly represent rare but distinct forms rather than hybrids, seems hard to believe. Anyone moderately acquainted with Birds of Paradise can easily detect in any of these unusual birds the combined characteristics of two well-known species. It is also generally known that hybrids are not infrequent in families in which profusely ornate males do not usually pair up, but remain promiscuous, accepting any female which is attracted to their display perch or ground. This happens among the Birds of Paradise, as it does in Humming Birds.

The most commendable feature of the work is a good historical account of the various species ; but Mr. Iredale's unexpected idea of a bibliography is a chatty appreciation of a number of authors and collectors, with which few will agree in a number of cases. There are no original accounts of life habits, and the author's knowledge of the birds is based mostly on the study of museum collections and on his own selection of the literature. He does not appear to have ever observed them in their native haunts, nor to have watched them in

captivity to any extent. The book is well produced, and practically all the species and subspecies are figured in colours. It is, however, regrettable that so many of the pictures reproduce faithfully the defects of faultily mounted skins, giving only a remote idea of the bird in life. Pictures of all the known hybrids are certainly useful.

It is to be deplored that such a book has ever been printed. It will probably deter for some time to come the publication of a more satisfactory one, from the pen of a naturalist understanding thoroughly these magnificent and entrancing birds, and well acquainted with their fascinating behaviour.

J. DELACOUR.

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RELEVÉ DES PSITTACIDÉS ÉLEVÉS EN FRANCE. By ARTHUR A. PRESTWICH. London, 1950.

This excellent volume, as the title implies written in French, will be of great value to aviculturists. Mr. Prestwich has made long and extensive research into the most important French periodicals in order to obtain as much information as possible regarding the breeding of Parrots and Parrakeets in captivity. He adds that the work is a compilation of the records of rearing of Psitticine birds which have appeared in the *Bulletin de la Société Nationale d'Acclimatation de France*, *La Terre et la Vie*, and *L'Oiseau et la Revue Française d'Ornithologie*, and that there may be other records which have not been included. He states that he will welcome any information regarding any records, and recommends that such information should be sent to *L'Oiseau* for publication.

The volume is methodically and clearly presented, and is yet another example of the careful and useful work being carried out by the Hon. Secretary of the Avicultural Society.

P. B-S.

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LIFELONG BOYHOOD: RECOLLECTIONS OF A NATURALIST AFIELD. By LOYE MILLER. Illustrated. University of California Press, 1950. 226 pages. \$2.75.

In simple, entertaining style, Professor Miller recounts happy boyhood days and equally happy manhood days spent in search and study of birds and bird fossils. In California, Arizona, and Lower California he roughed it with other nature lovers, and the accounts of his experiences with the people he found there as well as with the birds, make informative and at times fascinating reading. Assuredly, Dr. Miller was both fortunate and wise to discover early in his youth his intense liking for bird study and to make this his life work.

The chapter entitled "The Singing of the Mockingbird" will intrigue the minds of all those who have listened to the Mocker, and

"The Biography of Nip and Tuck", two baby Californian Linnets or House-finches, raised successfully by hand, offers some thoughtful pointers on the so-called inheritance of singing ability—a controversial subject. All in all, *Lifelong Boyhood* is a pleasant and very readable account of a man's successful activities in his chosen field, that of the naturalist. The book, therefore, is of special concern to all concerned with the study of birds.

CARL NAETHER.

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NOTES

CHOUGHES IN KENT AND SUSSEX.

There have been reports lately of Red-billed Choughs being seen in various parts of Sussex and Kent and in *The Times* of 28th December last appeared a note headed "Chough Mystery Solved" in which the writer stated: "There is, it appears, a gentleman living in Sussex who keeps Choughs in semi-captivity and had eighteen home-bred specimens, almost full winged, in his grounds during the summer. Three of them escaped, and it is these three birds, undoubtedly, that have been the cause of all the excitement." The term "home-bred" would seem to indicate that these birds were bred in captivity, so I sent the cutting to Mr. Prestwich, who, I knew, kept all the records of birds bred in captivity. But he had no definite records of breeding successes in Great Britain. He quoted the late Dr. W. T. Greene in saying in *British Birds for Cages and Aviaries* that, "if suitable accommodation is provided they will breed freely and successfully". Dr. Greene was rather fond of making statements like this which might have been true, but no one had ever succeeded in providing "suitable accommodation".

I made inquiries and discovered that the birds had wandered from Pippingford Park, so wrote to the owner, Mr. Hayley Morriss, who has kindly supplied me with the following information. The Choughs came as young birds from Ireland, and were liberated at Pippingford Park. He writes: "At present I have sixteen birds which roost on nesting boxes in a large room. I feed them every day by hand. During the war some of my Choughs nested, but soldiers always took the eggs. Jackdaws are their principal enemies. When the Choughs wander too far, unfortunately, gallant sportsmen walk out and shoot them. Some people think this a great triumph as the birds are rare. They even shoot my Cranes."

Let us hope that some of these delightful birds may find "suitable accommodation" and succeed in rearing families, and that "gallant sportsmen" and Jackdaws will make themselves scarce.

I believe Jackdaws are mainly responsible for the scarcity of Choughs in Cornwall and other parts of the western coasts, though the egg collecting fiends may have had something to do with it. These birds are in vast numbers on all these rocky coasts, and occupy every nook with their nests, leaving no room for the Choughs.

DAVID SETH-SMITH.

LONGEVITY OF AMAZON PARROTS.

In regard to the longevity of Amazon Parrots, I have a Lutino Blue-fronted which I obtained about 1929, when she was already obviously an old bird who had been a long time in captivity. She is now quite blind and never finishes moulting her feathers completely, but seems healthy and happy in other respects and does not mind the cold.

BEDFORD.

FEEDING OF HUMMING BIRDS AND MANAKINS.

In response to queries regarding the best food for Humming Birds and Manakins, Mr. Lee Crandall writes: "I do not know of any striking change in the formula used for Humming Birds in recent years. Our basic food consists of one teaspoonful each of condensed milk (Nestle's), Mellin's Food and honey to four ounces of water. To this we add Zymadrops (a vitamin concentrate), as well as a very little beef concentrate. The formula is varied from time to time, of course, according to the condition of the birds. The mixture is removed in late afternoon and replaced with honey water, to avoid the risk of souring.

For Manakins the staple diet is the usual Mockingbird food, with egg and carrot, thoroughly mixed with mashed banana, given in the morning. Later in the day, diced bananas and grapes are added. Even the most delicate kinds will thrive on this food. They will not take mealworms, but all will go to no end of trouble to extract liquid food from a Humming Bird or Sun Bird feeder, if one is available. We try to keep this at a minimum because too much quickly produces excess fat. With birds below par, a limited quantity is no doubt beneficial.

A COLLECTION OF WATER FOWL IN CANADA.

I do not keep many ducks, but the following is a list of the species in my collection. Canada, White Cheeked, Cackling, Barnacle, Grey Lag, Pink Foot, White Front, Blue, Snow, Barhead, Egyptian, Blue-Winged Abyssinian, Magellan, Mute Swans, Mandarin, Pintail, Wood Duck.

My breeding season has not been particularly successful, but I have reared Canada, Barheads, Blue and Egyptian Geese this year. Some other species were starting to breed, when we had fox trouble, which disturbed them and prevented some birds from laying, in addition to those that were lost.

You might be interested in knowing that Colonel Niall Rankin who was in Alaska last spring sent me thirty-nine goose eggs from Alaska, including Cackling, White Front, Emperor, and Black Brant. Apparently it is not practical to ship goose eggs long distances by air, as out of the thirty-nine eggs, I hatched and reared only two, one very lovely Emperor and one Cackling. These two birds are being shipped to Colonel Rankin and he will no doubt be giving the society a complete story on his trip and results.

Owing to Canadian regulations, it is not now possible for us to bring birds in from England or Europe, or from the United States, so that collections in Canada will remain fairly static as far as any new varieties are concerned until these regulations change.

I have one breeding pair of Grey Lag Geese, the gander of which is at least twenty-five years old, and probably older. They laid four eggs, but were disturbed during hatching, so were gathered and set under a hen. One chick hatched, but unfortunately was accidentally lost. It will be interesting to see whether this old gander will again be able to survive the winter, and contribute fertility to the eggs next year. He seems to be in good shape, but is somewhat stiff in the joints. This bird was acquired from an importer in New York in 1928, was mature at the time, and was in my collection for approximately twelve years before the pair decided to lay. Since then they have laid every year, although the female was killed some years ago and he is now mated to his second mate. I have young birds from the usual species of common pheasants such as Golden, Lady Amherst, Reeves, and Silver, and also from Swinhoe and Impeyan. I am particularly pleased with the young Impeyan Pheasants, having five well developed youngsters out of a hatch of six.

Three species of Peafowl, Blue, Black Shouldered, and White, have produced rather well, with somewhat over one hundred chicks.

We have had a cool wet summer, not particularly helpful for rearing Pheasants, and the weather is still unsettled. Most collections in this area have had an average season however.

H. G. MACK.

THE INDIAN RINGNECK PARRAKEET IN CHINA.

Breeders and fanciers of Parrakeets may be interested to know that the common Indian Ringneck also exists in China. When I was last in Hong Kong in 1937 I saw two Parrakeets flying high over the Hong Kong Public Garden. I thought these were some single escaped or released birds, but from an article in the *Hong Kong Naturalist*, by Mr. Herklots, I have learned now that a strong colony of this Parrot exists in Hong Kong and that the species also occurs in Macao. Evidently this colony has been founded by some escaped or released birds. Mr. Herklots states that prior to 1931 there were probably less than a dozen birds, but that they had increased considerably after 1931, for he counted two flocks of eleven and fifteen birds and two more flocks of fifteen and eighteen birds were observed in the compound of the Hong Kong University. Their headquarters seem to be the grounds of the Flagstaff House, where they possibly breed.

ALEX HAMPE.

CORRESPONDENCE

THE NEED TO SUPPLY PARROT-LIKE BIRDS WITH GREEN TWIGS
AND BRANCHES

The longer I keep Parrot-like birds of nearly all species, the more convinced I am that aviculturists and zoos make a great mistake in not keeping these birds *regularly* supplied, in cage and aviary, with the green twigs or branches of non-poisonous, deciduous trees, renewed as regularly as food and water, though not, of course, necessarily with the same frequency. Parrot-like birds at liberty spend a great part of their time nibbling and eating the bark and buds of trees, and deprivation of this natural exercise is, I am sure, a great hardship to them, not only injuring their health, but leading to the development of various tiresome vices, the direct or indirect result of idleness.

BEDFORD.

CROWHOLT,
WOBURN,
BLETCHLEY, BUCKS.

BREEDING RESULTS AT WOBURN IN 1950

Losses among Red-breasted Goslings at Woburn, though heavier than usual, were not quite as bad as M. Delacour states in his Notes. We reared 12 out of 19 hatched ; not 70.

I did not myself breed Pileated Parrakeets, although Mr. Boosey was successful with a pair of birds he was keeping for me, three of whose young are now in my collection.

Budgerigars bred and trained to "home" can be left at controlled liberty throughout the winter, although it is true that a high percentage of unselected birds not bred from a homing strain will go away in autumn. I now have about 27 reliable homers.

BEDFORD.

CROWHOLT,
WOBURN,
BLETCHLEY, BUCKS.

"THE AMALGAMATION"—A SUGGESTION

As a very old member of our Society, I wish to congratulate our Council on this wise move ; for one thing, we will get information as to how Aviculture is carried on in a *free country*, such as it was here in my earlier days before we were socialized, form-ridden with every other evil that can be devised to break the spirit of a once great nation. I for one welcome anything avicultural or otherwise, that will tend to awaken again the good old spirit of independence which of late years has been hopelessly lost, the first nail in our coffin being supplied by the ramp over Parrot disease, which I don't suppose killed one person for all the deaths caused by 'flu this winter.

Now for my suggestion ; I see by Mr. Delacour's article that the Avicultural Society of America intends to publish a "Year Book". I think this should be made available to our members, as I am sure it would be full of valuable information, as year books generally are. I may say that I was a member of the American Society when it started, and for many years afterwards when they used to borrow our coloured plates. The articles published by our friends across the Atlantic were so refreshing, especially the visits to various aviaries, not leaving out the sumptuous teas with "cookies".

W. H. WORKMAN.

LISMORE,
WINDSOR AVENUE,
BELFAST.

BIRD SHOWS

I see that Mr. Goodwin has returned to the charge against bird shows. Whether they attract or repel persons who visit them is a matter of opinion. I prefer that of the editor of *Cage Birds*, whose experience must be unrivalled. He has stated that bird shows are the principal recruiting ground for our hobby, and such knowledge as I have goes to confirm his view.

One can agree, however, that the exhibition of a Swallow in a small cage at the National Show was regrettable; it certainly didn't look happy. Nevertheless, the Swallow tribe make particularly charming pets, and if hand-reared they are perfectly happy in a modified captivity.

I had two Sand Martins which I could handle like kittens, and they so little resented captivity (in a large aviary) that I could release them without fear. They flew up into the sky and joined the wild House Martins till I held out my hand, when they at once swooped down to me. I had, of course, trained them to do this in their aviary. It is possible that they would be content in a cage if released two or three times a day in a large room. Bird watchers, who achieve such marvels as taking of a census of different species, could perhaps ascertain what proportion of the day Swallows spend in the air as compared with the hours of sitting and watching the world go by. One would also need to discover how far their flights are for pleasure and how far they are merely a necessary effort to obtain food. At the National Show there was a large aviary containing Pheasants, the aviary being put there by the maker as an advertisement. If such a structure could be used for exhibiting a few Swallows they would be a great attraction. They are very affectionate and show a flattering appreciation of our company.

A. H. SCOTT.

FROGHAM,
FORDINGBRIDGE.

* * *

[*The Editor does not accept responsibility for opinions expressed in articles or correspondence.*]

THE AVICULTURAL SOCIETY RECEIPTS AND PAYMENTS ACCOUNT

Year ended 31st December, 1950.

RECEIPTS

	£	s.	d.
To Balance at Bank, 1st January, 1950			287 1 7
Ordinary Subscriptions—			
Arrears	10	4	0
Current	558	5	8
In advance	58	10	5
Life membership subscriptions			627 0 1
Donations	45	4	0
Sales of Magazines	89	15	0
Sales of <i>Aviculture</i>	68	7	10
Sales of Books	26	11	5
Sales of Plates	40	5	5
Sales of Waterfowl Rings	10	7	0
Sales of Christmas Cards	5	0	6
Members' advertisements	63	12	0
Dividends on 2½ per cent Defence Bonds	1	7	3
Miscellaneous Receipts	4	17	2
	1	9	3

£1,270 18 6

PAYMENTS

	£	s.	d.
By Printing of Magazine	65	1	3
Sundry printing and stationery	34	2	2
Printer's Expenses and Charges	8	2	3
Postages	26	4	10
Honorarium to Editor	100	0	0
Blocks for coloured plates	44	19	7
Paintings and Drawings	66	5	0
Preparation of Index	11	0	0
Christmas Cards	75	16	8
Newman Library—			
Insurance	2	5	0
Purchase of books	2	1	3
Expenses at Council Meetings	4	6	0
Advertisements	27	10	0
Accountancy fees	5	5	0
Bank charges	8	3	3
Miscellaneous Expenditure	6	5	0
Balance at Bank, 31st December, 1950	1,065	14	1
	205	4	5

£1,270 18 6

Note.—In addition to the Balance at Bank the Society holds the following investment—
£195 2½ per cent Defence Bonds

I have examined the above Account with the books and vouchers of the Society and certify it to be in accordance therewith. I have verified the Bank Balance and the Investment.

“HIGHLANDS,”
WADE'S HILL,
WINCHMORE HILL, N. 21.
January 26, 1951

J. WATKIN RICHARDS
Certified Accountant.

CANDIDATES FOR ELECTION

- Miss B. ADAMSON, 59 Wellington Street, Slough, Bucks. Proposed by Derek Goodwin.
 G. H. BAKER, 45 Louis Drive, Willerby Road, Hull. Proposed by Miss K. Bonner.
 CLIVE BENNETT, 19 Fairfield Avenue, Bollington, nr. Macclesfield. Proposed by Harry Lever.
 R. WRIGHT BLACKER, North Grange, Skirlaugh, Hull, Yorks. Proposed by A. Mitchell.
 D. M. EASTICK, The Mill House, Sonning, Berks. Proposed by C. R. Freeman.
 JOHN FLETCHER, 6511 Francis Avenue, Seattle, Washington, U.S.A. Proposed by George W. Noreen.
 R. GARNER, 1 Arnovale Gardens, Woodthorpe, Nottingham. Proposed by A. C. Furner.
 W. J. GROUND, 56 Park Road, Spalding, Lincs. Proposed by J. M. Gill.
 BJORN HOLM, Kyrkogatan 5, Kiruna, Sweden. Proposed by Miss K. Bonner.
 Dr. ARTHUR A. PRIEST, 434-436 Acheson Building, 2131 University Avenue, Berkeley 4, Calif., U.S.A. Proposed by D. S. Brock.
 W. M. REID-HENRY, 43 Westview Drive, Woodford Green, Essex. Proposed by Miss P. Barclay-Smith.
 Mrs. H. L. SCHUMACHER, 7027 Sycamore, Seattle, Washington, U.S.A. Proposed by George W. Noreen.
 CARL H. SVANE, Frederikssundsvej 168, Brønshøj, Copenhagen, Denmark. Proposed by Paul Hansen.
 R. H. VAN WACHEM, Joh. Geradtsweg 44, Hilversum, Holland. Proposed by G. de Goederen.
 H. WILLIAMS, "Brynderi," Penygarn, Pontypool, Mon. Proposed by T. R. Holmes Watkins.
 Major D. WILLIS-FLEMING, 21 Torhill Road, Torquay. Proposed by J. Yealland.
 YUVRAJ SHREE VIRBHADRASINGHI OF BHAVNAGAR, Nilambag Palace, Bhavnagar, Saurashtra, India. Proposed by Pradyuman K. Desai.
 DICK ZEORLIN, 413 E. 22nd Avenue, Spokane 10, Washington, U.S.A. Proposed by George W. Noreen.

NEW MEMBERS

The twenty-six Candidates for Election, proposed in the January-February, 1951, number of the AVICULTURAL MAGAZINE, were duly elected members of the Society. Basil May, however, later withdrew his name.

CHANGES OF ADDRESS

- Mrs. J. DALZIEL BIRRELL, to "Christmas Cottage," Chidham, Chichester, Sussex.
 P. A. BRADFORD, to Kings Arms, Wandsworth High Street, London, S.W. 18.
 CHARLES P. GUY, to Fullaford, Buckfastleigh, South Devon.
 N. HUTCHINSON, to Rainton Aviaries, Fencehouses, Co. Durham.
 R. LAZELL, to 116 The Sunny Road, Enfield Highway, Middlesex.
 GEORGE W. NOREEN, to 5203 12th N.E., Seattle 5, Washington, U.S.A.

CORRECTED ADDRESS

Mrs. V. M. BOURNE, 78 Idmiston Road, West Norwood, S.E. 27.

DONATIONS (Coloured Plate Fund)

	£	s.	d.
Miss E. F. CHAWNER . . .	2	0	0
W. L. EAVES . . .	1	2	0
T. L. CLAYTON . . .	1	1	0
HON. ROBERT GERARD . . .	1	1	0
Mrs. W. M. MATTHEWS . . .	1	0	0
RAYMOND PEARSON . . .	1	0	0
PAYSON VUCOVICH . . .	1	0	0

MEMBERS' ADVERTISEMENTS

The charge for Members' advertisements is ONE PENNY PER WORD. Payment must accompany the advertisement, which must be sent on or before the 15th of the month to A. A. PRESTWICH, 61 CHASE ROAD, OAKWOOD, N. 14. All members of the Society are entitled to use this column, but the Council reserves the right to refuse any advertisements they consider unsuitable.

FOR SALE

BOOKS.—**AVICULTURAL MAGAZINES**, *Aviculture* (Avicultural Society of America), *Bird Notes*—various bound volumes and parts. Stuart-Baker, *Indian Pigeons and Doves*, *Indian Ducks and their Allies*, *Game Birds of India*, *Cuckoo Problems*. Butler, *Foreign Finches in Captivity*, first edition, 60 hand-coloured plates, also second edition; *Foreign Birds for Cage and Aviary*, two volumes; *British Birds*, six volumes; *Birds of Great Britain and Ireland*, two volumes, 115 coloured plates; *How to Sex Cage Birds*. Beebe, *Monograph of the Pheasants*, four volumes folio, 90 coloured plates, etc., also abridged edition. Blaauw, *Monograph of the Cranes*. Bree, *History of Birds of Europe*, five volumes, 238 coloured plates. Brehm, *Tierleben*, 13 volumes, 4to, 500 coloured plates. Brown, *Practical Taxidermy*. Cox, *Coursing and Falconry*. Chapman, *Bird Life of the Borders*. Crawshay, *The Birds of Tierra del Fuego*, 21 hand-coloured plates. Frogatt, *Some Useful Australian Birds*, 65 coloured plates. Greene, *Parrots in Captivity*, 3 volumes, 81 coloured plates. Hudson, *Birds of La Plata*, 2 volumes, 22 coloured plates. *Ibis*, various volumes. Iredale, *Birds of Paradise*. Legge, *History of the Birds of Ceylon*, 34 coloured plates. Neunzig, *Fremdlandische Stubenwogel*, also *Einheimische*, many coloured plates. Reichenow, *Papageien*, 33 coloured plates of 257 figures. Murphy, *Oceanic Birds of South America*, 2 volumes. Nicoll, *Birds of Egypt*, 2 volumes, folio. Priest, *Birds of Southern Rhodesia*, 4 volumes, 40 coloured plates. Seth-Smith, *Parrakeets*, Thorburn, *Birds of Prey*, 12 signed coloured plates with matter in carton. Whittaker, *The Birds of Tunisia*, 2 volumes. Wilkinson, *Shanghai Birds*. Salim Ali, *Indian Hill Birds*. Roberts, *The Birds of South Africa*. *Aviculture*, vol. 1. Cayley, *What Bird is That?* Barrett, *Parrots of Australasia*. Whistler, *Handbook of Indian Birds*. Bannerman, *Birds of Tropical West Africa*, vols. 5, 6, 7. Alpheraky, *Geese of Europe and Asia*. Archer, *Birds of British Somaliland*, 2 volumes. Witherby, *Handbook of British Birds*, 5 volumes.—Apply to W. B. FROSTICK, 26 Minster Precincts, Peterborough.

WATERFOWL RINGS

Members are reminded that the Society's special blue rings are always available. All Waterfowl should carry them.

Size 2-3 for Teal	Price 2s. 3d. per dozen, post free
„ 3 „ Wigeon	„ 2s. 3d. „ „ „
„ 4 „ Mallard, Pintail, etc.	„ 2s. 6d. „ „ „
„ 5 „ Geese	„ 3s. 3d. „ „ „

Requests for rings should be addressed to the Hon. Secretary, Avicultural Society, c/o Zoological Society of London, Regent's Park, London, N.W. 8, from whom all particulars can be obtained.

COLOURED PLATES

Surplus copies of coloured plates that have appeared in the AVICULTURAL MAGAZINE suitable for framing. About eighty different plates are available. Price 1s. each, postage on any number 3d. extra. Apply to the Hon. Secretary.

***Practical Hints on the Keeping and Breeding of Gouldian Finches*, by P. W. Teague, 1s. 1d.—To be obtained from Stephen Austin & Sons Ltd., Fore Street, Hertford, Herts.**

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K. J. 2

AVICULTURAL MAGAZINE

Division of Birds



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THE AVICULTURAL SOCIETY

Founded 1894

President : A. Ezra, Esq., O.B.E.

**Hon. Secretary and Treasurer : A. A. Prestwich, 61 Chase Road,
Oakwood, London, N. 14. Telephone : Palmers Green 4484.**

Assistant Secretary : Miss Kay Bonner.

Membership Subscription is £1 per annum, due on 1st January each year, and payable in advance. Life Membership £15. Subscriptions, Changes of Address, Names of Candidates for Membership, etc., should be sent to the Hon. Secretary.

THE AVICULTURAL SOCIETY OF AMERICA

President : M. Jean Delacour.

Secretary-Treasurer : Mrs. Milton Erlanger, Suite 500, Empire State Building, New York, N.Y.

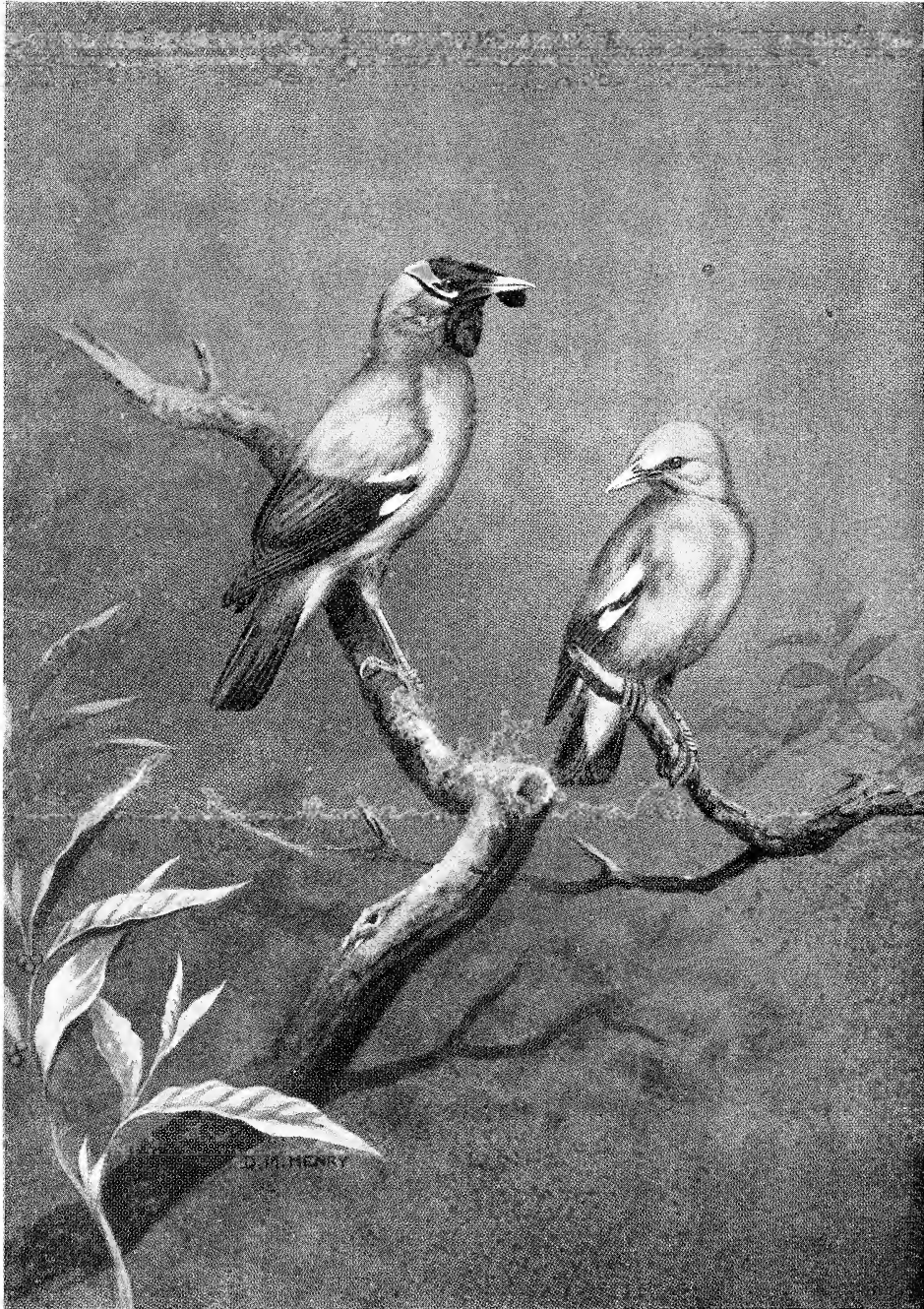
The annual dues of the Society are \$3.50 per year (foreign dues \$3.75 or £1 7s.), payable in advance. The Society year begins 1st January, but new members may be admitted at any time. Correspondence regarding membership, etc., should be directed to the Secretary-Treasurer. Members of the Avicultural Society may become members of the Avicultural Society of America on payment of \$1.00 per year.

THE AVICULTURAL MAGAZINE

The Magazine is published bi-monthly, and sent free to all members of the Avicultural Society and Avicultural Society of America. Members joining at any time during the year are entitled to the back numbers for the current year on the payment of subscription. All matter for publication in the Magazine should be addressed to :—

The Editor : Miss Phyllis Barclay-Smith, 51 Warwick Avenue, London, W. 9. Telephone : Cunningham 3006.

The price of the Magazine to non-members is 5s., post free, per copy, or £1 10s. for the year. Orders for the Magazine, extra copies and back numbers (from 1917) should be sent to the publishers, Stephen Austin & Sons, Ltd., 1 Fore Street, Hertford, England. Telephone : Hertford 2546-9.



WATTLED STARLING.

AVICULTURAL MAGAZINE

THE JOURNAL OF THE AVICULTURAL SOCIETY
AND THE AVICULTURAL SOCIETY OF AMERICA

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MAY-JUNE, 1951

THE WATTLED STARLING

(*Creatophora carunculata*)

By C. S. WEBB (Zoological Society of London)

The excellent accompanying plate illustrates the seasonal change in the male Wattled Starling. The pictures are of the same bird—a specimen in the London Zoo—showing the breeding head-dress (on the left) and the normal, or eclipse, head-dress (on the right). Each phase lasts about six months—the latter corresponding, more or less, with our winter. This type of seasonal change appears to be ¹ unique in the bird-world. The male in non-breeding head-dress closely resembles his mate, but as the breeding season approaches, his head gradually goes bare and is then adorned by bare yellow skin. At the same time the dormant chin- and head-wattles commence to grow until the remarkable change (as illustrated) is complete. In the reverse season first the bare skin loses its bright colour then the wattles slowly shrink and finally disappear while the head again becomes fully feathered. In sketches that have been made from the skins, the wattles on the crown and forehead are usually depicted as being held erect, whereas these appendages in life are limp like the chin wattle. In museum collections the breeding phase has always been rare, and it was thought formerly that such specimens were very old males or that the development was permanent. We have to thank aviculture for bringing to light the true facts, the complete change being first witnessed in a male captive bird in America. An account of this was published in the *Auk* 1928. Since then the phenomenon has been witnessed by others who have studied captive birds.

Mr. Lee Crandall, of the New York Zoological Park, has given a detailed account in *Zoologica* (1949) of this seasonal change in some specimens under his care. His observations extended from 1927 to 1943 and he witnessed the same seasonal change as observed more recently in the London Zoo. One of his specimens (probably a young bird) did not undergo the full change until the third year, but

¹ It seems that the Wattled Sunbird (*Neodrepanis coruscans*) of Madagascar may undergo a modified seasonal change of this type, developing small wattles and bare skin on the sides of the face which are fully feathered in the reverse season.

meanwhile assumed a partial seasonal change which was annually more pronounced. This would seem to indicate that males do not become fully wattled and bare-headed in the breeding season until they are several years old. It is not known definitely if young males breed before assuming the full nuptial head-dress but it seems more than likely.

The writer brought home a few specimens for the London Zoo from Kenya in 1946, and ever since the male has gone regularly through his seasonal change—coming into breeding dress in the spring and changing back again in early winter.

One might ask how this unique change remained a mystery for so long and why fully wattled specimens are so rare in museum collections. A knowledge of the bird's habits throws considerable light on the subject. In the dry season Wattled Starlings congregate in large flocks and often visit farmyards, poultry runs, garbage heaps, slaughterhouses, etc., eating scraps of food of all kinds as well as insects. In Kenya, at Nanyuki, the writer witnessed large numbers of these birds feeding daily in cattle troughs near a farmhouse. There was not a single wattled specimen among them, though many males could be distinguished by a black line under the chin denoting a wattle about to sprout (or one not fully atrophied). The dry season was nearly at an end. While I was there the rains broke and the Wattled Starlings that had been so prominent for months all disappeared as if by magic. It seems that they breed in remote places far from human habitations, usually in semi-arid country where locusts breed. At such times they are rarely obtained by collectors or observed by ornithologists for the simple reason that they are in such outlandish districts, difficult of access.

Even allowing for a number of immature males there must be a large percentage of fully wattled specimens in the breeding season, as Wattled Starlings, like most, if not all, of the Starling tribe are long-lived birds. (Some of our tropical Starlings in the London Zoo are over twenty years old.)

A certain amount of mystery surrounds the nesting habits of Wattled Starlings. In South-West Africa they have been found nesting in thousands, with each thorn-bush packed with nests, and all in a restricted area where locusts were hatching. As the latter cover the ground in millions and provide excellent food for young birds it seems possible that the association is by design and not mere coincidence, especially as similar independent observations have been made elsewhere. If this habit is an established one, one might ask what happens when the swarm locusts fail to materialize, for they are very spasmodic in their appearance.

Do Wattled Starlings then change their habits and breed like other Starlings of the semi-arid zone, such as the Superb and Royal Starlings,

or do they migrate considerable distances to districts where swarm locusts are hatching? With the drier parts of Africa remaining uninhabited by Europeans, it is difficult to get sufficient evidence to draw any definite conclusions on this subject.

When the locust hoppers reach the flying stage the swarm is followed by flocks of Wattled Starlings, and as the locusts are attracted by greenery in the way of growing crops on farms, it is then that the Starlings are much in evidence, and is why they are known in many localities as "locust-birds". It has been recorded that breeding colonies of Wattled Starlings sometimes suffer disaster through the locust swarm, on which they are dependent, taking flight before the young birds are reared. In spite of all efforts by the parents, masses of young birds then perish through starvation.

It seems that locust-control measures, now in force in most parts of Africa where there is European settlement, have greatly affected the distribution of the Wattled Starling. Formerly, it was plentiful over large areas (such as Rhodesia), where it is now seldom seen.

Although the Wattled Starling has a wide distribution—Aden, and from Abyssinia through East Africa to the Cape—it is not really a well-known bird. Over large tracts of country it is scarce or absent. Dry regions are its favourite abode, and so it is most numerous in South-West Africa and Northern Kenya, though strangely enough, it has not spread westwards through the vast semi-arid zone immediately south of the Sahara.

Since writing the above I have received a letter from Mr. Raymond Hook, of Nanyuki, Kenya Colony, on whose farm I collected my Wattled Starlings. It seems to me so interesting that I quote it almost in full :—

"There are two quite distinct methods of breeding. In the ordinary way they live in flocks of thirty, or so, individuals in the open savannah country of Eastern Africa, spending their time searching the country for insect food, frequently in association with grazing animals, both wild and domestic, walking near them to capture insects disturbed. The nests are built in thorn trees, 12 to 20 feet from the ground, and are constructed of coarse twigs and lined with grass, two or three nests being built as one edifice, with perhaps two or three of these composite nests in a tree. The clutch is usually three and the eggs of the same size and of rather a paler colour than European Starlings' eggs. The usual assemblage of nests will be perhaps fifty, or rather over 100 pairs of birds and all within quite a small area.

"Africa has always been a home for locusts, and two species visit Kenya. The Desert Locust breeds in the arid areas round the Red Sea and comes southward at intervals of six to ten years. It comes in comparatively small swarms and does not do a great deal of damage. But during the nineteen-twenties the far more formidable migratory

locust, which travels in far larger swarms, began to breed up to swarming numbers in the swamp of the Niger and then launched an invasion, which was to travel for some years, first eastward to Kenya and then southward to cover a large portion of Africa south of the equator, advancing on a broad front and travelling about 600 miles per year. In 1928 these locusts laid all over my farm, which is near the junction of the Nanyuki and Uaso Nyiro rivers, north-westward from Mount Kenya. When locusts are ready to lay they turn a canary yellow colour and may be seen in couples, and the female digs a hole about $\frac{1}{2}$ in. in diameter and 3 inches deep in which she lays about sixty eggs. After the lapse of an uncertain interval, but usually at the commencement of the next spell of rainy weather, the eggs hatch out as tiny wingless locusts, milk white as they emerge but rapidly turning black. These accumulate on bushes and any shelter and soon start on their life's journey of destruction, all moving in the same direction under a well organized flock discipline, and devouring all edible vegetation in their path. I estimate that this particular swarm laid over an area of 40,000 acres with at least one packet of eggs in every square yard.

“It was at this stage that the Wattled Starlings appeared in their dynamic role. They had constructed a city of thousands and thousands of their usual type of nest, covering an area of several acres of fairly dense thorn scrub. Unfortunately, it is in a portion of my farm which I seldom visit and I did not take note of the earlier developments and cannot say exactly what was the order of events, of the locusts' emerging and the Starlings hatching, but the synchronization struck me as a marvel of nature. When I visited the site it was a scene of intense animation, companies of the Starlings, a hundred or so, were constantly departing and other parties arriving; if I remember correctly the locust hoppers were visible in their beaks, and no other food appeared to be brought, and this activity took place without ceasing during all the hours of daylight. A party of about fifteen Eagles (by their colour almost certainly Tawny Eagles) was in attendance, and my native boys said that they lived entirely on the young Starlings, and this seemed probable as I saw them on several occasions. The locust infested area was cleared completely within six weeks or so, after which an immense concourse of young Starlings dispersed, and I did not see them again. The migratory locusts were more lucky with layings in other areas, the resulting swarm departing in a south-easterly direction. I have never seen locusts lay again.”

Mr. Raymond Hook's remarks refer to an observation made in 1928.

THE BIRD COLLECTION AT DUDLEY ZOO

By D. H. S. RISDON (Dudley, England)

As members have been invited to visit Dudley Zoo this year, the time seems appropriate to give a description of the bird collection here. I am afraid it will be no more than a description, as breeding results are at present negligible due to lack of suitable facilities. It is hoped to remedy this state of affairs one day, but it has to be remembered that we are first and foremost a show place. This means that our cages and aviaries are designed to display a collection of birds rather than as suitable breeding quarters, for an aviary containing only a breeding pair of birds can at times look empty. Moreover, having to be kept scrupulously clean at all times necessitates too much interference for good nesting results. One might say equally that the birds get too much interference from the public, but this I doubt. It is surprising how quickly birds become accustomed to crowds even when they bang on the wire netting, and all last summer I noticed them going about their affairs completely indifferent to the people outside. They seem to realize that the wire forms a barrier because they instantly show signs of alarm when one *enters* an aviary. This indifference to one's presence outside the enclosures has the great advantage of allowing one to study them in comfort without having to go through the what I call "field tactics" one normally has to in order to view birds which are only accustomed to seeing their owner.

Our large birds—Ostriches, Emus, Cranes, etc., are quartered in the usual type of paddock; the Waterfowl in a series of concrete ponds built in the old Castle Moat, and the smaller birds mainly in the Bird House proper and six blocks of outdoor aviaries.

The Bird House is an elaborately designed structure, well lighted and well heated, but I must confess that I would rather see 90 per cent of the occupants housed out of doors. It contains the bulk of our Parrot collection, and I need not tell readers how necessary outdoor conditions are for these birds. Since my arrival at Dudley I have improved the size of the cages, chiefly by knocking two into one, and I hope eventually to build up a collection of Softbills and Finches in here so that we can house most of our Parrots outside.

To get to the birds themselves, let us start with the largest and work our way downwards.

We imported a pair of Ostriches late last summer and for a time they did well. The hen succumbed to some obscure disease, which was never accurately diagnosed, soon after the onset of cold weather, and after a while the cock looked like going the same way, but I was determined not to give up without a struggle. Veterinary advice was called in, and between us that bird was injected with so many drugs and given so many pills that it must have been a veritable medicine

chest. For many weeks it refused to eat and had to be forcibly fed twice daily, a performance not without danger to the feeder, but thanks to the care and perseverance of Mr. Hatch, our head keeper, it is now actually on the mend and I have quite sanguine hopes of its survival. Accustomed as I have been to the dosing of small birds with a medicine dropper, the sight of medicine by the half bottle being poured down that long thin gullet was, to say the least, an impressive spectacle. Remembering the Guinness advertisement, I half expected the bottle to disappear as well!

The Society possesses four cock Emus, one of which is at present on loan to the London Zoo for breeding purposes. They have all been at Dudley a long time, and all agree well together. At this time of year (March) they do a certain amount of showing off to one another, sticking out their chests rather like Fantail Pigeons, and strutting about uttering a curious booming sound. Emus are difficult birds to sex, but there seems little doubt about our four birds being males as they have never produced an egg between them. I think the best description of an Emu I have heard came from a lady on seeing them for the first time, who said they reminded her of walking haystacks.

Cranes are represented by the East African Crowned and the Demoiselle, both lovely species. They live in a large grass paddock, which they share with Axis Deer, Wallabies, Peafowl, a Secretary Bird, and Wild Turkeys. They are unpinioned, which means that their wings have to be clipped every year, and just about the time this operation is due they have usually grown sufficient flight feathers to become airborne if a high wind is blowing and have to be retrieved from various parts of the town. Our Cranes, like our Waterfowl, have to be shut in at night because of foxes. Strange as it may seem for a place in the heart of the Black Country, we are overrun with foxes. We trap and poison them when we can, but that they are still with us is only too evident if a Duck is inadvertently left out at night.

American Wild Turkeys share the Cranes' enclosure, and beyond the fact that they resemble a somewhat slimmer edition of the farmyard "gobbler", call for little comment here. I hope eventually to establish these loose about the grounds but so far foxes have thwarted my efforts. Last year we had four with clipped wings which had to be driven in at night, but in the late summer as they grew their new flights I gave instructions to allow them to roost out in the trees. This they started to do but it did not prevent the foxes getting two of them. Why, it is difficult to say, because our Peafowl all roost out without trouble. These, of which we have some half a dozen of the common species, are a lovely sight in the spring. Last year they took up their "stands" on the lawns in front of the restaurant and made a glorious display. They are not too popular with the garden staff but their beauty more than compensates for the few plants they

destroy. They seem to think that flower beds freshly planted with seedlings are put there for their special use as dust baths, with disastrous results—to the seedlings! Our one and only hen hatched three chicks last year, and has unaided successfully reared two of them. They still walk round with her, although almost as big as their mother.

Our Waterfowl collection is varied and quite representative. As mentioned above, they are accommodated in what was the old Castle Moat. Unfortunately, breeding results are nil, because they have all to be driven in at night to protect them from the fox menace. I have plans eventually to fox-proof their enclosures, when we ought to do rather well with them.

The collection includes such nice things as Flamingoes, Black Swans, and Red-breasted Geese, in addition to all the well-known favourites like Mandarins, Carolinas, Red-crested Pochards, Rosy-bills, Snow and Ashy-headed Geese, and so on.

Fish-eaters include a pair of Herring Gulls and a solitary Pelican which we hope to add to this year. They share the same pond as a pair of Common Herons, which lately have been carrying twigs about. I feel sure that had we suitable aviary accommodation where they could be allowed full-winged they would breed.

Penguins are represented by the Cape or Black-footed species. They are in a specially constructed pool which allows spectators to view them feeding under water, but so far they will only take food from the hand and the remainder of the time sit about looking like a couple of stuffed dummies. I have tried throwing live roach into the water but they take no more than a passing interest. Their colloquial name of Jackass Penguin is particularly apt; their voice being a perfect imitation of the braying of a donkey.

Birds of prey are represented by a pair of Griffon Vultures, which have been here since the Zoo opened in 1937. Last year they partially built a nest but no eggs appeared as far as could be ascertained. Until recently they shared their cage with a pair of Ravens but for safety reasons I had these moved upon the arrival of a Golden Eagle, which now lives quite amicably with the Vultures. Judging by its rather small size and dark colouring I should say this is a young cock bird.

The remainder of our birds of prey are housed in a range of rather small aviaries. One of these, a Bateleur Eagle, I tried to introduce into the big Vulture cage with the Golden Eagle, but although his companions ignored him, the Bateleur, like so many birds which have become used to a confined space, seemed miserable and lost, so we moved him back to his old aviary where he is obviously much happier. Next to him is a Brazilian Caracara, which has also been at the Zoo since it opened.

Chief among the Owls are a magnificent pair of European Eagle-Owls, which never fail to fascinate me as they puff out their feathers and crack their beaks at one's approach, staring malevolently at one with their great amber eyes. Almost equal to them in size is a Cape Eagle-Owl, which shares an aviary with a Milky Eagle-Owl. All these big Owls have the habit when alarmed of partly opening their wings and puffing up their plumage, which not only doubles their size but seems to transform them from a bird into some great cat, crouching to spring. We also have Tawny Owls and Little Owls, but the former, although hand-reared, being strictly nocturnal, are only seen at their best at dusk, flitting about in the gloom. The Little Owls share an aviary with a Kestrel.

The last bird of prey worthy of mention is a Secretary Bird. Until recently we had a pair, imported last summer, but what I think was the hen accidentally broke its leg and had to be destroyed. The survivor lives in the large paddock with the Cranes, Deer, and Peafowl where it stalks about in what I can only describe as an anxious manner like a tall thin man looking for a lost sixpence.

Our Pheasants are housed in aviaries which one day I hope to have greatly extended. Apart from the usual Goldens, Amhersts, Silvers, Reeves, and so on, the rarest example is a hen Blue Crossoptilon, which at the moment shares a pen with a cock Silver. As she laid eggs last year when on her own I am wondering whether she will produce hybrids with the Silver cock this year. Although our Pheasant aviaries are by no means suitable breeding enclosures, last season a Golden hen hatched and successfully reared six fine chicks—a remarkable feat, when one considers that the aviary is of the fixed type with only a gravel floor, and was shared by some Pigeons and two other Golden hens, as well as two cocks. An equally remarkable fact was that the two adult Golden cocks agreed perfectly. In fact, they were only removed when the chicks hatched, and even to-day still agree together. If another cock is introduced there is a row immediately, but these two are perfect pals.

Coming now to the Bird House, which contains the birds of more general interest to the amateur aviculturist, the Parrot family is well represented. Most of the better known Cockatoos are there as well as Macaws, Amazons, and African Greys. These are nearly all ex-pets and talk more or less fluently. One Lemon-crested Cockatoo asks "Have you got a copper" in a voice plaintive enough to melt the meanest heart. These it piles up in the back of its cage, and at one time it is alleged that the Bird House staff used to collect sufficient on cleaning out the cage to buy their morning cups of tea. A Hill Mynah, in an adjacent cage, which also talks quite well, has learnt the same expression and repeats it—not in a human voice as these birds can—but in a Cockatoo's voice—if readers can understand my

meaning. Notable among the Parrots are a couple of the *Pionus* family called Cobalt Parrots, but which I personally feel are the same as the Red-vented (*Pionus menstruus*). At least, their description fits that in Tavistock's *Parrots and Parrot-like birds in Aviculture*. These are worth mentioning as I don't think there are many *Pionus* Parrots in this country to-day. Unfortunately, both birds are showing signs of old age.

Among the Cockatoos is a very nice little cock Goffin's. I believe Mrs. Clark, of Bromsgrove, borrowed him for breeding purposes a year or two ago, but he refused to pair with the hen she had. He is extremely savage with all and sundry.

We have all the commoner Parrakeets, but I will not bore readers with lists of names.

A large cage in this house contains three Hartlaub's Touracous, a handsome species, I believe new to aviculture in this country. They are dark green with dark blue wings and tail and black crests. The flight feathers are carmine, the beak is orange, and there are the typical white markings on the face. Last year we had what I hoped were an adult pair, and as they were on their own I made them a basket-shaped nest in a clump of twigs which I fastened up in the cage. They showed interest in this on and off throughout the summer, and then in September one died suddenly. Much to my disappointment, the post mortem report revealed the cause of death as an impacted egg in the oviduct !

Touracous, to my way of thinking, are the almost ideal bird from an avicultural point of view. Graceful in shape, beautifully coloured, quaint and amusing in their ways ; they seem hardy and easy to feed, and, in fact, have everything to recommend them.

Another pair of birds equally full of character, which I purchased last year, are the Grey-backed Trumpeters. From the beginning they were hand-tame as I believe these birds almost invariably are. They seem to delight in attention and will run up to one to have their heads and backs stroked. They are said to be good stayers at liberty, and I can quite believe it as they delight in human company.

Again, for fear of boring readers, I will not attempt to list all our small passerine birds and Doves. We have a fine collection of Whydahs, including Jackson's Golden-backed and Giant ; Weavers, Finches, and Waxbills.

The large centre cage in the Bird House is planted with tropical plants and has a fountain playing in the middle of the rockery. In here we have Green Glossy and Spreo Starlings and a most lovely hand-tame Sun Bittern, which displays to its lady keeper.

Last, but by no means least, in the Bird House I come to our Red-billed Toucan, which is a particularly fine specimen. Like Touracous, Toucans are favourites of mine and for exactly the same

reasons, although some may disagree with me and call them ungainly.

Worthy of special mention among the Doves and Pigeons are Olive Pigeons from East Africa. Rare in this country, and new to aviculture, they are not particularly spectacular. Why they are called Olive Pigeons I simply cannot imagine, as there is no olive in their make-up, their colour being what I would call a leaden purple spotted with white, with yellow beaks and feet. They are the same size as a Wood Pigeon.

We have two hen Bronze-winged Pigeons which I know to be hens, because they have both laid, so if anyone who reads this has a cock to spare I should be pleased to hear from him.

To conclude this account of the Dudley collection I will mention the East African Helmeted Guinea Fowl, four specimens of which occupy one of the outdoor aviaries. They are almost identical in appearance to the domesticated variety.

I have not attempted to mention every species in the collection, for reasons already stated, but I hope some idea has been given of its size and scope. At last year's stocktaking we had some 421 birds in 133 species. Needless to say, we are continually adding fresh examples, especially now that more birds are on the market, and in time I hope to be able to report more breeding successes.

* * *

BIRDS OFFERED FOR SALE IN THE BAZAARS OF CALCUTTA

By MALCOLM DAVIS (Washington, U.S.A.)

The bird bazaars of Calcutta, India, are concentrated in the S.S. Hogg Market, a municipal market known as New Market. The huge structure was erected in 1874 and occupies some ten city blocks. Within its domain one can purchase a varied assortment of merchandise, and it is often said that the prospective buyer can secure any article from a pin to an elephant. This I can verify, for I have purchased pins and have viewed live elephants that were being offered for sale among the turmoil and odours of the market.

It has been my privilege to visit the bird bazaars for a period of five months, from the months of May to September; in fact my visits are daily observations of the specimens that are offered for sale. Therefore the following list and comments on the birds offered for sale may be of interest to aviculturists.

In the following list the birds are grouped under their respective families and are indigenous to India.

Family CORVIDÆ

Jungle Crow (*Corvus macrorhynchos*). There was one specimen, a large bird, and it appeared bewildered among the confusion of the market people.

Common House Crow (*Corvus splendens*). Also many non-captive specimens at large within the bazaar.

Indian Tree Pie (*Dendrocitta vagabunda*).

Family PARIDÆ

Yellow-cheeked Tit (*Machlolophus xanthogenys*). I saw only two specimens and these were being shipped to Holland.

Family TIMALIIDÆ

Common Babbler (*Argya caudata*). Several of these ; very nervous and animated. They are active and should make good zoo specimens.

Common Iora (*Aegithina tiphia*).

Jerdon's Chloropsis (*Chloropsis jerdoni*).

Family PYGONOTIDÆ

Red-vented Bulbul (*Molpastes cafer*). An abundant bird in the markets. For the five-month period of observation these specimens have been offered daily.

Red-whiskered Bulbul (*Otocompsa jocosa*).

Family TURDIDÆ

Indian Robin (*Saxicoloides fulicata*).

Magpie-Robin (*Copsychus saularis*). A popular bird and always on view.

Shama (*Kittacincla malabarica*). Many on hand, adult and immature. This bird is in demand.

Family LANIIDÆ

Rufous-backed Shrike (*Lanius schach*). One specimen. This bird was being offered rice as a diet until I interfered.

Family DICRURIDÆ

King-Crow (*Dicrurus macrocercus*). Not a Crow ; many are offered. They are fed in captivity with a mixture of gram powder and meat rolled into small balls.

Large Racket-tailed Drongo (*Dissemurus paradiseus*). This month, September, there were twenty-two of these striking birds offered.

Family ORIOLIDÆ

The two species of this family are present in the bazaars daily. The Golden Oriole (*Oriolus oriolus*) and the Black-headed Oriole (*Oriolus xanthornus*).

Family GRACULIDÆ

Indian Grackle (*Gracular religiosa*) and its several races. Noted

for its ability to mimic. This form is a favourite cage bird, and is found in quantities in all good bird-markets. Many nestlings are secured and hand-fed prior to shipment.

Family STURNIDÆ

Rosy Pastor (*Pastor roseus*). This lone bird was in the market when I arrived in May, and during my stay in Calcutta the bird has moulted into a grey coloured specimen.

The Grey-headed Mynah (*Sturnia malabarica*), the Brahminy Mynah (*Temenuchus pagodarum*), the Common Mynah (*Acridotheres tristis*), the Bank Mynah (*Acridotheres ginginianus*), the Jungle Mynah (*Æthiopsar fuscus*), and the Pied Mynah (*Sturnopastor contra*). All of these are fixtures in the bird bazaars of Calcutta. They are caught and brought into the city in quantities.

Family PLOCEIDÆ

The Weaver birds are popular cage-birds. For they adapt themselves to cage life, are easy to feed, and present a pleasing appearance.

The Baya Weaver-bird (*Ploceus philippinus*), the Striated Weaver-bird (*Ploceus manyar*), the White-throated Munia (*Uroloncha malabarica*), the Spotted Munia (*Uroloncha punctulata*), and the Red Avadavat or Strawberry Finch (*Amandava amandava*) are the commoner Weavers seen in the bazaars. However, at times other species are offered, such as the Green Munia or Tiger Finch (*Sticospiza formosa*), the Chestnut-bellied Munia (*Munia atricapilla*), and the Black-headed Munia (*Munia malacca*).

The birds of this group are victims of the paint bucket. The birds are submerged in buckets containing coloured paints, and emerge as a synthetic exotic species. This is a common practice among the dealers, as many of the European bird fanciers desire "painted" birds.

Family FRINGILLIDÆ

The only species of Finches that have appeared in the bazaars are the Common House-Sparrow (*Passer domesticus*) which should belong among the Ploceidæ, and the Common Rosefinch (*Carpodacus erythrinus*).

Family MOTACILLIDÆ

Of the family of Wagtails I have seen only one species, the Yellow Wagtail (*Motacilla flava*).

Family ALAUDIDÆ

The Crested Lark (*Galerida cristata*) is a rare form in the markets, but it is displayed.

Family ZOSTEROPIDÆ

The White-Eye (*Zosterops palpebrosa*) are common in the cages of the bazaars. They are small, nervous, and attractive.

Family NECTARINIIDÆ

The jewels of India. Resembling superficially the Humming birds of the New World. Their metallic feathers shine in the sunlight. I have seen only one pair of the Purple-rumped Sunbird (*Cinnyris zeylonicus*), and that pair occupy a cage to the right of my desk. I could not resist them, and secured the birds for three rupees a pair including cage !

Family PITTIDÆ

Indian Pitta (*Pitta brachyura*). Several pairs, but a word of advice in regard to their care. They are ground birds and the floor of their cage should be covered with a soft material, such as peat moss, for they have a tendency toward sore feet, if not protected in this manner.

Family PICIDÆ

The members of this group do not as a rule take kindly to captivity, but I have seen one species, the beautiful Golden-backed Woodpecker (*Brachypternus benghalensis*).

Family CAPITONIDÆ

Four species appear in the bazaars, the Great Himalayan Barbet (*Megalæma virens*), the Green Barbet (*Thereiceryx zeylanicus*), the Blue-throated Barbet (*Cyanops asiatica*), and the well-known Coppersmith (*Xantholæma hæmacephala*).

Family CORACIADÆ

The large Roller, known as the Blue Jay (*Coracias benghalensis*) is a cage bird in the markets, and an abundant bird in Calcutta and surrounding country.

Family ALCEDINIDÆ

The Common Kingfisher (*Alcedo atthis*) and the Pied Kingfisher (*Ceryle rudis*). These birds were being offered bits of fish as food and not the staple bird diet of gram and rice.

Family BUCEROTIDÆ

I have seen one Grey Hornbill (*Tockus birostris*) and one of the Great Hornbill (*Dichoceros bicornis*), but *bicornis* was in a dilapidated condition and lived only a few days.

Family CUCULIDÆ

The Common Hawk-Cuckoo (*Hierococcyx varius*), the Brain-fever bird, appeared twice in the five months period. The bird utters the call of brain-fever during the rising heat of the day and then seems to say " Oh lor, oh, lor, how very hot it's getting—we feel it, we feel it, we feel it ". Whenever I see this bird I refer to it as Kipling's Brain-fever bird, for the famous author often cited this bird in his works. The Koel (*Eudynamis scolopaceus*) and the Crow-Pheasant (*Centropus sinensis*) are offered for sale in the bazaars.

The Family PSITTACIDÆ is represented by four species and when they arrive in large bamboo baskets their heads are enclosed in a hood. This method prevents the birds from seeing their companions, hereby preventing severe lacerations inflicted by their hooked beaks. The species are the Large Indian Paroquet (*Psittacula eupatria*), the Green Paroquet (*Psittacula krameri*), the ornate Blossom-headed Paroquet (*Psittacula cyanocephala*), and the small Indian Lorikeet (*Coryllis vernalis*) or sometimes known as the Hanging Paroquet. for during sleep this bird hangs head downward, in much the same manner as the bat. These species of the Psittacidæ are numerous in all the bird bazaars of Calcutta.

Of the STRIGIDÆ I have seen only one species, the Rock Eagle-Owl (*Bubo bengalensis*), and the bird appeared very unhappy for it was in a cage much too small for this large bird.

The Vultures have appeared several times within the period, and their presence always affords me much pleasure. To most people they are repulsive, and to me they are fascinating birds. The family GYPIDÆ is represented by the King Vulture (*Sarcogyps calvus*) and the White-backed Vulture (*Pseudogyps bengalensis*). These birds were sold to zoos upon the Continent.

The Common Pariah Kite (*Milvus migrans*) of the family FALCONIDÆ has appeared only once, and I believe the bird was caught within the bazaar, for this Accipitre darts through the structure in search of food.

Family COLUMBIDÆ

The gaudy Common Green Pigeon (*Crocopus phœnicopterus*) is a fixture in the market. This bird does not appear to be a happy captive and spends most of its time upon the floor of its cage. And, of course, the Rufous Turtle Dove (*Streptopelia orientalis*), the Spotted Dove (*Streptopelia chinensis*), the Indian Ring-Dove (*Streptopelia risoria*), and the Red Turtle-Dove (*Oenopopelia tranquebarica*) are standbys, are easily taken care of and accept captivity.

Family PHASIANIDÆ

Of the large group of gallinaceous birds only three forms have been seen. They are the Common Peafowl (*Pavo cristatus*), the Chukor (*Alectoris græca*), and the Common Quail (*Coturnix coturnix*).

Family RALLIDÆ

The "water birds" are represented by the White-breasted Waterhen (*Amaurornis phœnicura*), the Common Coot (*Fulica atra*), and the Purple Coot (*Porphyrio poliocephalus*). These birds do well in zoos or upon estates where suitable water and shore line is provided for them.

Family IBIDIDÆ

The White Ibis (*Threskiornis melanocephalus*) and the Black Ibis (*Pseudibis papillosus*) have been displayed numerous times. They are caged in enclosures much too small for them and appeared in bad plumage.

Family GRUIDÆ

Two Cranes have been offered for sale, the Common Crane (*Grus grus*) and the large Sarus Crane (*Antigone antigone*). The Sarus is a large bird standing some five feet in height. In the National Zoological Park, Washington, D.C., we displayed a pair but it became necessary to confine them in a house, for their penetrating voices disturbed the people of the neighbourhood.

Family CICONIIDÆ

The Painted Stork (*Ibis leucocephalus*) is the lone species that I have seen in the bazaars during the period covered. This bird was confined in a large outside yard with Sarus Cranes.

Family ARDEIDÆ

The Little Egret (*Egretta garzetta*), the Cattle Egret (*Bubulcus ibis*), and the Paddy-bird (*Ardeola grayi*), and one example of the Chestnut Bittern (*Ixobrychus cinnamomeus*) were abundant in the bazaars during the month of June.

Family ANATIDÆ

The Anseres have not been well represented. The Nukta or Comb Duck (*Sarkidiornis melanotos*), the Cotton Teal (*Nettapus coromandelianus*), the Mallard (*Anas platyrhyncha*), the Spotbill (*Anas pectorhyncha*), and the Common Teal (*Nettion crecca*) have been spotty in their appearance and usually in poor condition.

There are always a few exotic species, birds that are not native to India, such as the African Grey Parrot, the Lories, and the Cockatoos, the Grass Paroquets, and the common Canary. These species arrive through the medium of air and sea transportation as the large aerodrome and port of Calcutta are located near the source of the wild animal centres of the East.

REARING REGENT BOWER BIRDS IN CAPTIVITY

By R. B. BROWN (Newcastle, N.S.W. Australia)

On 12th November, 1949, I was walking through a "Brush" (rain forest) some miles from here, accompanied by a friend, when we saw a hen Regent Bower Bird building her nest in a yellow blossomed Paper Bark tree (*Melaleuca*), growing alongside a creek.

The nest was nearly at the top of the tree, about 35 feet from the ground. This was an unusual site, as they generally nest in very tall creeper covered trees. The bird had reached the stage of building where she was getting into the nest and shaping it round her body. We watched the nest on several occasions afterwards, but did not see her near it until 16th December, 1949, when we saw her feeding young. She was beak feeding them, and also appeared to be giving them some by regurgitation.

The next thing was to see into the nest; this was difficult, as the top of the tree where the nest was, was too thin to bear the weight of either of us. So fixing a piece of mirror to a pole, my friend, who is a light weight, climbed the next tree, and was able after a lot of trouble to see the contents of the nest reflected in the mirror. It contained newly hatched young, he could not see how many.

We visited the nest again on the 24th December, 1949, and again inspected the young. All he could see was a mass of down reflected in the mirror. As soon as he climbed down we hid, and the hen returned, fed the young, and brooded them.

We visited the nest again on 1st January, 1950, and saw that the young were partly feathered; we watched the hen feed them, and then decided to take the young, and if possible catch the hen by putting the young in a trap. We sawed off the slender tip containing the nest, and by first having fixed a rope, lowered it gently on to the ground. It contained two almost completely feathered young, their heads were still covered with down. One young one was almost twice the size of the other; they looked very quaint, and reminded me somehow of Emu chicks.

We placed the young in the trap as close to where the nest had been as possible, thinking the mother would return to feed them. Return she did at once, but not to feed; all she did was to call to the young and fly away, obviously asking them to fly away too. We then put the trap on the ground, put the young in a small cage in the trap, and put a perch in the trap. This was successful as she at once flew on the perch in the trap to call them again. It took two hours to catch her.

I took them home, and put them into a small covered aviary. First forcibly feeding the young—the hen was very wild and shy, so I made



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YOUNG REGENT BOWER BIRDS.

[R. B. Brown

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a hide for her. I did not know whether she would feed the young or not, so I forcibly fed them myself six times per day ; I could not get them to gape. I gave them grasshoppers (twenty each), banana, and hard boiled egg; they seemed to be doing well. I took the young into the house every night, and put them out with the hen in the morning ; she always called them into the hide as soon as I put them down.

This went on for a week ; then I happened to find some ripe "pink" berries ; I gave them to the hen and she rushed them. Soon after, I saw the red ink berries in the young ones' droppings, so I knew she was feeding them ; I did not forcibly feed them again. She soon began to feed them on Paw Paw and Mango, and then on white fleshed peach, she would not touch yellow fleshed peach. Then on pear and insectile mixture ; she also gave them mealworms, case moths, grasshoppers, and Cicades ; but she did not start to give them any insects until I had had her three weeks. I think that this was because the place where I caught her was alive with insects of all kinds, and she was surfeited.

I did not see the young feed themselves until I had had them about one month—that is approximately six weeks old ; they were then put out into a large planted aviary.

19th February, 1950. The young are quite able to look after themselves, but the mother, who is now quite tame, is still feeding them. On 20th March, 1950, I saw both the young Regent birds playing with green leaves on the ground, and the larger one picking up sticks.

30th March, 1950. Flecks of yellow are showing on the head of the smaller young one. I think that the smaller young one is definitely a male bird, and would not be surprised if the larger one is the hen, as I have noticed in the bush that the hens always seem larger than the cocks. I hope definitely to clear up the controversy as to the age at which the male changes colour.

We only saw the male Regent Bird on one occasion, that was the day we first found the nest, and it appears to me that he takes no part in brooding or feeding the young.

The nest was made of sticks, nothing else being used ; large sticks outside—smaller ones inside.

IMPEYAN NOTES

By JOHN B. GRAF (Colliers, West Virginia, U.S.A.)

From my early Pheasant hobby days the name Impeyan has always been intriguing to me. It has the ring of the Orient and the mystery of the Himalayas. Then the majestic bearing and indescribable beauty of the cock bird have no comparison among all the other Pheasants. However, their high cost presented a serious barrier to my hopes of getting them, a barrier that was finally dissolved by the sacrifice of some waterfowl I had, and at long last I sent for a pair of that year's hatch.

What a lot of pleasure I had when they arrived, a pleasure tempered within a week when the cock bird died from an infestation of lice. That was an expensive loss, but I no longer take for granted that high priced birds are necessarily free from pests. Personally, I would never allow such valuable birds to suffer neglect to such an extent but others don't always feel the same. Having already put such a sizable amount into my Impeyans I really had to scratch to buy a cock, but I made it and secured a fine male from a Pennsylvania breeder. Glorious is a weak word to describe his beauty as he walked in the bright spring sunshine, for this was an adult.

There was no hope for eggs that first season so I derived my pleasure from watching them as they dug with their strong bills in the heavy sod of their run. They got along well together, and even to this time I have never seen them fight. All went well until late winter of that year, and then one day something scared my birds so badly that they flew against the wire so hard as to pull out a couple of staples, and two Golden cocks and the male Impeyan escaped. At once, upon discovery of this mishap, the whole family was called out to search. The two Golden were found quite easily but the Impeyan was of a hardier breed, and I had just about given up hope when just at dusk one of the searchers located him about a thousand yards away from his pen. Despite his brilliant colouring he was very hard to see in his natural surroundings for he stood facing us, and his black breast didn't show up at all. When we had all assembled we attempted to drive the truant home but he had his own ideas, for he only walked a few yards before taking wing. What a sensation! However, I took full opportunity to observe his manner of flight. To me it had a rather flapping quality although strong and swift. His flight carried for a quarter of a mile when by chance he alighted within my waterfowl enclosure where he became entangled and was caught. I was weak but happy as I clutched him tight. At the first opportunity I pinioned the pair to prevent further such escapades.

Well, that year to my great joy the hen laid seven eggs, all of

which proved fertile, but I had nothing but a borrowed hen under which to set them and through a series of disasters failed to rear any, although I had one young for two weeks and another for three.

This year the hen laid two sets of four eggs each. One set I placed under a steady Barred Rock hen and the other I left with the hen Pheasant. The broody hen was placed in a coop in a basket. Her four eggs hatched in twenty-seven days, the final hatching taking place in an incubator. The Pheasant hen hatched two out of her four, although all were fertile. She sat on the ground and was extremely steady at the task, but the weather was very wet, which fact I blame for the poor hatchability of her set.

The chicks hatched with the hen were handled strictly artificially because of my anxiety to rear them. One died in a couple of days. Another lasted ten days and a third finally succumbed to slipped tendon. One I raised.

The hen Pheasant took good care of her two little ones but at two weeks one disappeared, why I never found out. The other she reared and it appeared to be the healthier of the two young. One unusual fact was that the hen Pheasant took thirty days to hatch out her young.

During the breeding season I had the pleasure of seeing the cock in display. Standing directly in front of the hen he tipped forward until his bill touched the ground. His wings were slightly spread and his tail was spread to its fullest extent forming a background for his magnificent plumage. Holding this posture for perhaps five seconds, he went through a pumping action. During two seasons I have only seen this display once.

With two young to ease the pressure I am able to enjoy them all the more. To me, at least, their rarity makes for greater pleasure and their unsurpassed iridescence is a constant source of inspiration.

Who can doubt God when such birds roam this earth?

I should like to see these birds cheap enough so that more fanciers could enjoy them. Perhaps as time brings improved methods of rearing and better feeds this can be attained. It is with this end in mind that I have written these lines.

BREEDING GREY PARROTS FOR THIRTY YEARS

By PRADYUMAN K. DESAI (Bhavnagar, India)

On reading a note on breeding generations of Grey Parrots in California, I felt that it would be worth while if I, too, wrote a short article and described my own experience and that of my father, Mr. Kanchanrai Desai, in this direction. Here, in Bhavnagar, we have been conducting the experiment of breeding these birds in captivity for the last thirty years, and I can say without hesitation that it has proved quite successful.

The original pair was an imported one. But to describe the entire experiment, it would be better if I began by relating how my father hit upon the idea of breeding the Greys thirty years ago.

It was at that time thought that the Africans were exporting only birds of one sex, that is either the males or the females. My father had recently bought a Grey Parrot which was directly imported from Africa. At the time of buying it he did not bother to determine its sex. From the size and colour, however, he could tell that it was a male. Also it was then believed that only the males turned out good talkers, and this particular bird was a talker in the real sense of the word. A few years later my father bought another Grey Parrot for a friend of his who asked him to train it for him. So my father had two imported birds on hand which he started to teach how to talk, side by side on a table.

My father being a born bird-lover, not a single gesture of these birds would escape him without meaning. One afternoon his own Parrot showed signs of courting. This convinced him that the other bird was a female. For further verification, however, the two birds were taken out of their small cages and, although they had lost the power of flight, they were released inside a closed room. As soon as they contacted each other they began to fight. Perhaps this was due to the fact that neither bird had seen one of its own species at close quarters and without any barriers between them for a long time, and the natural instinct was to consider the other an intruder. After they had had a few fights my father called it a day and they were separated and removed to their own cages.

The above process was continued every afternoon and soon they not only stopped fighting but they got decidedly familiar with each other. In a few days their friendship became so pronounced that as soon as they were released inside the room they met each other with their beaks as if they were shaking each other's hand and saying "Good Afternoon!". Within the course of two weeks they understood each other perfectly well and declared their respective sexes beyond any doubt whatsoever. The female began to crouch with

widespread wings and the tail slightly raised and the male began to feed his ladylove from his own crop. These gestures and other overtures were none other than those of a real pair.

This went on for six weeks, and then something happened which upset my father's plans, at least temporarily. The owner of the female came to our house and said that he wanted to take it away, thinking that by now it must have increased its vocabulary. My father told him that the bird, being a female, was a slow learner, but if he was not in a hurry to take it back he would like to carry on with his experiment. However, the gentleman was not at all interested in breeding, nor did he realize the importance of such an experiment, and so, much to my father's disappointment, he took his bird with him.

My father felt bitterly about this little incident because he knew he would find it difficult to procure another female. First, the price of Grey Parrots was almost prohibitive according to the standards prevalent in 1920, the year in which he began his experiment, though not according to present-day standards; and, secondly, as little was then known about identification of sexes he knew he could not make sure at the time of purchase whether he was buying a female.

Fortunately, however, after about six months my father's friend returned with the female and told my father that he was now ready to have young ones bred out of her. My father replied that there could not be a time limit in such an experiment and that one had to wait and watch. If, however, the experiment proved successful, he could either take his female back or have the pick of the clutch. He agreed to the latter condition and allowed my father to keep the bird as an experimental female.

Naturally, my father once again had to begin right from the beginning, keeping the two cages sufficiently near each other so that the birds could touch each other's beaks and thus renew their old friendship. Soon it was evident from their behaviour that they knew their sexes. At this stage they were allowed the freedom of a closed room for a few hours every day. In a very short time their friendship grew so thick that my father thought it best to keep them in the same cage. Living together all the twenty-four hours, the birds began their family life in right earnest and in a few weeks' time the female laid an egg on the floor of their cage. This was rather sudden and we did not know what was best in the circumstances. However, we gave the female bird a table-drawer with a bed of straw and put her egg into it. She at once grasped the idea and, going into the drawer, sat on the egg. While thus sitting she began throwing out the straw with her beak, blade by blade. Another day passed without further progress, but on the third day she laid another egg. She went on laying every alternate day until the total was five, and then settled down to incubating the eggs. However, after an interval of two weeks she suddenly deserted her nest.

In order to find out whether there was any sign of life, my father broke open all the five eggs but what he found was only yellow and white liquid matter. However, this did not disappoint us because even though the eggs proved duds, the fact that the female bird did lay was a decided step forward towards the ultimate success of the experiment. So we continued to keep the two birds in the same cage, and before a month had passed they started courting again. While courting, the male used to feed his mate from his own crop. Also he used to spread his wings, uttering a continuous coughing sound. And one afternoon we found them mating. It lasted for ten to twelve minutes. This delighted us immensely because we thought that now we would definitely get young ones out of the pair.

The female laid a clutch of five eggs as before. This time she was provided with sawdust as bedding instead of straw. She seemed to like this new arrangement and started incubating the eggs seriously. We did not know the exact period of incubation. However, we examined the eggs after three weeks but found them all infertile again.

Of course, these repeated failures did not defeat us and we went on experimenting. During the following eight months the female laid fifteen eggs altogether. By this time we had provided the pair with a separate room and an earthen pot, raised on a mound of earth, as nest-hole.

The female next laid a clutch of three eggs. This time they were tested on the twenty-fourth day. The first two eggs examined were infertile but the third one contained a live embryo floating in blood.

This meant that we were progressing most satisfactorily in our experiment and not far from the ultimate goal. However, we had to wait for nearly two months before the next clutch of eggs was laid in June of 1921. Altogether there were three eggs. This time we decided not to be impatient but to wait and see.

My father bored a hole in one of the doors of the room where the birds were kept. This device enabled us to watch their family life without unduly disturbing them. The male was most exacting in his behaviour with his mate, as if he was as anxious as we were to see that the young ones did hatch out from the eggs this time. Thus, he would not allow the female to leave the nest excepting for natural calls or for having an occasional stroll in their room. For food, he would permit her only soft fruits, like pappaiya, banana, guava, and pomegranate, and in grains he allowed her to have fresh Indian corn, soaked grams, millet, and husked rice from his own crop. Sugar cane was also a permissible item.

On the thirty-first day after the first egg was laid, when my father went inside their room with their lunch on a tray, he found a fragment of eggshell lying on the ground near the nest. He at once knew that something was up. He bent down to see inside the earthen pot whether

there was any sign of life under the female, but while he was in this attitude the male, who had turned quite a savage almost overnight, got hold of his thumb and gave it a nasty bite. This bite was so severe that my father's whole arm turned blue, and remained so for weeks. However, my father was so elated at this new development that he did not mind the bite and managed to see a wriggling young one in yellowish down.

This was a great day for us, indeed, because at last we were fully rewarded for all our troubles. Another young one was hatched out of the second egg on the third day but the last egg turned out to be an infertile one.

Now it was almost impossible to enter the room without first taking the male into custody because, hearing the cries of the young ones, he had become totally wild. The female, however, was quite docile. The male was guarding her all the twenty-four hours and would not allow her to leave the nest. He used to feed her regularly, and she in her turn fed the babies. In the beginning the young ones were fed on some liquid substance, like milk, produced from the crop, but as they grew on they were allowed coarser food.

Within the next two years my father managed to get from this pair fourteen young ones altogether. In each of the first three broods three eggs were laid but only two young ones were hatched out ; in the next two broods all the three eggs were hatched out, and in the last two broods only one was hatched out of the usual clutch of three eggs. The last young one thus bred had its feet upturned, but my father eventually set them right by carefully bandaging them. This young one was so much attached to my father that once when he was out the whole day he found on his return that his pet had died without any apparent cause.

The original pair did not live long after this, but we are proud of the fact that we got fourteen young ones out of them before they died. Of this lot, six are still living and they are added to the collection of His Highness the Maharaja Saheb of Bhavnagar. Here, some distinguished visitors would not believe that they were Bhavnagar-bred and said that they would first like to see me breed young ones out of these birds before they could believe my story. I told them that they were all immature birds and would not start breeding before they were fifteen years at least. In due course, however, I got an opportunity of demonstrating to their satisfaction that if African Grey Parrots are handled properly they do breed in captivity.

I acquired an imported mature female and kept her in a small room in the Palace aviary with one of our young males, who was then nearly fifteen. After they were thus kept for a year the female laid infertile eggs, but in June of 1937 she hatched out a full clutch of three eggs. In all this pair produced seven young ones in two years. The broods

were of three, two, and two out of a full clutch of three eggs each time. Out of this lot, up to date, only two of the first clutch and one of the second clutch have survived.

In 1947 I acquired an imported male for one of the females bred by my father. They were kept in a small cage, measuring 6 feet by 3 feet. This pair, too, laid infertile eggs for the first time. However, a clutch of three eggs was laid in July of 1949, the first egg arriving on the 2nd. Out of this clutch two young ones were hatched out. Their eyes opened on 17th August, the pinions grew on 5th September, and the red tail-tip was noticed on 15th of that month. Out of these two young Parrots, one has survived. Then the female laid three eggs, and all the three were hatched out successfully, but owing to the unusual severity of the winter none has survived.

Now I have been able to acquire an imported female for my Palace-bred male, which is twelve years old, and hope to breed a few young ones out of them.

Before I conclude I will add a few words about how I identify the sexes. The female grey is lighter in colour with rather a smaller head and feet. As she matures she grows light pink feathers, which may be found anywhere on the body but particularly on the thighs, back, and neck. Also, the tail is shorter than the wings. The male, on the other hand, is darker in colour and his tail being longer it is visible beyond the point where the wings overlap. Moreover, his feet, beak, and head look stouter.

For food I give my birds a variety of fruit, such as pappaiya, guava, banana, pomegranate, melons, etc., and grains like fresh Indian corn, soaked gram, millet, white millet, and husked rice. I also give them sugar-cane and ground-nuts. I prefer to give them fruit in the morning and grains and nuts in the evening.

Cleaning the cage twice a day is an absolute necessity, and a bath in the afternoon is a most welcome item to the birds.

It is my experience that the talking faculty is developed when the bird becomes a year old and as it advances in age it goes on adding new words practically every day. Not only that, it imitates the sounds it hears but it associates these sounds with things connected with them. For example, one of my parrots not only imitates my voice perfectly but it says "I am going", the words I usually address to my wife when I am to go out, as soon as he sees me dressed up for the street.

So far as I know my father and I are the only persons who have bred African Grey Parrots in India, and probably very few have attempted to breed them in captivity elsewhere. However, this hobby is an excellent pastime, and it is earnestly hoped that bird-lovers in this country and abroad will try their hand at it. Keeping a pet is, indeed, a great joy, but this joy increases a thousandfold when the pet is home-bred.

SEQUOIA SYMPHONY

By CARL NAETHER (Sherman Oaks, California, U.S.A.)

It was shortly after four in the morning of an unforgettable day in Sequoia National Park. Dog-tired from an 18 mile hike, I had slept the troubled sleep of the over-weary till near 4 o'clock, when one of those ubiquitous (in two senses) prowlers of Western camp sites, a chipmunk, nosing about for things edible, collided noisily with my pots and pans, startled me into sudden wakefulness. I was lying flat on my back on the hard dry ground of a small, quadrangular, barren space walled in by mighty sequoias. Far up, against the star-studded greying sky I could just discern the almost imperceptible sway of their topmost branches in the chill Sierra breeze.

My legs were a curious mixture of numbness and aches and pains, the penalty of unaccustomed trudging up and down dusty, rock-strewn trails; my back was sore from the rough hardness of my "bed". And I was chilled, to the verge of shivering; and yet I knew that it was useless to change position, for throughout that restless night, with all my turnings and twistings back and forth and roundabout, I had been utterly unable to contrive surcease from pain or to make my two flimsy blankets a sufficient shield against the cold night air.

Four o'clock being, even for a vacation day, too early to get up and rustle firewood for breakfast, with such stoicism as I could muster I lay gazing into the open sky. Its blazing stars hung low over the black, amorphous tops of the giant sequoias like twinkling eyes—I fancied—peering curiously into the mysterious darkness below. The vast enveloping stillness was broken by the chipmunk, making sudden foray among the impedimenta on the camp table; as quickly restored, after his brief and fruitless search, he slipped soundlessly away. Though the uppermost tips of the trees were plainly shifting to and fro in the chill air, I could not hear the wind; but I knew that the dawn breeze was shaking awake the dwellers of the tree tops, laving both them and their fragrant homes with its clean cold stream, was readying the forest world for the business of the day.

Suddenly the mountain quietude was disrupted by a solitary, faint call—of a bird, so far away I could not identify the caller—though I made my suppositions. This much I knew: it was not the sombre, inimical cry of an Owl or other nocturnal hunter; it was sweetly joyous—more like a cheerful hail to the dawn light that must be spreading over there on the eastern sky beyond the mountains. As I lay straining eye and ear to determine direction and place from which the startling, stirring sound had come I heard it again—and yet again—each time more distantly, each time more dynamic. It was the reveille, the morning caroling of a Western Robin perched aloft

in some distant tree ; and it was growing more jubilant with each passing moment. Now there was no mistaking the homey, friendly voice. And then, from here and there, from near and far, the call was repeated and multiplied in ever-growing crescendo.

The bugler had sounded the call to song, and never was command obeyed more volubly and cheerfully. No grumbling, no drowsy peevishness and protest here. Seemingly from every tree top within range of my ears the music poured, ever beginning, ever ending, a continuous, but never monotonous, musical round. In the sequoia wall about me there must have been literally scores of these much-beloved birds blending their voices in a magnificent avian concert, the like of which I had never before heard. Myriads more of them, I knew, were also singing at that moment in all the higher mountains along the whole long length of this western region—what a sublime choral for the ear of God !

It was a wholly natural performance—leaderless, uncontrived—with individual birds joining at will to augment the unseen choir, to repeat over and over again the short melodious call of their species. The whole forest resounded with the joyful matin for perhaps ten minutes—thrilling, never-to-be-forgotten minutes ; and then, as the first rays of the sun streaked through the sequoias' twisted crowns, grew fainter—and yet fainter, till at length it died quite away at the coming of full daylight, when Robin abandoned completely the pleasure of singing for the business of getting his morning meal.

Every lover of avian music knows that words cannot describe adequately the sound of a bird's voice ; how futile it would be for me to attempt to represent in prosy terms to the inward ear the grand swell and diminuendo of that morning chorus. But the effect upon me measured the wonder of it. Forgotten was my cold discomfort, vanished my aches and pains, and I rose with alacrity from my hard and simple bed, with a song, too—in my heart, if not upon my lips, a renewed interest in life and the world about me, and a challenge of pleasant expectation for the new day.

BRITISH AVICULTURISTS' CLUB

The twenty-eighth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 9th May, 1951, following a dinner at 7 p.m.

Chairman : Dr. M. Amsler.

Members of the Club : R. Adamson, Mrs. H. G. Alderson, Miss Kay Bonner, Mrs. V. M. Bourne, W. Brain, G. T. Clark, Mrs. G. T. Clark, T. Crewes, A. H. D'Aeth, Mrs. I. Darnton, O. E. Dunmore, A. Ezra (Patron), J. F. M. Floyd, J. C. Garratt, Miss D. Gask, Tom Goodwin, C. F. Harding, H. J. Harman, R. E. Heath, Dr. W. C. Osman Hill, H. J. Indge, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, G. C. Lynch, P. H. Maxwell, G. S. Mottershead, H. Murray, S. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), D. M. Reid-Henry, R. C. J. Sawyer, J. L. Sears, D. Seth-Smith, A. E. Sibley, E. N. T. Vane, H. Wilmot.

Guests : Dr. K. Aylwin-Gibson, Jim Bailey, G. S. Cansdale, Sir Raymond Evershed, Miss S. A. Fothergill, Miss S. Goodwin, Mrs. W. C. Osman Hill, Mrs. S. Murray, G. Hermon Slade, Mrs. D. Seth-Smith, T. N. T. Vane, Miss M. White, Mrs. H. Wilmot.

Members of the Club, 38 ; guests, 13 ; total, 51.

Welcoming the guest of the evening, the Chairman said it was really not so very remarkable that he should address aviculturists on the collecting of orchids. Aviculture and horticulture had much in common, and some of the greatest aviculturists—the late W. E. Teschemaker, the late Hubert Astley, a former President of the Society, Jean Delacour, and the present President, Alfred Ezra, had been or were keen horticulturists.

Mr. Hermon Slade then showed a large selection of Kodachrome slides to illustrate orchid hunting in New Guinea. Members were specially interested to see a picture of Fred Shaw Mayer.

While by no means avicultural, or even ornithological, Mr. Slade's excellent photographs and graphic description were greatly appreciated by his audience, and this appreciation was shown by sustained applause.

ARTHUR A. PRESTWICH,
Hon. Secretary.

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NEWS AND VIEWS

By the invitation of His Grace the Duke of Bedford the grounds of Woburn Park are to be open to members of the Avicultural Society and their friends on the afternoon on Saturday, 7th July, 1951.

Members will meet and enter at the Lion Lodge, Woburn village, at 2 p.m.

Woburn is 2 miles from Woburn Sands, 6 miles from Bletchley or Leighton Buzzard, 15 miles from Bedford, and 41 miles from London.

How to get there.

Rail.	Euston to Bletchley or Leighton Buzzard.
Bus.	From Leighton Buzzard or Bedford.
Motor Coach.	Normal daily services from Victoria Coach Station, London. Day return fare 6s. 3d.

Lunches and teas are available at the "Bedford Arms", Woburn.

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Dr. E. Hindle, F.R.S., retired from his position as Scientific Director, Zoological Society of London, on the 30th April, 1951.

* * * *

Membership of the Society appears to be conducive to longevity. F. H. Rudkin, Sr., of Fillmore, California, has just celebrated his 90th birthday. He thus joins our two other nonagenarians—J. A. Swan and G. E. Lodge. Long may their memberships continue.

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La Société Nationale d'Acclimatation de France has bestowed on Dr. Edward Hindle, F.R.S., their highest award of *la grande médaille Isidore Geoffroy Saint-Hilaire*, in recognition of his numerous zoological activities; and has awarded Miss Phyllis Barclay-Smith *la grande médaille d'argent* in recognition of the part she played in securing the revision of the International Convention for the Protection of Birds 1902, which was signed in Paris in October 1950.

* * * *

A copy of the new leaflet, summarizing the objects and services of the Society, and including an application form for membership, is enclosed with this Magazine. A supply will gladly be sent to any member who can use the leaflets in correspondence with other aviculturists not yet in membership.

Dr. J. Steinbacher, of Frankfort-on-Main, has recently received a pair of Ruby Tyrants (*Pyrocephalus rubinus*). This so-called "Scarlet Flycatcher" is virtually unknown to English aviculture: probably the only specimen to reach here alive was a female privately imported by Captain R. de Quincey in 1934 or 1935.

* * * *

It has been reported from Australia that Mr. G. Ruddle, of Fullarton, Adelaide, has bred a blue Queen Alexandra's Parrakeet. The breeding took place in a large aviary containing some twenty pairs of Queen Alexandras. Mr. Ruddle was able to ring the parents, and the four other young in the nest. It would seem that here is an excellent opportunity to establish this mutation.

* * * *

T. R. Holmes Watkins writes: "I thought you might like to know that I have recently received three pairs of Common Kings and three pairs of Splendids from Australia. The latter were an alternative choice to six adult Crimson-wing hens, of which eventually we were able to find only one aviary-bred specimen for sale throughout South Australia! It was a great credit to whoever had charge of them during the long voyage that there were no losses, and that the birds were in such excellent condition on arrival. It took practically a year to get the birds through, and though private importation may never have been an entirely simple matter to-day it is not a venture to be lightly embarked on." To avoid unnecessary correspondence, it should be stated none of these Parrakeets is for sale.

* * * *

P. H. Tancred, Sydney, reports: "Since last writing you I have bred seven young from two pairs of Yellow-tailed or Yellow-rumped Finches (*Donacola flaviprymna*). Two unfortunately died, but the remaining five are doing well. One pair has gone to nest again. I have had these birds over two years, and kept them in adjoining aviaries. They made no attempt to nest until I put both pairs together. It seems as though they might be colony breeders.

I have never seen these birds breeding in any other aviary during the last thirty years. To some aviculturists they are dull-coloured birds, in addition they are seldom imported here. I have seen crosses with the Chestnut Finch.

Many breeders here, and particularly in Adelaide, go in for African Waxbills, Parrot Finches, Siskins, etc.

Aviary-bred Finches bring the following prices: Melba, Red-faced, Cordon Bleu, Blue-breasted, £6 pair; Ruddies, Orange-breast, Aurora, £3 10s. pair; Parrot £7."

Waterfowl Ringing Scheme—Details of Recoveries.

<i>Date Ringed.</i>	<i>Species.</i>	<i>Ringed by.</i>	<i>Date recovered.</i>	<i>Place where recovered.</i>
21.9.50	Carolina	M. Thompson-Coon	26.3.51	Hit electric wire. Larkfield, Maidstone.

A. A. P.

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NEWS FROM AMERICA

Dr. E Béraut, who now lives at Rio de Janeiro, writes :—

“ I am still very much interested in Humming Birds, and I begin to have a nice local collection of fourteen species, missing only three or four of all those I have seen in the neighbourhood. Contrary to previous experience, they do not fight. I keep birds of various size together, from the tiny *Calliphilox* to large *Ramphodon*. The terrible *Eupetomena* and *Thalurania* go a little after the others, but without any real viciousness. This happy state of things is probably due to the crowding : I keep twenty-five Hummers in an aviary 11 feet by 6 feet. They live perfectly and are tremendously active ; I practically lose none, but they are looked after very carefully. I secure them with a blowpipe, and it is a most exciting sport. It is difficult and fairly exhausting, as it is necessary to be on the spot at daybreak.”

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For many years Canary breeders have been trying to establish strains of red Canaries by crossing the domestic hens with male Red Siskins (*Carduelis cucullata*), a pretty and popular species which, on account of excessive trapping, has become rare in its restricted home in the mountains of Venezuela. Scarlet Canaries have yet to be seen, but birds of many shades of orange, apricot, and pink, some very deep, are now seen regularly at bird shows in Europe and in America. They have been first obtained in recrossing hybrid males, usually fertile, to female canaries. Hybrid females are sterile as a rule. That this is not always true has been proved by Mrs. L. Otersen, of New York. A female hybrid, recrossed to her father, a Red Siskin, produced a fertile egg in June, 1948. Mrs. Otersen reports as follows (*Bull. Bird Fanciers' Association*, April, 1951) :—

“ We have been hybridizing with Siskins for about six years, and each year we had tried different first cross females, but without success. We had mated them to our best males which we knew were foolproof. None had ever laid an egg or acted as though they wanted

to nest. On 20th May, 1946, in a nest of first cross hybrids, we raised a hen which we first thought was a male due to its size. When it went through the moult we knew it was a female, but was about two or three times larger than any first cross female we had ever raised or seen. We sold and gave away as pets many first cross hens, but this hen we had always kept, and couldn't really tell why. The mother was a fine orange hen and a wonderful breeder and feeder. The Siskin himself was a fine breeder.

"Some time in 1948, we attended a meeting of the Connecticut Canary Breeders' Club, and fortunately for us we had the pleasure of hearing a very interesting lecture by Dr. Bushnell of the University of Connecticut, which formerly was known as Storrs Agricultural College.

"It was through the untiring efforts of Dr. George Corwin, the present President of the Club, that Dr. Bushnell appeared.

"One part of his talk dwelt on hybridization, and after the meeting we had a talk with the Doctor, and spoke to him of our first cross female hybrid, and mentioned the hen of such unusual size, and the fact that she had laid several nests of normal-looking eggs and mated, set and acted as normally as any Canary hen we had. He said the fact that she laid and was of such unusual size that we should try her as long as we could. We did as stated above, without success.

"Dr. Bushnell advised us that they did quite a little hybridizing at the college, and one of the things they looked for and which was important to them, was hens of the first cross that were a great deal larger than the usual run. He said he felt we might have something in this particular hen and do everything possible to get a fertile nest from her.

"Then, late in 1949, I had a letter from a Mr. Ray Murray, of Australia, and in corresponding back and forth he advised that he had a few ideas regarding the first cross female hybrid, and hoped we would have time to try them out this year. I wrote and told him about my trials, which proved to be mostly errors, but also mentioned this one particular hen.

"It so happened, however, that before I heard from him again, I mated this hen to her father the Siskin, and about a week afterwards, I received a most interesting letter from Mr. Murray, and I am quoting that part of the letter which may prove interesting to others. He has promised that when he does get to experimenting with his female first cross hybrids, that he will keep accurate data on same, and send to us with permission, if I like, to write it up in some magazine. 'I have never had a first cross hen lay yet, but have three or four build nests. I heard of a Pigeon fancier giving a hen that always had clear eggs, some fertile eggs from another pair. They successfully reared these, and what is more, their own eggs

from then on were fertile. Have you tried the hybrid hen back to its parent? I believe there are three types of hybrids. One that is sterile, another that is fertile to almost any other bird, and the third is *only* fertile when mated back to the parents, and or a male or hen of the same parents. It will be worth a try as young from a Siskin and a first cross should give you a good colour.'

"On 25th June, 1950, the baby is just three days old, and a fine healthy cross being raised by a foster mother."

* * *

LONDON ZOO NOTES

By C. S. WEBB

There have been very few new arrivals. The most interesting came from the Calcutta Zoo and comprised one pair Nicobar Pigeons (*Calæna nicobarica*), one pair Painted Spur-fowl (*Galloperdix lunulata*), and one pair Sonnerat's Jungle-fowl (*Gallus sonneratii*). It is good to see Nicobars again as they are among the most striking and curious of the Pigeon tribe. The Spur-fowl are the first of this species for many years.

A pair of Ashy-headed Geese (*Chlæphaga poliocephala*) was presented by Mr. Alfred Ezra, who has regular successful breeding results with this species. The last pair presented by him (in 1949) was taken by a fox—a queer happening in the heart of London!

A Red-headed Bunting (*Emberiza bruniceps*) came to us in an unusual way; it flew into a bedroom in a London flat. This was, of course, an escape, and others were reported about the same time in different parts of London.

A Velvet Scoter (*Melanitta fusca*) was found oiled up on the south coast and sent to us. It did well for a while after treatment but did not survive for many days.

We received a Manchurian Crane (*Megalornis japonensis*) via Whipsnade Park, where it was bred. The Great Eagle-Owls (*Bubo bubo*) that reared three young last year have bred again.

On the whole, everything is very late in nesting, which is not surprising in view of the abnormally wet and cold winter.

The earliest Pheasants to lay are the Edwards'. Redrumps, Cockatiels, Masked Lovebirds (both green and blue), Cornish Choughs, Silver Gulls, and Egyptian Geese are also nesting (16th April).

NOTES FROM THE NEW YORK ZOOLOGICAL
PARK

By LEE S. CRANDALL (General Curator)

While Penguins of the Jack-ass group (*Spheniscus*) can accustom themselves to the high temperatures of New York summers, those from deeper in the Antarctic seem unable to do so. Following extensive experiments, a special house for Penguins was constructed in the New York Zoological Park, and opened to the public in June, 1950. A mean temperature of 55° F. the year around, is maintained by a balance of cooled or heated air, as may be required. This incoming air enters through special filters, designed to intercept dust and the spores of molds so often fatal to Penguins. The water is run through alternating filters, so that the constant flow is cleared of visible impurities. The glass-fronted tank, 24 feet in length, gives visibility to the birds above or below the water. The birds, including Kings, a Gentoo, a Rock-hopper, and several Black-footed, have done very well indeed, and the exhibit has proved to be immensely popular with the public.

As everyone knows, captive Penguins do not ordinarily spend as much time in the water as Zoo visitors might wish, and to see the birds swimming is actually an uncommon treat. One curious aspect of our new exhibit is that the birds are more in the pool than out, and can be depended upon for an engaging show at any time. We are at a loss for a reason, and can only suggest that the explanation lies in the fact that the water is not artificially cooled and in summer, at least, is always several degrees warmer than the air in the exhibit.

As reported in AVICULTURAL MAGAZINE for November-December, 1949, there was a single female among the Congo Peacocks (*Afropavo congensis*) brought to the New York Zoological Park by Charles Cordier in June, 1949. As a matter of record, it should be reported that this female died 19th March, 1950, following an apparent accident. With her passing, there was an end of our hopes of establishing the species in captivity.

However, there were mitigating developments. On *post mortem* examination, it was found that the ovary was completely atrophied, and that the oviduct was vestigial. When the remains finally went to the American Museum of Natural History and reached the hands of Dr. James P. Chapin, the discoverer of *Afropavo*, he found that the plumage was interspersed with black feathers, indicative of a beginning change to male coloration. It thus appears that our only female was well beyond breeding age, and that our hopes were doomed to disappointment from the beginning.

ULLA BRITT AND THE BIRDS. By LAURENS SARGENT.

University of London Press, Ltd. 6s. net.

This is a children's book that will appeal as much to their elders. The adventures, real and imagined, but most often a mixture of both, of the little Swedish girl Ulla-Britt are wholly delightful. Not only does the author very evidently know both his birds and his children, but he gives a vivid picture of the common birds and everyday life of Northern Sweden. One could perhaps wish that the Magpie had been allowed to defend his character, which the Wood Pigeon blackens so heartily. After all, the Snowy Owl is allowed to vindicate his predations, and Ulla-Britt's relatives take the Golden-eye's eggs. It seems odd that the author should recommend another book, *Cranes Flying South*, which although not without its funny aspect is the most misleading rubbish from a natural history standpoint. The illustrations by Neave Parker are mostly very good—the one of the Wood Pigeon being a notable exception—and capture the "jizz" of the creatures portrayed admirably.

D. G.

* * *

CORRESPONDENCE

HOMING BUDGERIGARS

Further experience with homing Budgerigars has taught me that the cocks must be allowed their liberty as far as possible throughout the year. If confined for more than a few weeks they may, on release, stray as promptly and irretrievably as any bought bird. Hens are much more reliable and there is little risk in confining them in the "nesting" aviary for as long as may be necessary to prevent over-breeding. At the present time, after a year's selective breeding, I have about thirty reliable, tested birds which will not stray at any season.

To add to their attractiveness I have been taming them to feed from the hand with spinach beet as the tit-bit. They are so passionately fond of this plant, when breeding, that taming is no trouble at all.

BEDFORD.

CROWHOLT,
WOBURN,
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NEW MEMBERS

The eighteen candidates for election, proposed in the March-April, 1951, number of the AVICULTURAL MAGAZINE, were duly elected members of the Society.

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- JOHN F. GALLAND, to 197 Fraser Street, Howick, Pietermaritzburg, Natal, South Africa.
- LLOYD B. THOMPSON, to 2010 Cliff Avenue, North Burnaby, Vancouver, B.C., Canada.

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Miss E. F. CHAWNER	1	1	0
W. T. DRING	15	0	0

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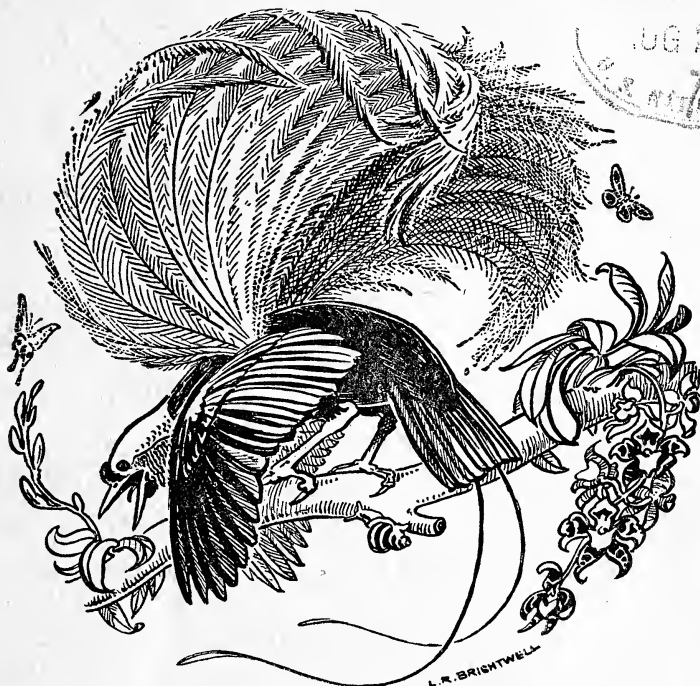
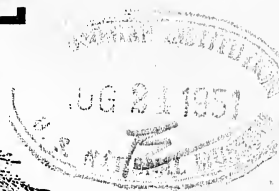
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Surplus copies of coloured plates that have appeared in the AVICULTURAL MAGAZINE suitable for framing. About eighty different plates are available. Price 1s. each, postage on any number 3d. extra. Apply to the Hon. Secretary.

Practical Hints on the Keeping and Breeding of Gouldian Finches, by P. W. Teague, 1s. 1d.—To be obtained from Stephen Austin & Sons, Ltd., Fore Street, Hertford, Herts.

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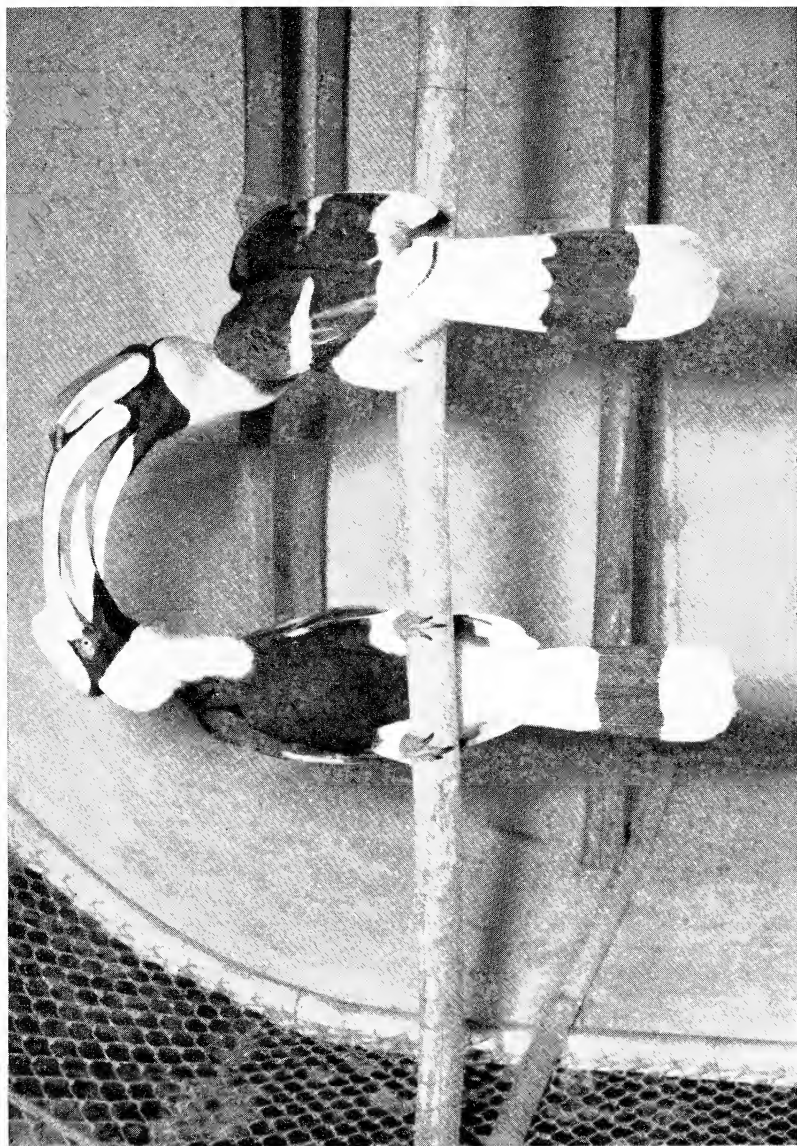
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GREAT OR CONCAVE-CASQUED HORNBILLS (*Buceros bicornis* Linné).

[Zoological Society of San Diego

[Frontispiece

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AVICULTURAL MAGAZINE

THE JOURNAL OF THE AVICULTURAL SOCIETY
AND THE AVICULTURAL SOCIETY OF AMERICA

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JULY-AUGUST, 1951

A NESTING RECORD OF HORNBILLS IN CAPTIVITY

By KEN STOTT, Jr.

(General Curator, Zoological Gardens of San Diego, California, U.S.A.)

The captive breeding and nesting of Hornbills is sufficiently unusual, we feel, to warrant a detailed report of an event which occurred recently in the Zoological Gardens of San Diego. The fact that the nesting did not result in successful reproduction is regrettable, but it in no way diminishes the potential worth of the observations made while courtship and nest-building were in process. In this report, the author serves mainly as compiler of notes and observations recorded by various members of the Zoo staff, and he wishes to acknowledge in particular the data supplied by Mr. Kenton C. Lint, Curator of Birds, and Mrs. Nancy Bode, of the Publications Department.

The Hornbills involved in the San Diego nesting were the Great or Concave-casqued (*Buceros bicornis* Linné), a species which, according to Peters, inhabits the "Western coast of India from Bombay to Travancore; Himalayas from Kuman to eastern Assam; Burma, Malay Peninsula, Siam, Indo-China; (and) Sumatra". The Zoo's two specimens, a male and female, were obtained as adults in November, 1948, and the dealer from whom they were purchased believed they had probably been collected in Siam.

While the two Hornbills seemed compatible from the date of their arrival in the Zoo, no evident signs of courting were observed until the early part of February, 1951. At this time the two were seen to touch bills frequently, and the male's interest in the female became increasingly apparent. Her response was at first negligible, appearing to be more one of toleration than of encouragement. Gradually her interest increased, however, and approximately two weeks after the first signs of courting were noted the male began to attempt to feed the female. Again, her initial response appeared to be one of disinterest but eventually she began to accept his food offerings and, as time passed, she came to participate in the ceremony eagerly.

On 6th March mating was noted for the first time. According to Mr. Lint it was repeated throughout the major part of the day, at the end of which the female in particular seemed to be in a state of near exhaustion.

Parenthetic to the first signs of courtship, Mr. Lint and his associates had placed a three foot deep nesting barrel suspended on its side from the top of the Hornbill cage. The upper half of the "front" side of the keg had been left open, the lower half having been covered with plywood. Throughout the month of courtship both birds had entered the nesting barrel with increasing frequency.

On 21st March actual construction work on the nest was first reported both birds working on the right side of the nest opening. Despite past and contrasting reports that *only* the male participated in plastering (or *only* the female), both birds co-operated in the task from the start, and continued to do so until after the female had entered the nest and the male was preoccupied with supplying her with food. From this time on the female executed most of the plastering.

The first observation (21st March) was recorded as follows: "The female was inside the nest, the male on the perch just outside the nest, and both birds were plastering at the right-hand lower corner of the opening. They were evidently using material obtained from inside the nest. Both birds used the side of the bill to smooth and tamp the plaster. After they had worked for half an hour the female emerged from the nest. The male fed the female and then followed her from one perch to another for a few minutes. Mating ensued."

On 22nd March it became obvious that the three-eighth inch plywood which had been used to cover the lower half of the barrel opening was not sufficiently thick to support the two-inch thick wall which the Hornbills had begun to construct. Consequently, on the day following the initial construction work of the Hornbills, Mr. Lint and his co-workers increased the thickness of the lower half to approximately six inches by backing the plywood with adobe mud. At the same time, the lower half of the face of the nest was camouflaged with adobe. The Hornbills were only temporarily disturbed by the man-made additions to the nest, and resumed the task of plastering the upper half of the opening shortly after the keepers had left the cage.

Although piles of both mud and sand had been placed on the floor of the cage, neither bird was seen to visit either pile at any time. The material with which they plastered was grey and apparently non-granular in texture, and may well have included among its components the fine sand which had been placed in the bottom of the nesting barrel. However, it is believed that the chief ingredient of the plaster was the *fæcal* matter produced by the female. In each

observed instance of defecation, the female turned her rear quarters toward the adobe base of the front side of the nest before ejecting faeces, and it was from this point that both birds were seen to obtain plastering material. A further plaster ingredient was, on several occasions at least, regurgitated food.

During the early stages of walling up the nest opening the male once again appeared to be the more persistent of the two. Often the female appeared to tire of the task, and would emerge from the nest and drop down to one of the lower perches of the cage. In one such instance the male continued plastering for perhaps five minutes; then he flew down to the perch and sat beside the female. He made repeated attempts to force her from the perch and back to the nest. After failing he returned to the nest and began plastering again. After another period of approximately five minutes he again dropped to the perch in an equally unsuccessful effort to persuade her to return to work.

Throughout the construction period the male continued to feed the female, even while the female was yet at complete liberty. When the food was placed in the tray both birds would descend to the feeding platform, each selecting those items which appealed to it. Then the female would return to and enter the nest, after which the male would regurgitate food items individually (*not* collectively, and in a conveniently produced sac, as has been reported) and present them to the female.

Mr. Lint had already altered the customary diet of the Hornbills by increasing the protein content: more hard-boiled eggs, mice, baby chicks, and milk-soaked bread. In the face of the prospective confinement of the female, Mr. Lint had also increased foods with high water content such as oranges, tomatoes, grapes, and soaked raisins to prevent dehydration in the female. Increased rations of these dietary elements supplemented customary amounts of cooked sweet potatoes, lettuce, and diced bananas.

By 24th March the nest opening had decreased to an oval just large enough to permit the passage of the female's body, and it was upon this date that she went into the nest to stay. By the following day the hole had decreased appreciably, and by 26th March it had assumed roughly the shape of a circle with a six-inch diameter. The opening was now too small for the female to pass through it. The plastering continued, both birds participating, but now the female seemed more industrious than the male, and proceeded to put on the finishing touches, working from the inside. The work continued until 6th April, at which time the opening was sufficiently small to satisfy the Hornbills. It was now oblong in shape, approximately two and a half inches across, and perhaps six inches in height.

After the female entered the nest to stay the male's interest in

plastering appeared to wane. His activities were subsequently concentrated on supplying the female with an adequate amount of food. At one feeding the male presented her with eleven small pieces of tomato, at another he gave her twenty-five grapes at a time, and on a third occasion he was seen to give her fifty grapes at a single feeding. It was impossible to detect any visible change in the regurgitated food items with which he supplied her. They appeared to be whole and intact; in other words, unaltered by the brief period they had spent in his crop.

The feeding pattern varied slightly from one time to another. After the male had devoured a "capacity load", he would pick up a final item of food from the feeding tray and fly to the perch, holding this last bit of food in the tip of his bill. Once on the perch he would attract the female's attention either by tapping on the mud wall about the nest opening, or by trumpeting a single, short, and typically resonant blast. Usually she responded by placing the tip of her bill at the nest opening. If she did not respond promptly, he would thrust his head through the opening towards her.

When she had assumed a receptive attitude he would present her with the morsel of food he still held in the tip of his bill. Sometimes she would take it in the tip of her bill and swallow it immediately, but upon other occasions she would "hand" it back to him. After holding it for a moment, he would again present it to her. Often the same morsel of food would be passed back and forth several times before the female would finally swallow it. After the female had consumed the first piece of food the male would regurgitate subsequent items, one at a time, and each with a gasping, head-dipping cough.

At one feeding he regurgitated a creamy, viscous mass of bread and milk which he presented to the female. This she refused firmly and persistently, and eventually he gave up, placing it on the outside of the nest just below the opening. When he began to smear it around the nest wall the female peered out of the opening, and after watching him momentarily took some of the material in her beak and likewise used it as a plaster medium. The use of bread and milk in plastering was observed subsequently on several occasions.

On 1st April the vocal expression of the female underwent sufficient change that Mr. Lint seriously considered the possibility that an egg had been laid. He described the sounds as "cackling"—not the typical throaty trumpeting. On 2nd April Mr. Lint carried a ladder into the enclosure and inspected the nest. His suspicions were confirmed by the presence of a single egg which lay about ten inches from the back of the nest. While the female did not seem particularly distressed by Mr. Lint's intrusion, the male appeared to be highly nervous and upset, hopping from perch to perch and croaking loudly. This was the last occasion upon which the interior of the nest was

observed, and henceforth every effort was made to disturb the birds as little as possible.

The female continued to work at the periphery of the nest opening through 6th April, after which no further construction work was noted.

From this date on the female was less and less in evidence. Her vocalizations decreased in frequency, and her head and bill were seen less often through the opening in the nest wall. Furthermore, the male began to slacken his pace in feeding operations, his visits to the nest becoming fewer each day. He spent long hours sitting in the sun with his head bent over backwards until the top of his enormous yellow and black casque lay on his back. At other times his behaviour seemed extremely erratic. He would hop nervously and aimlessly from one perch to another, croaking as he did so.

On the 9th of April the male was seen pecking viciously at the edge of the opening. Late in the afternoon of 10th April Mr. Lint observed distinct signs of displeasure of the male Hornbill when a number of Black-crowned Night Herons congregated in eucalyptus trees near the cage. The entire Zoo reverberated with the deep resonant roars of the male for a period of about five minutes; Mr. Lint afterwards commented that he now saw the reason for the Malayan name, *malamorakki*, which means "mountain shaker".

Throughout the day the male had continued to chip away at the mud on the face of the nest. On this and for the following fourteen days the male was seen to thrust his head into the nest frequently, but the female was at no time seen or heard. The male continued intermittently to break away the plaster until 24th April, by which time he had chipped off enough material to permit him to enter the nest, which he did.

Finally, on 30th April, Mr. Lint's growing alarm caused him to feel it necessary to re-enter the cage, although he was understandably reluctant to risk disturbing a sitting female. His fears were confirmed. Despite the fact that no odour nor concentration of flies had been observed, the female was lying dead in the nest, and from all appearances had been dead for several days. Two eggs were discovered, one entire and one broken, and, upon autopsy of the female, her body was found to contain a third egg. The contents of the one unbroken egg showed no mark of fertility. This egg weighed 56 grams; it measured 65 by 45 mm. The broken egg measured 70 by 50 mm., and may have been fractured by the male after the female's death.

Autopsy revealed no clue to the cause of death; unfortunately, the lengthy period between the female's demise and the discovery of the body had obliterated any diagnostic hints the tissues and organs may previously have shown. The carcass was crawling with maggots. Only the plumage remained in relatively good condition, and there

was no obvious sign that the moult which Hornbill females are reputed to undergo during the confinement period had begun.

Although the presence of an unlaidd egg might suggest the possibility of egg-binding, there was no indication of this condition. Slow starvation was another possibility, yet the Hornbill's stomach was described as being half full of food. There was no alternative but to place the Hornbill autopsy sheet in that vague category: Cause of death unknown; P.M.D. (Post Mortem Degeneration).

Thus, an incident of exceeding interest had come to an end, and with no possibility of a repeat performance next year with more successful results. Yet the event was not without its brighter side, for at least some additional data, however slight, had been contributed to a general knowledge of the seldom observed breeding and nesting habits of hornbills.

* * *

SOME BREEDING RESULTS FOR 1950 IN A COLLECTION OF SOFTBILLS

By BRIAN H. DULANTY (Chorley Wood, England)

My main aviary accommodation now consists of a shed 36 feet long, 11 feet wide, 6 ft. 6 in. high at the eaves rising to 9 ft. 6 in. at the ridge. The whole affair is raised 18 inches off the ground. It can hardly be described as a thing of beauty, but when surrounded by flights I hope it won't obtrude too much. The interior is divided by solid partitions into five compartments. The first, 11 feet long, is the birdroom proper with the usual cages, and the second, 10 feet long, is fitted with perches and was used as enclosed aviary for Finches, etc., during the winter of 1949-50. The remaining 15 feet of the shed is divided into three shelters.

In the autumn of 1949 I turned a hen Shama into the enclosed aviary to get her as fit as possible. About this time I obtained a fine Indo-Chinese cock, which is a bigger bird and has a longer tail than the Indian. I kept him in a 5 ft. cage in the birdroom until the beginning of March, when I let him loose with the hen and the other birds in the aviary. I was a bit nervous about fighting, because in the two previous years I had found that the pairs fought when first put together, and I was not sure whether the cock would behave with the other softbills in the aviary. These included a Wheatear, a Blackcap, a Redstart, two pairs of Pekin Robins, and a pair of Zosterops, besides a good number of Waxbills and Grassfinches. I never saw any sign of aggression by the Shamas. The cock certainly was allowed to have first go at the maggots when the dish was filled, but when I threw

a small handful of mealworms on the floor all the softbills usually managed to secure one or more each.

This aviary was heated, as it was used as winter quarters for the more delicate birds and those not fully acclimatized, but no nest-boxes were provided. On a shelf made of a piece of asbestos sheeting I kept an old dried milk tin into which I now and again put a few maggots. The shelf was over an oil lamp and the smaller softbills seemed to enjoy the resulting flies. Soon after the cock was turned out I saw him on several occasions get right into the tin so that all that could be seen of him was his long tail sticking up. After the first day or two he then started to sing when in this curious position. The song was really magnificent, intense and seductive. Even I could see that he was trying to persuade the hen to nest there. Beyond enjoying the music I didn't pay much attention to all these goings on as it was still cold and far too early to think seriously about breeding. I then saw the hen paying visits to the nest and picking up bits of fibre from the granulated peat on the floor of the aviary. The next thing I knew she had laid an egg, followed by four or five more. Having read that Shama's eggs are frequently infertile I again did not think much of it, but lo, all hatched! All this time the aviary had its full complement of other birds, and for the first three days after the first hatched I had no time to shift the others. I then moved the rest into the next compartment. By this time I had built a small outside flight 9 feet by 3 feet by 8 feet high. As soon as the others had been moved I opened the doors and let out both Shamas. The hen returned a couple of times with something in her beak, but then while both were out a heavy storm broke out. I could see that the hen was soon so saturated that she could scarcely fly. I could not find the cock at all and thought he had strayed. I tried hand-feeding, but beyond getting the insides of one or two mealworms into the young I did not have much success. About four hours after her last visit I saw the cock return, soon followed by the hen. She at once went on to the nest, and all seemed to go along smoothly again. I should have said that the last two youngsters both died soon after hatching. The other three lived for seven days from the date the first hatched. I had noticed that the cock, after the first two days, did not help at all in the feeding but spent all his time in the surrounding hedges and trees singing with great abandon. On the seventh day the hen deserted and the young, as I have said, died. Two days later the hen laid again, so that I had little doubt but that the cock was the cause of all the trouble. The first two eggs hatched on a Friday and the next two on the Saturday. I had left the cock with the hen and let him out every day, chiefly to give myself the pleasure of hearing his song, which seemed to me to be far finer at liberty than in the aviary. The hen would go out into the garden and surrounding woods for short intervals but was never

off the nest for more than about ten minutes. On the Sunday I heard the cock singing with all his might and then caught a glimpse of him chasing the hen while still singing. On his return I caught him up and caged him. The hen fed the young, all four of them obviously growing much faster than the first nest. She would go off and bring back something which looked to me like a small worm, give it to one youngster and then give each of the others a mealworm or occasionally a maggot. Both the mealworm and maggot dishes were kept full the whole time. It surprised me to see the hen using a mealworm which I judged to be about the same length as the newly hatched chick. Unfortunately, just as the first left the nest, the youngest (or smallest) developed an eye infection and died. One more left the nest, but all four eventually died.

The next tragedy was the death of the hen by drowning in a water-butt. When the first youngster left the nest, I had removed the large but shallow bath, as I had once lost a young Finch through drowning in a similar one. The day after the last youngster died the door of the outside aviary blew open and the hen got out and tried to have a bath in the water-butt.

Two or three weeks before this I had obtained two more hen Shamas, one of which was in fair condition although newly imported. I turned her into the same aviary with the same cock, having renewed all perches and generally done my best to disinfect the aviary. She sparred a bit with the cock but soon settled down and built, and laid five eggs in a budgerigar box with the top half of the front removed. The cock was caged when she had been sitting for about a week. This time all five left the nest and seemed likely to be fully reared. Alas, I trod on one and two others injured themselves flying against the wooden walls of the aviary. I caught up the remaining two and caged them with the hen. Both were later put into another outdoor aviary when they could feed themselves. One unfortunately died of apparently the same eye trouble and the other is now with one of our members.

The faeces are swallowed for the first few days and then 'carried away. So far as I could see the second hen always dropped them on, of all places, the coke heap. Mrs. Werner, who bred them in Ireland before the war, told me that hers always tried to use her hall as a depository. I noticed that three days after the young had flown from the last two nests the hen started to lay again but, of course, those eggs were infertile as the cock had previously been caged. All the other eggs were fertile.

The two started to fight, or at any rate bicker, when they began to moult, so I caged them up separately. I entered the cock for the National Exhibition at Olympia as both these birds are I think wild caught, and I have found that shows are an excellent method of

steadying nervous birds. Both, of course, take mealworms from the hand, but equally a sudden movement or a stranger startles them unduly. Shortly before the show I was washing all the cages in the birdroom and these two got out. The cock at once went for another cock in a cage, and the hen tried to do the same to a second hen. As they did not attempt to fight each other I put them in the same cage, and eventually showed the pair. They certainly kept out of the way as much as possible in a biggish show cage, but I am glad to say are now much steadier. Mr. Indge tells me that having had several consignments of both cocks and hens and being short of room, he decided to try putting pairs together. In early January of this year I saw at least six pairs of Shamas in his birdroom all agreeing perfectly. Probably, like the English Robin, they pair up some considerable time before they nest.

Even though the final results were so meagre, I was very pleased with myself and my birds, thinking that I was probably the only breeder of Shamas in this country since the war. I have since met someone who successfully reared four. He also used the semi-liberty method, but the aviary consisted only of a 6 feet by 3 feet by 6 feet high open wire flight with no shelter. He has twelve of these small aviaries in a suburb quite close to the centre of London, and has successfully bred several softbills and many finches, including Gouldians, which in particular are generally thought to require some shelter.

The Pekin Robins, as I mentioned before, were with a motley crew of softbills and finches and were put into the next shelter compartment to the Shamas soon after a flight 18 feet square and 8 feet high was added. This was planted round the sides with common and Portuguese laurels or standard lilacs and apple trees. The Pekins soon built a rather flimsy nest in a laurel and laid two eggs. Both cock and hen sat, the cock, as might be expected, taking the shorter daylight trick. Unlike the hen, he was remarkably steady while sitting and would allow me and an occasional stranger to approach within 3 or 4 feet. Just before the eggs were due to hatch one side of the nest collapsed and deposited two fertile eggs on the ground.

They repaired the nest and laid again, but this time the collapse occurred after only a few days. I had on both occasions seen what was coming and tried to stitch up the nest, as described by some old-timers, but obviously am not the needleman they were. A pair of Chestnut-breasted Finches built on the foundations, or what was left of them, but it was an unlucky site and I found one of them dead on five fertile eggs. The worst of that was that I could tell that one differed from the other in life, but I could not tell whether it was the cock or hen which died.

To get back to the Pekins, I next shaped some bits of wire-netting into rough cups and put one in each laurel bush, fitting a sort of

amateur man-made nest into the cavity. The Pekins carefully and swiftly removed all the hay from all these nests, but after a week or two, rather to my own surprise, they did build in one of these receptacles. Again two eggs were laid but only one was fertile and hatched out. I was a bit bothered about feeding since there were still a good many pairs of Waxbills and Grassfinches of one sort and another, besides a Wheatear, Blackcap and Blue-headed Rock Thrush, all cocks. A large number of the birds which had wintered with the Pekins had been moved to other aviaries, but this was still somewhat overcrowded and all would take maggots and, even more so, mealworms. I kept up the supply of maggots as usual, but each morning and evening threw a good handful of mealworms on to the grass lawn in the centre of the flight. I knew that if I put the worms in a dish the Rock Thrush would have fought off allcomers until he had gorged himself, and the Wheatear would have followed suit. When thrown down, however, the cock Pekin in particular would bolt two or three himself, fill his beak to capacity, and in a very short time, having fed the lot to the youngster, come back for a second helping. His speed was amazing, and the hen was not far behind.

I kept no diary, but one morning I had a look at the youngster, but when that evening I went to the nest to show the youngster to a visitor, it had disappeared. I assumed that the parents had thrown it out or eaten it, or it had otherwise come to an unfortunate end, because when I looked at it that morning it certainly did not seem to me to have the right amount of feathers for a young bird to sally forth into the world. I kept up the maggot supply but cut down severely on mealworms until about ten days later I heard the unmistakable noise of a young bird being fed, although I could not identify it. A search of a bush to which the Pekins seemed to be paying rather frequent visits revealed a plump well-grown young Pekin—now I can't tell the difference between the four adults and the British born.

In this aviary there were several pairs of Waxbills, Grassfinches, and odd birds. Firefinches reared two or three broods in an ordinary budgerigar box; Red Avadavats built a flimsy nest in a small Portuguese laurel and reared three; Zebras reared an odd one or two; Longtail Grassfinches nested and laid in a box similar to that used by the Firefinches, but their eggs disappeared. During the winter Diamond Doves laid on the shelf over the lamp to which I have referred, but both eggs quickly vanished, so that I am inclined to think that Pekins do take eggs. On the other hand, I have missed eggs in aviaries where there were no Pekins, and there were several successful nests. Pekins do, however, have a very irritating habit of stealing nesting material from other nests, even if there is plenty of the same sort lying about.

Apart from the Pekins, the most interesting nest in that aviary was that of Orange-cheeked Waxbills. Common as they are, the only account in the AVICULTURAL MAGAZINE which I know of is that by the late Miss Rosie Alderson, in 1902 (1st Series, Vol. 8, p. 36), for which she was awarded the Society's medal.

In the first place, as we all know, these birds are none too easy to sex. My pair could not be distinguished, so far as I could see, by the orange marking on the ear coverts, but there was a very distinct difference in the same colour on the rump. The birds are so small that it is difficult to compare them when held in the hand, but in a cage or a small aviary the difference in this respect can easily be seen when they perch on the front wire. At first my pair tried hard to build in an ordinary budgerigar nest-box, but they would select very long pieces of hay which, sticking well out of the hole, were a temptation which the Pekins could not resist. Each time a Pekin gave a good hard tug to free such a piece, several more were apt to be dislodged at the same time. After a few weeks of this they abandoned that box and took to the long grass in a corner of the aviary, which escaped the weekly mowing owing to the difficulty of manœuvring the mower. They built a large untidy nest and laid. I did not expect much as another pair had built, but not laid with me, the previous year, and Mr. Murray, of Brentwood, had nests and eggs from several pairs the same year, which did not hatch. Another good reason for pessimism was that during incubation period and after we had several severe thunderstorms. I noticed that the parents still seemed to hang about that corner and when I put my finger in the nest I felt several warm little bodies. I am bound to say the nest was distinctly damp, but not nearly so bad as I had expected.

The parents took soaked millet sprays and small grass screenings for preference among seeds but, like all Waxbills, their first choice was maggots. They would tackle a mealworm, but seldom got the chance to get more than one at a sitting because of all the others in the aviary.

The five young left the nest in the fullness of time and seemed to me to look even more juvenile than most Waxbills. They had the usual black beaks, but lacked the orange cheeks of the adults. They flicked their absurdly short tails as frequently and as energetically as do the adults, but the very shortness gave the action a comic look.

The parents went to nest again in the original box, but this time two clutches of eggs disappeared.

I mentioned before that there was an odd cock Wheatear in this aviary. Originally there was a pair, but the cock killed the hen early in March. I should, of course, have removed her, but at the time simply had no spare cage or aviary to put her in. The cock was

undergoing a heavy moult at the time and could hardly fly, so that I hoped the hen would be able to keep out of harm's way.

The next compartment, with a shelter 11 feet by 5 feet and a flight 18 feet by 10 feet by 8 feet high, was occupied by pairs of Spreos, Virginian, and Red-crested Cardinals, and a pair of Indigo Buntings which had attacked Blue-breasted Waxbills which occupied the only other available aviaries. I feared for the Indigos, as the Spreos (I think) slayed an Orange-headed Ground Thrush almost as soon as it was turned into the aviary. However, the Indigos did and still do flourish in the company of such members of the heavy brigade, but made no attempt to nest; they were always on view at the front of the aviary and the Spreos and Red-crested Cardinals were generally close at hand. The Virginians always retired in a hurry to the shelter as soon as anyone, including myself, came anywhere near the aviary; most annoying, particularly as several United States citizens visited us that summer. Like most people, they could recognize what they call the Red Bird, if not the little Indigo.

Soon after they were turned out the hen Spreo started coughing and sneezing. Having tried all over London to get the remedy first recommended for this complaint by Mr. Delacour, viz. Aniodol Interne, I sent an S.O.S. to Mr. Fooks, at Clères. He sent me a bottle by return, and a few drops on two or three days cured her completely. I have since found that Messrs. Wilcox, Jozeau, and Co., Ltd., of 74-77 White Lion Street, London, N. 1, are prepared to obtain not less than three bottles from the makers and to deliver them in England. The cost for three is something under £1, and worth every penny if you keep Starlings.

As most people know, the plumage of these Starlings is identical in both sexes, but I can tell my pair quite easily. In the first place the cock is a good deal bigger than the hen and his eye is much more brilliant. Then, again, both sexes chatter and squeal, but the cock is far noisier than the hen. At first I thought that the difference in size and brightness of eye might be accounted for by differences in age. When I put in a nest-box the cock put his sex beyond doubt by sticking his head into it at once, at the same time making enough noise to raise its roof. The hen, though interested, remained almost silent. The cock then and for days after carried what seemed to me to be cartloads of hay and sticks into the nest. One or other of them must have discarded a good deal of this material as I later found that the nest had a well-made tunnel from the entrance hole to the nest cavity proper. The box was an old Grass Parrakeet box, about 18 inches high and 8 inches wide and deep. Two eggs were laid, but only one hatched. The other birds were taken out when this happened and the youngster was reared on unlimited maggots and a lesser supply of mealworms, which were given in a dish morning and night. As in the

case of the Pekins, I was surprised to see how many mealworms could be pushed into the baby. Even a day or so after hatching I reckoned that at least a couple of dozen were fed within a space of five minutes. The cock did not brood but did a fair share of the feeding. Both birds were very shy, the hen coming off the nest whenever she heard anyone coming. When they were feeding the young they would never go into the box if they could see any human in the vicinity, even if their beaks were full of mealworms for all the world to see.

When the youngster left the nest it had the same arrangement of colours as the old birds, but it lacked the white band on the chest and its eyes were black. The aviary had a few bushes in it but could not be said to be thickly planted, nevertheless it was extraordinarily difficult to spot the young bird from a distance of only a foot or so. Six months after leaving the nest it had its first moult and is now as glossy as the adults, but the eyes are still black. I caged it up for the winter and it is a most amusing addition to the birdroom. When it has eaten two or three mealworms it then goes all round the cage poking another into a crevice or corner in much the same way as a Magpie, but after a minute or so, and before the unfortunate worm can escape, seizes it again and repeats the performance somewhere else.

The parents are still out with no heat, and I have seen them visiting the nest-box while the aviary was still covered in snow. Now they have moulted the cock seems to be distinctly glossier than the hen.

The next compartment and flight of approximately equal dimensions to that occupied by the Spreos contained one pair each of Longtail Grassfinches, Parrot Finches, Grey-singers, Cubans, Firefinches, Orange-breasted and Blue-breasted Waxbills. They were not put out until July as the flight was not finished until then. The Firefinches and Cubans both reared young, using cylinders of wire netting roofed with a scrap of roofing felt and shoved into standard lilacs and apple trees. The Parrot Finches laid, but the hen died on the nest. Curiously enough the hen Cuban took a violent dislike to the Parrot Finches and would not let them go into the outside flight. I have never found Cubans at all quarrelsome before, but she was evidently an exception.

My other large flight (24 feet by 18 feet by 6 ft. 6 in. at the sides rising to 9 ft. 6 in. at the ridge) contained the following Waxbills: Orange-checked, Golden-breasted (three), Blue-breasted, Grey, St. Helena (five), Black-checked and Violet-eared. There were also Chinese Painted Quail (six), Yellow-rumped Singing Finches (three), Zebras (six), Parrot Finches (five), Red (three) and Green Avadavats (four), and Zosterops, and two odd cock Japanese Blue Flycatchers and one cock Common Redstart. The figures in brackets indicate the number of young fully reared. I believe there were one or two

more, but I cannot now remember, so that the aviary, large though it is, could not be said to be underpopulated. It is planted along both the long sides and the back, and on a hot summer afternoon there was frequently not a bird to be seen.

The only serious fighting occurred between the Redstarts, which, as in the case of the Wheatears, resulted in the death of the hen. Having read that the cock was apt to slay his wife, I took a good deal of care in introducing the pair to each other, keeping first the hen and then the cock caged in an aviary, letting the other have the run of it. After a few short and swift skirmishes when first put into this aviary, each selected one end of the aviary and kept to it, so that I thought my troubles were over, only to find about three weeks later the hen with a severely damaged head, which was obviously the cause of death. Like most pairs on the show bench, this pair were hand-reared and had been kept together in a cage before I bought them. I think this goes to show that small softbills which are solitary in the wild do not attain full vigour when kept in cages, although they may look in good condition and sing well. I think that great breeder of softbills, Teschemaker, was undoubtedly right when he said that it was virtually impossible to breed small insectivorous birds unless they were wild caught, particularly the hen. Nowadays it is almost impossible to obtain wild caught birds and even if one is lucky, their digestions have probably been ruined by being deprived of maggots, mealworms, etc., and fed upon "soft food" alone, as Teschemaker also found in his day.

If I may be allowed to continue to digress on this subject, I should like to add that several aviculturists of to-day have confessed to doubts about the truth of some of the breeding claims made by Teschemaker. Certainly the list is a very long one and in no case did he ever give full details of the feeding. Mr. Frost, the well-known collector, has told me that he used to buy from Teschemaker young aviary bred foreign softbills, but although he saw plenty of young British softbills in the aviaries, he was never allowed to buy them as these were always liberated.

To get back to my own aviary, the biggest draw among visitors, especially children, were the young Quail. In an aviary of this size it was not always easy to get them to show themselves, as the parents nearly always kept themselves and their family under the bushes. The first two nests were both reared quite easily on fresh wood ants' eggs as purchased, which were thrown down twice daily, and small grass seed screenings, maw, and millet seed. When the chicks, which grow extraordinarily quickly, were a few days old the parents would take maggots and offer them to the chicks, who accepted them greedily. Our member, Mr. Enehjelm, of Finland, tells me he has reared them in an indoor birdroom using hard-boiled egg instead of

ants' eggs. My birds certainly had to scramble for the ants' eggs as all the other birds tried to grab their share. I found the easiest way to deal with this was to stand about a yard away from the Quail, which kept off all others except those with young, who would overcome their natural timidity after a few false starts. I left the young with the parents because after about five weeks or so it was almost impossible to distinguish them. The third clutch of six hatched, but as the chicks themselves could not differentiate between their parents and elder brothers and sisters, they would run for warmth to the nearest Quail which, unless it happened to be papa or mama, would have nothing to do with them. All died after two or three days.

In the long grass under the bushes the St. Helenas built a large nest which survived several severe storms. After the first they nested three or four times but never reared. Why, I don't know.

The cock Yellow-rumped Singing Finch was imported but the hen was aviary-bred, the only one reared in the same aviary the previous year. They built in a cup-shaped receptacle made of wire netting and placed high up in a cherry tree. They had innumerable nests and eggs, most of which hatched, but only one nest came to anything. In this they behaved exactly as their predecessors had done. They would take some of all the different foods provided, but seemed to think that flying insects are essential for the rearing of young. The only other account I have read of the breeding of these delightful songsters is that of Teschemaker in 1907 (New Series, Vol. V, p. 198). He also attributed his success to gnats and the like. Soon after, Dr. Butler, that singularly unsuccessful breeder, gave it as his opinion that insects were not necessary to rear these or other Finches. As I have indicated, I emphatically disagree. I know that quite a few breeders of Australian Finches have reared numbers of these birds without any live food. On the other hand, the only seed-eaters which I have bred and which refused to touch any live food were Gouldians, and even then the young, when placed in a large cage with Parrot Finches, soon developed such a keen appetite for maggots that they were always first down when the dish was filled. Unfortunately, all that lot of young Gouldians caught a cough from another bird and died before I could try them as breeders.

Except for the Quail and the Singing Finches I was amused to see how all the other youngsters as soon as they left the nest were enticed by their parents into the shelter, which is very small, being only about 5 feet long by 6 feet high and 2 ft. 6 in. deep.

The other great attraction in this aviary was the Blue Flycatchers. Not only are they magnificently coloured, with their vivid blue plumage set off with pure white underneath, but their flight in a large flight is a great joy to watch, being so swift and graceful. They also have quite a pleasant song, rather reminiscent of the Robin. They are

quite inoffensive either to each other or to other birds. They are so tame that they are almost a nuisance, perching on the hand or head or any other convenient part of the human body.

I showed one of these at the National, gaining a second prize to the Lesser Niltavas, which were judged best Foreign Bird in Show. With all respect to the eminent judges, Allan Silver and K. A. Norris, I should, I think, have preferred the Japanese bird to the Niltavas, not, of course, that I am complaining.

Parrakeets made a very poor showing in 1950, the only young reared being four Golden-mantled Rosellas. The Princess of Wales as usual smashed all their eggs, the Manycolours hatched but failed to rear, and the Mealy Rosellas were infertile. The latter result was surprising as these birds have been at semi-liberty for two years. They are a beautiful sight flying around the beechwoods and swooping down so swiftly and expertly on to the aviaries. The cock later developed a passion for some Peachfaced Lovebirds and was constantly to be seen feeding both old and young through the wire. As the Peachfaced reared five in two nests I did not complain. I did object when the cock Golden-mantled escaped just after his young had hatched, and was promptly driven off by the Mealy. As the Golden-mantled had been at liberty before I had no doubt as to the reason for his departure. It only made it worse when a neighbour in a cottage about half a mile away told me that he had hung about there for a day or two. Being used to receiving visits from some of my birds, he naturally did not realize the true state of affairs.

In one compartment of a range of four small aviaries (each 15 feet by 3 ft. 6 in. by 6 ft. 6 in. high) a pair of Parson Finches reared six youngsters, as did their companions, a pair of Fawn Zebras. While the Parsons were certainly the bosses, they did not unduly disturb the Zebras. Next door were a pair of Parrot Finches and a pair of Quail. The latter hatched three chicks, which were reared by the hen alone as the cock died. As a rule the cock seems to do most of the rearing of the young, but apparently the hen will do what is necessary if she has to. The Parrot Finches were unfortunate, as all their efforts came to nothing, chiefly due to a succession of accidents, most, if not all, of which were attributable to human error. For instance, the door between the two aviaries blew open so the gardener thoughtfully shut it, not realizing that the Parrot Finches were both in the wrong aviary. Being late home that night I did not see what had happened until the next morning. The other two divisions held a pair of Shamas and a pair of Red-collared Lorrikeets, neither of which made any attempt to nest.

The last range of six small breeding aviaries (each about 12 feet long by 2 ft. 8 in. by 6 feet high) contained besides the Peachfaced Lovebirds, Hecks and normal Longtail Grassfinches, Ruficaudas, Fawn

and White Zebras, and Bengalese. All did pretty well and reared a good number of young.

In conclusion, I tried at liberty a few pairs of Waxbills—Cordon Bleus, Orangecheeks, and Firefinches. I put them out in a small aviary, but except for an odd bird or two could not persuade any of them to return to it after the door had been opened. I tried feeding them on a path and it seemed to work well until the discovery of an easy meal by the Sparrows, from which nuisances this rather deserted cottage has in the past been singularly free. I built a rough cage of 1 in. mesh wire netting and put the seed in it. This for a time had the desired effect of allowing the Waxbills to feed while foiling the Sparrows. If the Waxbills were startled when feeding they had some difficulty in getting out and so became too panicky. After a few days most of them disappeared. I caught up the remainder and will not repeat the experiment, as one sees so little of these small birds with all the cover round here. I still have the wretched Sparrows !

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THE “ HUMAN SIDE ”

By THE DUKE OF BEDFORD (Woburn, England)

My aviary attendant asked me the other day if I had ever noticed “ the human side ” of the social life of the inhabitants of the homing budgerigar aviary and I replied that I certainly had ! By “ the human side ” he meant their romances, their quarrels, and their frequent and disgraceful scandals. A cynical aviculturist once said that whereas most parrakeets are immensely respectable, mating for life and being extremely faithful to their partners, Budgerigars are completely “ human ” in that none of the males have any morals and only a certain number of the females ! Whether this sweeping condemnation of humanity is justified I leave to my readers to judge, but alas ! it is all too true of Budgerigars. Take, for example, a yellow-winged green cock called, for obvious reasons, Don Juan. (I decline to describe him as a “ clearwing ” because his wings are not clear, being marked, as are those of most “ clearwings ” I have seen, with green.) By profession he is a “ non-exit ”, i.e. he does not trouble to leave the aviary by the exit hole, probably because he finds too much to occupy his attention inside. He is a handsome bird and, for a breeding Budgerigar, a tame one and will sit on my hand to eat spray millet, but, where the ladies are concerned, he is a sad rascal. Few hens are able to resist him and fewer still are not given the opportunity of showing whether they wish to try ! (This no doubt explains why my homing flock contains a high percentage of not very good-coloured yellows, for a yellow-winged green is not a desirable cross if yellows of buttercup purity are desired.) Don Juan has never had less than two wives plus a certain number of lady friends who are officially

married to other cocks. He started off last year with two yellow hens, both of which produced, in addition to yellows of various shades, a good number of lutinos. From this I judge Don Juan to be a split lutino. One of Don Juan's wives met with a fatal accident last summer but when the breeding hens were returned to the liberty aviary in early March, 1951, for a time he took up with the other one. Unfortunately, however, she suffered from a complaint not uncommon in hen Budgerigars, an excess of house pride combined with an unusual degree of incapacity to make up her mind. She simply *could* not decide whether she wanted a nest on the north side of the aviary or one on the south. Don Juan got fed up with her hawing. Up to a point I could not blame him, but the action he took was a bit drastic. He completely deserted his yellow wife, not merely for another hen, but for *two* others—a new white blue and a homing sea-green. The deserted yellow consoled herself with the best young cock I bred in 1950—a yellow-faced clearwing white cobalt who should have been a homer as he had flown at liberty for a short time when a youngster. Unluckily, however, not then knowing that while you can confine homing hens for long periods without risk, you must leave homing cocks at liberty, I caught him up early in the autumn and kept him shut up in an aviary for the winter. For a time the clearwing and the yellow hen were a happy and devoted couple and she was on the point of laying when I opened the exit hole which I had kept closed for a few weeks to allow one or two fresh birds I had bought in order to introduce new colours, to settle. The moment the exit hole was opened the clearwing was out and off like a scalded cat and was never seen again and with him went a sea-green cock who had been treated in a similar way and a newly-purchased albino cock. A little yellowish-green hen who was another member of the misguided party returned next day. She was one of a brood of second-generation homers whom I nicknamed “ the Emperor Penguins ”. Reared amid the frosts and snows of a most inclement winter, she herself, eight weeks after leaving the nest, laid amid the frosts and snows of an equally inclement spring and has brought up a healthy family. All this, of course, is most immoral from the standpoint of orthodox methods of Budgerigar breeding but I have found in practice that to allow young Budgerigars bred early in the season to rear one brood as soon as they want to does no harm to parents or offspring if the building up of a homing strain be your object.

The yellow hen took her second marital disappointment very hard, as indeed, poor thing, she well might and spent her time either inside her nest or on the perch outside brooding, not on eggs but on the injustices of life and the frailties and follies of the male sex. Admirers who made proposals of marriage to her she snubbed, including the yellow cock who was the most persevering. Finally a day came when

she could endure her disappointment and the contemplation of the infidelities of her first husband no longer. Though a “non-exit” and not a homer, I saw her make a dash for the exit hole, climb on to the roof of the aviary, and fly away. Evening came and she had not returned and I quite thought that she had decided to leave for ever the scene of so many painful memories. The following morning, however, she returned. In the case of those suffering from wounded affection a complete change of scene is usually recommended and it would appear that the remedy works as well with Budgerigars as with human beings. It was at once apparent that the yellow hen was in a happier frame of mind as a result of her trip. She was much kinder to the yellow cock and indeed decided to marry him next day and the marriage has been a great success. He is no erratic fool, like the yellow-faced cock, but a proved and trusty homer who has flown at liberty ever since he left the nest. He is also much attached to his mate and never looks at another hen when she is actually in sight—and that is as much as any Budgerigar wife can reasonably expect of her husband ! There was still a bit of trouble left, however, a legacy from the yellow hen’s past misfortunes. A bird’s reproductive anatomy is curiously linked with its mental state. The yellow hen had had two mental shocks when on the point of laying and now, although once more happily married, in spite of the fact that she had been most prolific in 1950, not an egg could she lay ! Weeks passed by ; she tried one nest-box and she tried another but still nothing happened and it was not until the middle of May, more than six weeks after her return to the breeding aviary, that eggs at last appeared.

The entry of Don Juan’s daughter, a homing lutino, into the society of the breeding aviary was of a decidedly meteoric description. I put her in some weeks after the first lot of hens as there were still some spare nest-boxes and one or two unmated cocks and I hoped her introduction would not cause too much of a disturbance. Directly she was released from the catching net half the cocks in the aviary lost their hearts to the golden vision and proposed to her, regardless of whether they were already married or not. Without a moment’s hesitation she mated with a yellow cock who happened to be the nearest thing with a blue cere (the Budgerigar equivalent for “ in trousers ”) within reach. Immediately after she threw him over for a mauve cock with whom she did a round of inspection of the nest-boxes, a proceeding of which the married ladies already in possession of some of them took a very dim view indeed. Growing tired of the mauve, she next had a flirtation with a white cobalt who apparently assured her that he admired lutinos above everything else—which may have been true, as he had a lutino wife already sitting, a fact which, no doubt, he omitted to mention !

Having had enough of male society for the time being, she then

dashed out of the exit hole and was off for a tour round the countryside. As she had not turned up by the evening I was beginning to fear that she, too, had strayed, but the homing blood told and when I went to the aviary first thing next morning she was back and sitting outside a nest-box of her own, leaving it every now and then to torment her mother on one side and her father's new wife on the other, by putting her head in at the front door and offering unwanted advice on the running of their homes ! A little later she married her first boy friend, the yellow cock and settled down to a domestic life of, I hope, comparative respectability. (I have noticed that an unmated hen Budgerigar commonly selects her nest-box before she selects her husband, rather as a migrating British warbler selects his territory before he acquires his hen.)

The distressing scandal of the opaline cobalt widow provided the next “ human ” incident. The opaline cobalt was mated to a new violet cock who proved a non-exit, her nearest neighbours being a green cock and his white cobalt wife. The violet cock unhappily died of aspergillosis. Next day his widow who, like some other ladies no longer in their first youth who are determined not to remain widows, combined an extensive knowledge of the weaknesses of the opposite sex with a distressing lack of principle, simply threw herself at the green cock's head. He succumbed to her blandishments immediately and his poor wife sitting on the perch outside her home with that fixed expression on her face which hen Budgerigars assume when contemplating the behaviour of other members of their species of which they particularly disapprove, had to witness a most disgraceful flirtation. It has been observed that evildoers commonly grow to hate those whom they wronged. After enduring for several hours the disapproving glances of the injured wife the widow lost her temper and flew at her. The two fell to the ground with a flop locked in mortal combat while all the cocks in the aviary, as is their custom when two hens have a battle royal, collected round in an excited circle to watch the fun and lay odds on the winner. At this point, however, I decided that it was high time to interfere and told the aviary attendant to remove the widow to another aviary. This he did, receiving in the process such a bite as caused him to express lively sympathy for the white cobalt hen. This, however, was not the end of the incident. Nemesis awaited the green cock for one of Don Juan's sons, although he had a wife of his own already, decided that he would like the green cock's wife as well. To this arrangement the white cobalt hen, influenced no doubt by the way her husband had treated her, seemed not particularly averse, so the green cock lost both the widow and his lawful mate which, it must be confessed, was no more than he deserved !

BREEDING OF THE GOLDIE'S LORIKEET

(Psitteuteles goldiei)

By KARL PLATH, Curator of Birds, Chicago Zoological Park,
Brookfield, Illinois, U.S.A.

The first breeding in captivity of a species, especially if it is a first American importation, is a fascinating achievement and one that does not occur too frequently. In our Parrot department, which is certainly one of the best in the country, we have a fine collection from every part of the world, and we have a gratifying number of first records, all of which have been written up in this magazine at one time or another.

This lengthy preamble brings us to the latest, and also a first, record for America, namely the successful breeding of the Goldie's Lorikeet. This little bird, whose native habitat is New Guinea, is about 7 inches long. It is mainly bright green with longitudinal streaks of yellow on the neck and underparts. The head is purplish with a bright red crown. The bill is black. When I first saw them in the wonderful Zoo at Taronga Park, in Sydney, Australia, in 1949, it was my impression that they were the native Varied Lorikeets; but the latter species has a red bill though somewhat similar in coloration. Both birds are of the same genus, *Psitteuteles*.

We received three of these birds from Australia in October, 1949, possibly two males and one female. The difference, if any, is too slight to distinguish them apart. We put nest boxes, partly filled with peat moss and earth, in the large wall cage they occupy during our cold season from October to May, but beyond casual inspection of the nest-boxes, there was nothing to report.

In May they were put outdoors in one of our regular breeding runs—which measure 6 feet by 25 feet by 7 feet high. While they enjoyed the flight space and were very affectionate to one another and two seemed to be together much of the time, there still was no mating activity. Owing to a sudden cold wave they were brought indoors on 25th September. These three birds and a pair of Little Lorikeets (*Glossopsitta pusilla*) from Australia all occupied a wall cage which had three nest-boxes. The Little Lorikeets were kept during the summer in a large breeding run with a number of Australian and African Finches but we have nothing to report on them. In December, 1950, we saw indications of mating interest, and two of the Goldie's Lorikeets spent much time in one of the boxes while the third bird occupied another box across from them. Early in February our Parrot man, Rudy, reported hearing sounds from the box. They were faint, sibilant noises, and our hopes soared. About the middle of the month one of the birds, probably the male (he did have a little

more red on his crown), was often seen to be feeding the female ; he also often fed the third bird. Around this time one of the Little Lorikeets was often on the perch in front of the nest hole. It would seem to be peering inside and appeared to be much interested. These occasions always were when the parents were down below feeding on the liquid food (Mellin's Food, honey, and evaporated milk in water) or on the grapes, bananas or oranges. When one of the parents flew up again, the inquisitive one flew away.

Later in the month when Rudy went in the cage to wash the walls the female would fly at his head. We never looked in the nest though at times a youngster's head appeared in the opening. At this time the two Little Lorikeets were removed to another cage. Early in March, 1951, the youngster tried hard enough to get out but was not encouraged by the parents, who perched near by talking to it in Lorikeet language. The young bird was, of course, smaller and a little duller in colour with some fuzz on the nape. Finally, on 13th March, two young birds were out, the elder exploring all over the wires while the younger went in and out. Later on that day the third of the trio of old birds was seen annoying the youngsters so it, too, was removed and the family seem to be getting along all right. It is difficult to estimate the period of incubation and time spent in the nest. Two young is the usual complement from what we can find out in the scant information published.

The year 1938 was the first year we started breeding the Parrot-like birds. The thirty-odd species received from Australia in 1934, the year the Chicago Zoological Society opened its zoo at Brookfield, stimulated our ambition to attempt their breeding. We started with twelve runs, each 6 feet by 25 feet by 7 feet high, but this number has since been doubled. Since 1938 we have successfully reared the following Parrot-like birds :—

- 35 Swainson's Lorikeets (*Trichoglossus haematod moluccanus*).
- 2 Goldie's Lorikeets (*Psitteuteles goldiei*).
- 1 Black-capped Lory (*Domicella lory*).
- 6 Cockatiel (*Leptolophus hollandicus*).
- 7 Turquoise-rumped Parrotlet (*Forpus cyanopygia*).
- 27 Queen Alexandra Parrakeets (*Polytelis alexandrae*).
- 18 Crimson-winged Parrakeets (*Aprosmictus erythropterus*).
- 36 King Parrots (*Aprosmictus scapularis*).
- 9 Nyasa Lovebirds (*Agapornis lilianae*).
- 3 Eastern Rosellas (*Platycercus eximius*).
- 1 Hybrid Rosella (*P. elegans* × *eximius*).
- 5 Red-rumped Parrakeets (*Psephotus haematonotus*).
- 21 Bourke's Parrakeets (*Neophema bourkii*).
- 4 Turquoiseines (*Neophema pulchella*).
- 109 Shell Parrakeets (*Melopsittacus undulatus*).

Besides these there were unsuccessful attempts—eggs not hatching—of Macaws, Eclectus, Cockatoos, Splendid Parrakeets, etc.

The food for these Lorikeets is the liquid food mixture used for other Lorikeets and Lories (also Sugar Birds, Sun Birds, and Callistes). The proportion as follows : one teaspoonful each of Mellin's Food, honey, and evaporated milk to one cup of hot water. Feed cooled, of course. Besides this they get banana, grapes, orange, and any other fruit they will eat. These Lorikeets don't seem to care for seed, though the Swainson's enjoy Canary seed.

* * *

BREEDING RESULTS AT THE KESTON FOREIGN BIRD FARM DURING 1950

By EDWARD BOOSEY (Keston, England)

The two most interesting events of the 1950 breeding season at Keston were the successful rearing of broods of Turquoisines and Pileated Parrakeets, a pair of the latter hatching and rearing a fine brood of six young ones which very obligingly turned out to be three pairs, one pair of which we are retaining at Keston while the other two are now in the Duke of Bedford's collection at Woburn. Originally the Duke had a young cock and two young hens, as he hoped to be able to mate the second hen to a male he has had for many years, but the latter seems nowadays too old to take any interest in breeding operations, so the second young hen has now been mated to her brother. It is a pity the old cock is past breeding as he is quite unrelated to the others and would have provided fresh blood. It would be redundant to say any more about the breeding of the Pileated as I have already given a full account in the Magazine.

Three Turquoisines—a pair and an odd cock—arrived here in the late summer of 1949, and very fortunately the hen went to nest at once and, even more fortunately, the single young one she reared was a hen, which I was able to mate to the odd cock, so we started the 1950 breeding season with two pairs.

Between them the two pairs reared seventeen young ones, the imported pair quickly going to nest and rearing thirteen young in three broods, while the young hen went to nest later and after rearing a brood of four young ones lost her second brood of four owing to unseasonably early frosts in September just as she had ceased to brood them.

A pair of Splendid Grass Parrakeets were a disappointment because although the hen quickly went to nest, and hatched two broods, she apparently only did so in order to have the sadistic pleasure of

watching them starve to death, as she never attempted to feed them. I managed to put her third clutch of three eggs under Bourkes, and all three were hatched and fully reared into very nice young ones.

The pair of Bourkes were a mystery to me because although the supposed cock did a cock's display and had a rather masculine-shaped head it had not a vestige of blue on the forehead and seemed quite incapable of either laying eggs or fertilizing them. Male Bourkes often have very little blue on the forehead, but a close examination nearly always reveals one or two blue feathers.

Several nice young Elegants were reared, and we now have three pairs of these Grass Parrakeets whose lovely golden green colour I have always admired. They are good breeders but tend to have rather small broods, and they are the only Grass Parrakeets we managed to keep going all through the war years, although it is fair to say that we sent our breeding stock of Splendids away to a safer area as soon as war broke out, and I doubt if there were any survivors by the time the war finally ended.

All the "Old Faithfuls"—Rosellas, Stanleys, Mealy Rosellas, Redrumps (both green and yellow), Lutino and Lutino-bred Ringnecks, Roseate Cockatoos, Cockatiels, Masked and Fischers Lovebirds, etc., mostly did well and it interested me that the fact that some of the Broadtails were once more double-brooded—as they used to be before the war—coincided with one's being again able to obtain hemp seed.

A male Lutino Ringneck, mated to a Lutino-bred hen, produced two greens and one Lutino, and a Lutino hen mated to a Lutino-bred cock reared a fine brood of three Lutinos and two greens. Hybrid Lutino Ringneck \times Alexandrines bred here did not breed, though I hope they, and a hybrid cock—with Lutino blood—mated to an ordinary hen Alexandrine, may do so next year.

A hen Blue-fronted Amazon, bred here before the war, was provided with yet another husband (her previous two having proved infertile), and this time one young one was hatched, but only lived for about a week.

Several thousand Budgerigars of all colours were bred, and also a certain number of Diamond Doves and Long-tailed Grassfinches, the latter, incidentally, rearing their young ones on nothing but seed and greenfood. Many Common and Silver Zebra Finches were reared but the fawn variety proved inexpert at rearing their young, and it was very typical of most people's avicultural experience that, while the pair of Fawn Zebra Finches (which had *always* let their own young ones die) hatched and reared some Silver Zebra Finch eggs that were foster-parented under them, the Silvers, which were given *their* eggs (and had always reared their own) hatched but failed to rear the young Fawns!

About March we obtained several pairs of Senegal or " Laughing " Doves, which are about the same size as the Turtle Dove which has such a pleasant drowsy cooing, and visits this country each year to breed, and I thought them so attractive that I put two pairs in the planted aviary near our house. I like very much their colour scheme of mushroom-pink and slate-blue set off with touches of black and white, and they also coo very pleasantly, though I think the notion that they laugh is a bit fanciful.

At first the two pairs did a good deal of scrapping, but eventually they each established themselves at opposite ends of the aviary, and both pairs reared numerous young ones, which I sent to Mr. Risdon at the Dudley Zoo. They were no trouble at all to feed, eating mainly millet and hemp, and sometimes picking out a little soaked stale bread from among the house-scrap supplied each morning to a Tragopan which shared their aviary.

It is perhaps of interest to record that a male Golden Pheasant which shared an aviary with a couple of hen Golden Sebright bantams did manage to fertilize at least one egg, and this was duly hatched, but unfortunately it was overlaid by the rather heavy broody which was sitting on the eggs, so did not long survive its birth. I was sorry, as it would have been interesting to have seen what it looked like—and also I should have liked to have been able to say that—while many people declare they have *seen* Phantoms—I was the first person ever to breed one !

* * *

BRITISH AVICULTURISTS' CLUB

Meetings and Dinners during the 1951-52 session have been arranged for the following dates :—

12th September, 1951.

14th November, 1951.

9th January, 1952.

12th March, 1952.

14th May, 1952.

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

OBITUARY

"E. H."

1869-1951

Emilius Hopkinson, elder son of the late Jonathan and Emily Elizabeth Hopkinson, of Frant, Sussex, died on 12th June, 1951, in his 83rd year.

Educated at Haileybury and Trinity College, Oxford, he entered the medical profession through St. Thomas's Hospital. After service in South Africa, 1900-1901, as Surgeon-Captain, 15th Battalion Imperial Yeomanry, where he was mentioned in dispatches and awarded the D.S.O., and Queen's Medal with four clasps, he commenced his service in the Gambia—destined to be the longest period ever served in West Africa by a British representative from the Colonial Office. He was Medical Officer, West African Frontier Force, Gambia, 1901-1902; Protectorate Medical Officer, 1903-1911; and Travelling Commissioner, 1911-1929: a C.M.G. was conferred in 1922.

Amongst his more important publications are *A Vocabulary of the Mandingo Language* (1912) and *Notes on Protectorate Laws, Gambia* (1925).

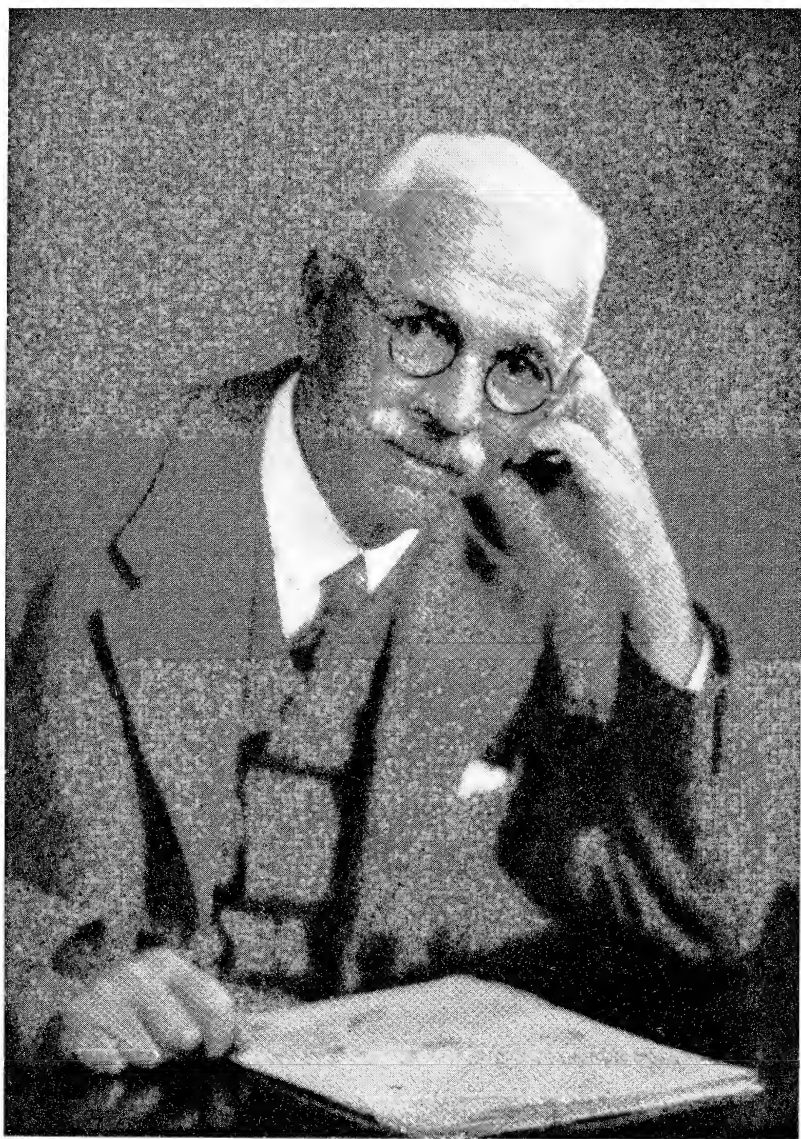
"E. H." was a doctor, soldier, and administrator, but we knew him best as an ornithologist and aviculturist. He was interested in many learned and scientific societies, but his favourite was undoubtedly the Avicultural, with which he had a very long association. He was elected a member in 1906, and a Vice-President in 1924, on amalgamation with the Foreign Bird Club, of which he was already a Vice-President.

His long absences abroad prevented his indulgence in practical aviculture to any great extent, but he managed to maintain a small collection at Balcombe, and bred quite a number of the less difficult species.

On his annual leaves he invariably brought home a few rare birds, and the collection of the Zoological Society was considerably enriched by his presentations.

The Doctor delighted in compiling lists, whether of birds imported, exhibited, bred, or of other matters connected with them. Much of his time in England was devoted to accumulating data, later, on his return to the Gambia, to be correlated, and destined eventually to appear in *Bird Notes* or the AVICULTURAL MAGAZINE.

To the ornithologist his best known work is perhaps *A List of the Birds of the Gambia* (1919), but to the aviculturist, *Records of Birds Bred in Captivity* (1926), the model on which all subsequent lists have been based.

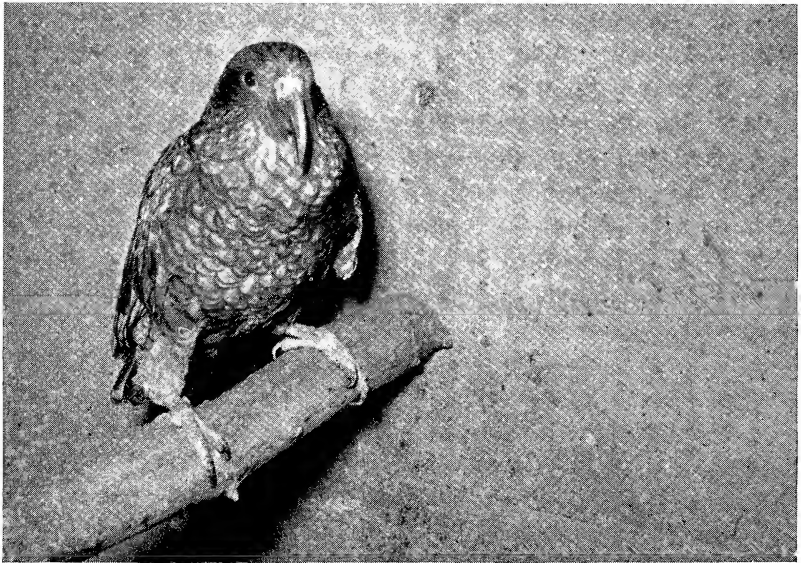


DR. EMILIUS HOPKINSON, C.M.G., D.S.O.
Vice-President Avicultural Society, 1924-1951.

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CROWNED PIGEONS AT WASSENAAR ZOOLOGICAL GARDENS.



Copyright]

KEA AT WASSENAAR ZOOLOGICAL GARDENS.

[G. de Goederen

[To face page 139

By his charming personality and kindly manner, Emilius Hopkinson endeared himself to all with whom he came in contact. His passing will be deeply felt by his large circle of friends throughout the world.

A. A. P.

* * *

A VISIT TO THE ZOOLOGICAL GARDENS OF WASSENAAR

By G. DE GOEDEREN (Amsterdam, Holland)

The Zoological Gardens of Wassenaar are situated some 3 miles from The Hague and cover approximately 12 hectares (30 acres).

During the last few years I have been a regular visitor to this Zoo, and it may be of interest to members of the Avicultural Society to know that it is a private foundation of Mr. P. Louwman, one of the great bird-lovers in Holland. The whole Zoo is conducted by Mr. Louwman himself and his general secretary, Mr. W. W. Diedrich.

The situation is ideal, not only from a zoological point of view but also on account of the beautiful surroundings, and the whole collection is an important one in this country.

I shall try to describe a part of this collection, but such a description can be hardly more than an impression and will at best give a poor idea of the whole.

The Zoo is open to the public at an entrance fee of 2s., and there is a well-illustrated guide available for the visitor to the whole property, the natural surroundings of which are unimaguably beautiful.

The gardens lie in a wood with some ponds and low hills, and all the animals live in perfect houses and bird-rooms provided with good natural protection against our capricious climate.

The very excellent labelling on weatherproof copper plates with details of the inhabitants of the houses and compartments deserves your attention, and should the weather prove to be bad there is a cosy café. A great part is laid out as a playground for the children. I shall not describe the collection mentioning the houses separately, because this would take too much space, but you will find in this Zoo beautiful specimens of all the animals that every Zoo possesses and also some rare species.

I must call your attention to two fine chimpanzees reared by Mrs. Louwman under very difficult circumstances. As I told you, the animals are living in capacious houses not placed in a row but spread all over the whole garden. But now I must begin with the description of the birds which live in the many bird-rooms supervised by Mr. Louwman and Mr. Diedrich.

In the first place, I would ask my readers to follow me to the largest pond enclosure, with little islands and surrounded with trees and shrubs. The inhabitants are as follows :—

Swans.—Black and Mute Swans.

Geese.—Red-breasted, Spur-winged, Canada, Lesser Canada (*Branta minima*), Barnacle, Bean, Bar-headed, Egyptian, White-fronted, and Upland.

Ducks.—Mandarin, Carolina, Cotton Teal, White-faced Tree (*Dendrocygna viduata*), Red-billed Tree (*Dendrocygna autumnalis*), Common Sheld-duck, Ruddy Sheld-duck, Mallard, African Yellow-bill (*A. undulata*), Crested, Gadwall, Wigeon, Pintail, Bahama, Common Green-winged, Garganey Teal, (*A. querquedula*), Shoveler Rosy-billed, Crested Pochard, Common Pochard, Tufted (*Nyroca fuligula*), White-eyed, Common Scaup, Golden-eye.

Flamingos.—Argentine, Egyptian, and Eastern Roseate; and African and Indian Adjutants, South American Tantalus, White and Black Storks, as well as Yellow-billed Curassows.

Some Herring Gulls are fully capable of flying, but remain in the garden, together with a Razorbill which was a victim of oil and after treatment recovered inasmuch as it now enjoys swimming in the pond with the ducks.

To left of the pond enclosure you will find a big outdoor aviary planted with little trees and shrubs and inhabited by the big European birds, such as Raven, Jackdaws, Magpies, Heron, Bittern, etc.

The whole cage is fully shaded by trees and has a little pond. Behind this aviary you will see another big outdoor aviary with some birds of prey, and I saw African White Vulture, King Vulture, Golden Eagle, and Lammergeier.

After walking along a long row of compartments containing rodents we arrive at the first set of thickly planted outside flights, and I will mention some of the inhabitants I can remember :

Princess of Wales's Parrakeets, Swainson's, Edward's, Ornate, Forsten's, Chattering Lories, Bourke's and Rosellas, Budgerigars and Lovebirds (*fischeri*, *nigrigenis*, *personata*, *roseicollis*), together with Pheasants such as Lady Amherst, Golden, Impeyan, Swinhoe, Nepal, White, and Common.

Far behind the large pond enclosure, at right, we find several acres of land with low hills where Sarus, Manchurian, West African Crowned Cranes, and other fowl live under excellent conditions together with deer, etc. I saw also in some outdoor bird-rooms a Secretary Bird, Kagu, and Rufous-vented Guan.

Then we go to the long row of birds of prey aviaries, and I will mention the species I remember :—

Spectacled, Tawny, Barn, Eagle, Short-eared, Snowy (since 1934 fem.) Owls, as well as Hobby, Kestrel, Tawny Eagle, Brazilian

Caracara (*Polyborus tharus*), White-headed Chimachima. One of the Brazilian Caracaras came from the collection of Mr. Blaauw, where it had been since 1904. Imperial, Crested (*Spizaetus bellicosus*), Golden (old male), White-tailed Eagles, Black Kite (a pair of Kites bred successfully during the war and reared two young). Condor, Turkey, King, Sociable (*Otogyys auricularis*) and Griffon Vultures, and Lammergeier.

I shall conclude with the big heated indoor bird-house with rows of cages on both sides. Outside the heated indoor bird-room you will find two rows of huge open outdoor aviaries 3·5 metres wide, 4 metres high, and with a depth of 9 metres, some with little ponds and all planted with shrubs, containing the following birds :—

Cage No. 1.—Green-winged Macaws, Blue and Yellow Macaws.

Cage No. 2.—Crowned Pigeons (*Goura coronata*).

Cage No. 3.—Black Bulbuls, Hardwick's Fruitsucker, Golden-fronted Fruitsucker, Scarlet Tanager, Shama.

Cage No. 4.—Black-capped Virginian Nightingale, Golden-shouldered Parrot, Green-winged Doves, Lady Amherst Pheasant.

Cage No. 5.—Green Glossy Starling, common Pheasants.

Cage No. 6.—Breeding pair of Rosellas, Lady Amherst Pheasant.

Cage No. 7.—Long-tailed Glossy Starling, White-crested Touraco, Splendid Glossy Starling, Jamaican Hangnest.

Cage No. 8.—White-crested Jay-Thrush, White-throated Jay-Thrush, Striated Jay-thrush, Black-headed Jay, American Blue Jay, European Blackbird, Scarlet Ibis, Godwit, Lapwing, Oystercatcher.

Cage No. 9.—Starfinch, Black-headed Gouldian Finch, Red-headed Gouldian Finch, Diamond Sparrow, Bichenos, Rainbow Finch, Indigo Finch, Nonpareil, Three-coloured Nun, Cut-throat, Spice Finch, Cordon Bleu, African Silverbill, Lazuli Finch, Pintailed Grassfinch, Masked Grassfinch, Parson Finch, Green Singing Finch, Many-coloured Tanager, Blue-and-black Tanager.

Cage No. 10.—Mistle Thrush, Great Spotted Woodpecker, Bullfinch, Brown-cheeked Conure, Rufous-breasted Wood-rail.

Cage No. 11.—Pagoda Starling, Malabar Starling, Golden Plover, Water-Rail (since 1925), Brown-eared Conure, Red-rumped Parrakeet, Green Glossy Starling, Pied Mynah, Wattled Starling.

Cage No. 12.—Pennant's Parrakeet, Yellow Conure, Black-headed Conure, Red-headed Cardinal.

Cage No. 13.—Plum-headed Parrakeet, Bearded Parrakeet, Green Ring-necked Parrakeet.

Cage No. 14.—Fischer's Lovebird.

Cage No. 15.—Black-cheeked Lovebird, Crimson-winged Parrakeet.

Cage No. 16.—Masked Lovebird, European Finches, Cinnamon Doves, Rice Birds.

Cage No. 17.—Blue *personata*.

Cage No. 18.—Bourke's Parrakeets, Chinese Bulbuls, Red-eared Bulbul, White-eared Bulbul, White-eared Coly, Long-tailed Whydah, Pekin Robins.

The double row of cages in the heated indoor bird-room include the following splendid collection :—

Spot-billed Toucanet, Lettered Aracari, Banded Aracari, Cayenne Aracari, Maximilian's Aracari, Cuvier's Toucans, Golden-breasted Aracari, *Amazona amazonica*, *Amazona aestiva*, *Amazona ochrocephala*, Grey Parrot, Timneh, Bare-eyed Cockatoo, Müller's Parrot, Orange-crested, Greater Sulphur-crested, White-crested Cockatoos, Lead-beater's, Banksian Cockatoos, Red Eclectus, and a very fine specimen of a Kea, Hyacinthine Macaw, Yellow-winged Macaw, Satin Bower Bird, Yellow-collared Macaw, Hardwick's Fruitsucker, Palm Tanager, Indian Blue Roller, Golden Conure, Vernal Hanging Parrakeet, Magnificent Bird of Paradise, Long-tailed Grassfinch, Levaillant's Barbet, Black Lory, *Agapornis roseicollis*, *fischeri*, *personata*, *nigrigenis*, Lesser Hill Mynah, Red-capped Whydah, Blue Bishop, Saffron Finch, Yellow-billed Hornbill, Diamond Sparrow, *Pionus menstruus*, Textor Weaver, *Cissa sinensis*, Violet Tanager, Red-headed Finch, Crimson-breasted Conure (*Pyrrhura rhodogaster*), Hawk-headed Parrot, Grey-breasted Parrakeet, Pennant's Parrakeets, Senegal Parrots.

There are as well four large aviaries with Pied Hornbills, Southern Kookaburra, Toco Toucans, Green-billed Toucans, Discolor and Ariel Toucans, and a large cage of glass with Yellow-winged Sugarbirds.

Then I must conclude with the cage of plate-glass built for the Humming-birds, in which the species are Ruby, Topaz, Allen's, Emerald. This attractive exhibit is a very popular one with the visitors, as these tiny creatures are very beautiful birds. The cage is 10 feet high by 10 feet deep and planted with an assortment of flowers and plants, producing a beautiful effect. The food bottles are hung in various positions to give the birds a choice of feeding places; the temperature is maintained at 80° and the plants are watered daily.

The spectator can see the capturing of fruit flies and the taking of food from the bottles, and when the Humming-bird comes in front of him the display of its glittering gorget and crest.

I have tried to give a short description of the Zoological Gardens of Wassenaar, and hope I have succeeded in giving an impression—be it a short one—of this beautiful Zoo. I advise all the members who come to Holland to pay a visit to these Gardens, and I am sure they will have a good time.

THE BREEDING OF THE BLUE RINGNECK

By The DUKE OF BEDFORD (Woburn, England)

In a previous article I have written that the pair of Indian Ringnecks I received in the winter of 1949 did not nest the following year, as the hen, from her short tail and general appearance, was obviously only a year old. That autumn she moulted out a very fine bird and the adult cock also improved considerably in appearance. They are fed on the usual seed mixture and are provided with a whole apple, to eat as much of as they wish, and not merely with a slice of apple. They are also given, when they can be spared, a few grapes. In the spring, sweetened milk-sop was added, of which they eat a certain amount when rearing young. Green food I do not bother about, as birds of their family do not seem to care about it when they can get plenty of fruit. They are housed in a 24 ft. by 8 ft. by 8 ft. movable aviary. During the winter I keep a lamp in the shelters of all the *Psittacula* parakeets except the Derbians, to keep the temperature just above freezing and prevent the birds' feet from being damaged by frost-bite. This trouble is only likely to occur with Ringnecks during really severe frost, but the feet of Malabar and Layard's Parakeets are very tender.

In case of any disaster during the breeding season I bought a pair of ordinary Ringnecks to act as foster-parents. They came to me with rather a bad reputation as breeders as, for two seasons, their eggs had failed to hatch. As events subsequently proved they, or rather the cock, deserved the bad reputation, though not for the reason expected. All four eggs laid by the greens were successfully hatched, but when the young were half grown the cock decided to murder them, and was only prevented in the nick of time through the intervention of his wife (whose eye he injured) and of my aviary attendant, who removed him and placed him in durance vile. The young birds were successfully reared by the hen alone and are very good specimens.

Ringnecks as a rule want to nest very early in the year, regardless of the weather, but the blues were not particularly anxious to begin, and it was mid-April before they really settled down to business. I was doubtful whether success would be achieved as the cock is a rather funny-tempered bird and for some strange reason his wife appears to get on his nerves, especially in the morning! Even during the breeding season he will sometimes chase her about in a rather ill-natured fashion early in the day, although the same afternoon he may be displaying to her and feeding her.

In due course, however, she disappeared into her nest-box, from which time onwards events moved peacefully to the successful and happy conclusion of three lovely young birds emerging at the very end of June. They were strong on the wing from the first and, as is common

with young Ringnecks, exceedingly wild and nervous. The cock has proved an excellent father and although still short-tempered with his wife, treats his children with forbearance, even now that they are feeding themselves.

The blue coloration of an Indian Ringneck or an Alexandrine is not the brilliant sky-blue of a blue Budgerigar but a soft powder-blue, which is equally pleasing in its way and is greatly admired by all who see it. The cock's ring is white, the black moustachial markings being retained.

* * *

NEWS AND VIEWS

The Directors of the Dudley Zoological Society, Ltd. (through D. H. S. Risdon) kindly invite members of the Avicultural Society to lunch at the Dudley Zoo on Saturday, 8th September, 1951.

The invitation to lunch is *confined to members*. Free admission to the Zoo is offered to friends, and lunch may be reserved for them. Members intending to accept the invitation must notify the Hon. Secretary, 61 Chase Road, Oakwood, N. 14, before 1st September, 1951.

The Dudley Zoo is 117 miles from London, 9 miles from Birmingham, 12 miles from Kidderminster, and 6 miles from Wolverhampton.

Suggested trains (subject to confirmation) from and to London are :—

Leave Euston . . .	8.55 a.m.
Arrive Dudley Port . . .	11.50 a.m.
Leave Dudley Port . . .	4.32 p.m.
Arrive Euston . . .	7.45 p.m.
and	
Leave Dudley . . .	5.10 p.m.
Arrive Paddington . . .	8.40 p.m.
Monthly Return, 1st class, 48s. 11d.	
3rd class, 32s. 7d.	

There are excellent bus services from Birmingham, Wolverhampton, Walsall, Stafford, and other large towns within a radius of twenty miles.

The Zoo is two minutes walk from the bus stop ; two minutes from Dudley Station ; 1½d. bus ride from Dudley Port Station.

* * *

A small, but representative, party gathered at the New Grounds on 28th April, to view the vast collection of the Severn Wildfowl Trust. The day was dull and cold with a piercing wind and all the party had travelled long distances by road but, nevertheless, on leaving all were agreed that the visit had been very worth while.

Lack of space precludes a list of the birds seen, but mention must be

made of the Hawaiian Goose, Hawaiian Duck, Philippine Duck, and Hartlaub's Duck. Members were conducted by Peter Scott and John Yealland and in thanking them special tribute must be made to their great patience in answering innumerable questions.

* * *

The President's Garden Party was on 26th May. For once we did not have the proverbial "President's weather"—it rained solidly all the afternoon! It must have been a great disappointment to Mr. and Mrs. Ezra as this promised to be one of the largest and most successful parties.

While the bad weather prevented members and guests enjoying the attractions of Foxwarren Park, it afforded them unusual opportunities of greeting old friends and making new acquaintances. Let us hope that next year we shall once again have the pleasure of seeing the Blackbuck leap.

* * *

Monsieur de Strel, Secretary to Her Majesty Queen Elisabeth of Belgium, writes that the Black Swans presented by the Society in 1949 are well and flourishing, but so far have shown no sign of nesting.

* * *

The Nederlandsche Ornithologische Vereeniging celebrated its 50th anniversary at the end of May.

The President and Council of the Avicultural Society sent congratulations and best wishes by Miss P. Barclay-Smith who attended the celebration.

* * *

A major construction is nearing completion at the Zoological Gardens, Chester. It is a Macaw aviary 60 feet long, 24 feet wide, and 12 feet high. Another flight is under way for Eagles and Vultures.

* * *

Peter Scott is leading the Severn Wildfowl Trust Expedition to Central Iceland. The party of six, including James Fisher and Dr. Finnur Gudmundsson, is due to leave Reykjavik on about 22nd June and will return mid-August.

Between October, 1950, and January, 1951, nearly 600 Pink-footed Geese (*Anser fabalis brachyrhynchus*) were caught in rocket propelled nets and marked by the S.W.T. The object of the present expedition is to visit the breeding grounds of these birds and to catch and mark young birds and flightless adults.

* * *

Misfortune overtook the young Sarus Crane and the Blue and Yellow Macaw bred at the Edinburgh Zoo during 1950.

Owing to the pugnacity of the parents it had not been possible to pinion the young Crane when very young. While waiting for it to get over the first moult it became airborne in a high wind. It caught a leg in the fence of the enclosure and was found outside with it broken : amputation failed to save its life.

The Blue and Yellow Macaw died as the result of a broken jaw, sustained in a fight.

* * *

“ As a result of an agreement made on the 21st May between the British Federation of Master Printers, the Newspaper Society, and the Printing Trades Unions new rates of wages came into operation as from the week ending 8th June.”

Shortly, the cost of printing the Magazine has been increased by a further ten per cent.

Council is proud of the fact that the Avicultural Society is the only society of similar standing that has not increased its subscription—it has stood at £1 since 1918 !

If the Magazine is to be maintained at its present high standard members must make every effort to increase the membership, and thus assure funds for its continued issue at the present size.

A. A. P.

* * *

NEWS FROM AMERICA

The Southern California Chapter of the Avicultural Society has held the following meetings :—

4th February, 1951, at the home of Mr. and Mrs. L. S. Gilmer, 8806 Tobias Avenue, Van Nuys. Mr. Rudkin reported that his Lutino Ring-necks were sitting, also the Pennants and his African Greys were showing signs of nesting. Mr. Cochran announced that he had raised fifty-one Gouldian Finches last year. Mr. Buteyn gave an account of the wonderful collection of birds he had acquired in the last six months, and stated that among them were twenty Red Rosellas. The afternoon was spent in looking at Mrs. Gilmer's forty-five aviaries.

4th March, 1951, at Plummer Park, 7377 Santa Monica Blvd. The guests included Mr. Sidney Porter from England. A discussion on the raising of Lineated Parrakeets was held, and it appeared that no one had been successful in raising these nice little birds. Mr. Lee stated that all birds could eat citrus fruits except in the months of December and January, and that the oranges in those months were too green and harmful to the birds at that time. Avacadoes are all right for birds, but the blossom is injurious and also the bark is not good for them. It was stated that figs were good for birds, but that the

leaves sometimes killed them. It was reported that seed was getting scarce, and that there were substitutes that could be used to help out the seed such as Pigeon food soaked overnight, also corn and wheat soaked. Mr. Brinker stated that the warm weather then the sudden cold weather had killed a large number of birds this spring, mostly from egg binding. Mr. Jerone Buteyn from San Luis Rey has bought the wonderful collection of birds from Mr. Putnam in San Diego, California, who recently passed away. Mr. Rudkin brought his beautiful White Sulphur-Crested Cockatoo and Blue and Gold Macaw, which were admired by everyone. He invited all members to his home on 18th March, in honour of his father's birthday.

1st April, 1951, at Plummer Park, Hollywood, California. It was reported that Mr. Reagon, of the South California Bird and Pet Exchange, had a great many Mynahs if anyone wanted any. Mr. Burson stated that his Conures had three eggs, and that last year he raised two, but the parents cut the wire and released them and he never got them back. Mr. Dimitri, from Long Beach, stated that he thinks he has two female Lorics, and would like to get a male or two. Mr. Rudkin, Jr., stated that he had one Chattering Lory, and that his Leadbeaters should hatch to-day, and has three young Lutinos in the nest, and the Eclectus and Turquoisines are on eggs. The Sulphur-Crested Cockatoo had eggs, but these were not fertile, and the Gang Gangs were going in and out of the nest. Mr. Gilbert Lee, Programme Chairman, showed some films in colour of Birds of Paradise.

OLIVE W. GILMER,
Recording Secretary.

* * *

LONDON ZOO NOTES

By C. S. WEBB

Since my last notes a fair number of new birds have been acquired. From Kenneth Smith, recently returned from Sierra Leone, we obtained the following :—

- 2 White-faced Tree-ducks (*Dendrocygna viduata*).
- 1 African Woolly-necked Stork (*Dissoura episcopus microscelis*).
- 1 Piping Hornbill (*Bycanistes buccinator*).
- 1 West African Little Sparrow Hawk (*Accipiter minullus erythropus*).
- 1 Black Heron (*Melanophoyx ardesiaca*).

The latter did not survive, which is a great pity, as it has most interesting feeding habits. I have often watched Black Herons feeding in the rice-fields of Madagascar, fascinated by their behaviour. From a stationary position, or when walking very slowly through water, one foot is suddenly thrust forward as if the bird is making a

particularly long stride and at the same moment the head is held down while the wings are spread outwards and forwards until they meet, forming a complete canopy over the head. This provides shade in water that is otherwise dazzling in the brilliant sunshine, and so enables the bird to see clearly any form of animal life underneath. This whole action of wing-spreading is accomplished so quickly that the bird looks like some mechanical object being operated with springs. After a few moments the wings are brought back to the normal position, and then the operation is repeated. It is a remarkable sight to see a number of birds performing in this manner.

The Marquess of Bute sent us a number of birds—mostly nestling birds of prey—which were collected on his estates in Southern Spain, near Gibraltar. They included Griffon Vultures, Bonelli's Eagles, Black Kites, Kestrels, a European Tawny Owl, a Little Owl, and an Egyptian Vulture. The latter was the only adult specimen. The young Griffons on arrival were covered in down, their bodies resembling those of plucked geese. One weighed $11\frac{1}{2}$ lb., and another, a few weeks older, 14 lb.

From the Ameer of Bahawalpur we received a collection of birds from the N.W. India Zone. These included various seed-eaters, palm-doves, Turtle Doves, White-eared Bulbuls, Chukor Partridges, Black Francolins, and Black-breasted Sandgrouse (*Pterocles orientalis*). The latter species has not been in our collection since 1934.

Also received were 1 Red-crested Finch (*Coryphospingus cucullatus*), 1 Water Rail, 1 Red-headed Cardinal (*Paroaria dominicana*), 1 Greater Sulphur-crested Cockatoo, 2 Alpine Choughs (*Pyrrhocorax graculus*) from the Basle Zoo, 1 Bahama Duck, 2 Upland Geese (transferred from Whipnade), 3 Satin Bower Birds, 1 Lesser Niltava, 6 Chilean Flamingoes, and a Black-headed Oriole (*Oriolus xanthornus*) from Ceylon.

The most interesting breeding success at the moment is the rearing of two Magellan Penguins (*Spheniscus magellanicus*)—the first of this species to be bred in the London Zoo. I am not sure if they have been bred elsewhere.

Several of our Gulls, Gannets, and Night Herons are nesting, but no results yet (12th June). There is also an interesting affair taking place in the British Birds Aviary where there is a nest of three Stone Curlew eggs in full view of the public. The parent birds take turns to sit. The incubation period is nearly ended, so we are anxiously awaiting results as there appear to be no breeding records of this species in captivity.

A number of Pheasants have hatched out, but nothing particularly rare. To offset our successes some youths have been active stealing or smashing up clutches of waterfowl eggs—in some cases about to hatch—including Carolinas, Spot-bills, and Canada Geese.

REVIEWS

RECORDS OF PARROTS BRED IN CAPTIVITY. PART I. LORIES AND LORIKEETS. PART II. COCKATOOS AND MACAWS. By ARTHUR A. PRESTWICH. London, 1950 and 1951. 7s. 6d. each part net.

These excellently presented volumes are the result of thirty years' work and are yet further evidence of Mr. Prestwich's careful, systematic, and wide research on the subject of breeding records or birds in captivity.

The records are given in narrative form and the value of the book is greatly enhanced by the fact that many quotations are given in full. This is most helpful particularly as many of the works quoted are scarce and difficult of access.

The author also asks for information of any possible unrecorded breeding successes and stresses the importance of recording all results in one of the recognized avicultural or ornithological journals.

All aviculturists will find the book of the greatest interest and no serious student of the subject should be without it.

P. B-S.

BIRDS WILD AND FREE. By Commander A. W. P. ROBERTSON. W. and J. Mackay and Co., Ltd. 16s. net.

Although the reader may find, as he is warned by the author in the preface, that this book contributes little to his knowledge of scientific ornithology he will nevertheless find it eminently readable.

The bulk of the book is taken up with experiences of photographing and observing birds in Cheshire and on the East Coast. These are told with feeling and humour so that the reader himself shares the disappointment when a Pied Flycatcher's nest turns out—after the hide is up—to be only a Robin's, and feels both pity and exasperation for the foolish but irascible Swan family trapped on a steep sided lake.

A chapter on "The Farming Village" is a pleasing diversion, still mainly ornithological in character. The final chapter on bird identification is perhaps the best of all and will be of the utmost help to the beginner. The author draws attention to many interesting points of bird behaviour and makes some original observations. One could indeed wish that these subjects had been dealt with at greater length and with more evidence but this probably would have been out of place in a book of this character.

The author's views on what he considers vermin are, however, less pleasing. Such a childish cliché as "black-hearted brute" for the Carrion Crow, or the self-contradictory statement that a certain area has more Magpies than the land can support, come as a painful surprise from a writer who elsewhere shows such feeling and talent. Few who are not blinded by prejudice will agree that the Grey

Squirrel is not beautiful, and if it is not useful to man at least it performs a great service to our wild-life, by drawing upon itself the destructive rage of many whose love of killing would otherwise be gratified at the expense of native birds or mammals.

The book is copiously illustrated with pleasing and interesting photographs of breeding birds. The Stockdove, whose portrait when about to enter its nest-hole has appeared in so many books and magazines, is here shown about to leave its nest, a welcome change even though it is, apparently, the same hole and the same Stockdove.

D. G.

A BOOK OF DUCKS. By PHYLLIS BARCLAY-SMITH, with illustrations by PETER SHEPHEARD. Penguin Books, Harmondsworth, Middlesex. 1951. Price 3s. 6d. net.

A small popular book on a well-known group of birds has great educational value if it is accurate as well as simple and well conceived. The excellent work by Miss Barclay-Smith on the ducks of Great Britain gives full satisfaction. It says briefly what should be known by all on ducks as birds, as game, and also as pets. The essentials of their behaviour and their migrations are given in a general introductory chapter. Then the sixteen species usually found in the British Isles are listed, with their vernacular names in English, French, German, and Dutch as well as their scientific Latin designation. A page of text applies to each plate, on which the drake is figured in colour while the female is represented by a line drawing.

The work of Mr. Shephard is satisfactory as a whole; the surface feeding species are correctly drawn, while the Pochard's shape does not appear to be quite well understood by the artist; but the Goldeneye, the Eider, and the Mergansers are excellently depicted.

This little book will certainly prove most useful to thousands of readers.

J. DELACOUR.

THE AUDUBON BOOK OF BIRD CARVING. By JOHN L. LACY, as told to TOM MOORE McBRIDE. New York: McGraw-Hill Book Co. Illustrated, pp. 124; 1951. \$3.50.

Are you a bird enthusiast in need of another and related hobby? Or merely someone with time on his hands and a yen to create? Perhaps a lad or lass of leisure with talent going wearily to waste?

Do you like sometimes to take a sharp knife and a piece of soft wood and whittle, just for relaxation? Wouldn't you like to whittle creatively; that is, make something besides shavings and an onslaught upon time? "Me? Carve?" you ask. "Man, that's *art*—sculpting. Too difficult. I can't coax a decent figure out of soft stuff, like soap or clay—a lot easier to shape than wood."

Get this book (beautifully printed, and so bound that it will lie open of itself at any page) and let Lacy and McBride convince you that you, too, and anybody else that can cut and polish to line and curve, can whittle out beautiful bird likenesses. They'll make it obvious to you that by following the simple and clear but detailed instructions (richly illustrated with photo-engravings and drawings) you can, with few and inexpensive tools and no great expenditure of effort but a reasonable outlay of time and care, become a skilled maker and colourer of "birds in wood".

Long before you have made and painted to your fair satisfaction one facsimile each of the twenty-nine species of birds for the carving and colouring of which you are given explicit directions, you will be expert enough to venture into other fields, for variety, if you are so inclined. The exercises set, by their very completeness of detail, may very well serve the beginner as a thorough introduction to the problems and possibilities of artistic carving.

Bird students who take up bird-carving are sure to find themselves learning much about bird form and bird colouring that they supposed they knew, but didn't.

CARL NAETHER.

* * *

NOTES

COLLECTION OF BIRDS BROUGHT BACK BY KENNETH SMITH AND J. D. L. FLEETWOOD FROM SIERRA LEONE.

List of birds, included in the general zoological collection, landed at London docks on 5th May, 1951, and brought back by Kenneth Smith and J. D. L. Fleetwood :

1 African Great White Heron (*Egretta alba melanorhyncha*); 1 Squacco Heron (*Ardeola ralloides*); 5 Buff-backed Herons (*Bubulcus ibis ibis*); 2 West African Reef Herons (*Demigretta gularis*); 3 African Greenbacked Herons (*Butorides striatus atricapillus*); 1 Black Heron (*Melanopteryx ardesiaca*); 1 White-crested Bittern (*Tigrionis leucolopha*); 5 African Woolly-necked storks (*Dissoura episcopus microscelis*); 1 White-breasted Cormorant (*Phalacrocorax carbo lucidus*); 2 White-faced Tree Ducks (*Dendrocygna viduata*); 1 Piping Hornbill (*Bycanistes fistulator*); 1 Sierra Leone Fruit Pigeon (*Vinago calva*); 2 Green-headed Olive Sunbirds (*Cinnyris verticalis*); 6 Senegal Parrots (*Poicephalus senegalus*); 8 Red-faced Love-birds (*Agapornis pullaria*); 1 African Ring-necked Parrakeet (*Psittacula krameri krameri*); 2 West African Red-eyed Turtle Doves (*Streptopelia semitorquata erythrophrys*); 4 West African Tambourine Doves (*Tympanistria tympanistria fraseri*); 2 West African Red-billed Wood Doves (*Turtur afer afer*); 4 Green Singing Finches (*Serinus mozambicus*); 1 Crested Guinea-fowl (*Guttera cristata*); 2 Spurwinged Geese (*Plectropterus gambensis gambensis*); 1 Pied Crow (*Corvus albus*); 1 West African Bush Owl (*Strix woodfordi nuchalis*); 2 Black and White Sparrow Hawks (*Accipiter melanoleucus*); 1 West African Little Sparrow Hawk (*Accipiter minullus erythropus*); 1 Lizard Buzzard (*Kaupifalco monogrammicus*); 1 Banded Gymnogene (*Gymnogenys typicus*); 1 Ayre's Hawk Eagle (*Hieragetus ayresi*); 1 Eagle (species ?); 12 Hooded Vultures (*Necrosyrtes monachus*).

In addition, 2 Abyssinian Spotted Eagle Owls (*Bubo africanus cinerascens*) were brought back for Mr. G. T. Iles, of Belle Vue Zoo, Manchester, as a gift from a Sierra Leone resident, and in April 4 Hartlaub's Ducks (*Cairina hartlaubi*) were sent by air to the Severn Wildfowl Trust.

CORRESPONDENCE

LONGEVITY IN PARROTS

I have a Blue-fronted Amazon cock which came into my possession in 1921. It was purchased in Las Palmas, and was feeding on the usual boiled maize. I had difficulty in weaning him off this on to the usual seed diet, and nearly lost him whilst the acclimatizing process was going on.

He used to lie on his back wrapped in flannel before a gas cooker, and I found advice given to me by Miss Ada Chapman, who at that time kept a well-known pet shop in Birmingham, invaluable.

During the war years from 1939 to 1946 I was compelled to leave him in the care of my Mother, who resided in a part of Birmingham that suffered heavy bomb damage. During the air raids he was taken into a cellar with her two other pets a cat and dog, who by force of the circumstances under these conditions were compelled to share the same food dish, which they did without friction. It was quite amusing to see them all grouped round the same dish all partaking of the same kind of food.

When I retook possession of him, I found that during the whole of the time he was in my Mother's keeping he had not had any sunflower seed, but had lived and thrived on anything that was available.

I eventually got him back on to a seed diet, but he still prefers cooked vegetables, chipped potatoes, dog biscuits, bread and butter and jam, and egg, whether boiled, fried, or scrambled. It is amazing how he knows when egg is on the menu, and there isn't any peace until he has had his share. He also likes custard, rice pudding, etc., which he eats from a spoon held in his claw.

He is quite a good talker, but will let no one handle him excepting my wife. She can play with him as one would with a puppy, rolling him over and over, and he delights in it.

He is quite fit and always appears in show condition. I took him to the North Birmingham Open Show in 1949, and he gained third prize in a class of ten exhibits which included Blue Rosellas, Princess of Wales, Senegals, Lovebirds, Starlings, etc.—not bad for an old stager. Mr. Birch, who was judging, said he was one of the biggest and best examples of this type of bird which he had seen.

His companion is an Alexandrine hen, who is rapidly taking to the same diet!

H. P. WILLIAMS.

2 BURCOTE ROAD,
BIRMINGHAM, 24.

* * *

(The Editor does not accept responsibility for opinions expressed in articles or correspondence.)

CANDIDATES FOR ELECTION

- R. BARTON, 63 Ophir Road, North End, Portsmouth, Hants. Proposed by Miss K. Bonner.
- A. R. BATEMAN, 17 Conging Street, Horncastle, Lincs. Proposed by J. Fell.
- W. H. BATHAM, 127 Dorchester Waye, Hayes, Middx. Proposed by Miss K. Bonner.
- MATTHEW F. BENDER, Box 414, Mancelona, Michigan, U.S.A. Proposed by Miss K. Bonner.
- E. A. BIRD, 156 West 5900 South, Murray, Utah, U.S.A. Proposed by Calvin Wilson.
- G. W. BRATLEY, 39 Westfield Avenue, Pontefract, Yorks. Proposed by Miss K. Bonner.
- JOHN A. CLARK, 106 Derby Road, Spondon, Nr. Derby, Derbyshire. Proposed by Miss K. Bonner.
- L. CRAGGS, 15 Henderson Street, Darlington, Co. Durham. Proposed by Miss K. Bonner.
- JOHN A. DARGE, 35 Longman Road, Inverness. Proposed by Miss K. Bonner.
- W. W. DIEDRICH, Dierenpark Wassenaar, Rijksstraatweg 667, Wassenaar, Holland. Proposed by G. de Goederen.
- G. EDWARDS, 180 Crescent Road, Coalville, Nr. Leicester. Proposed by J. H. Reay.
- J. W. EGGLESTON, 38 Lingry Close, Dalston, Carlisle, Cumberland. Proposed by Miss K. Bonner.
- Miss S. A. FOTHERGILL, F.Z.S., 8 Whitelands House, Sloane Square, London, S.W. 3. Proposed by P. H. Maxwell.
- DR. FINNUR GUDMUNDSSON, Museum of Natural History, P.O. Box 532, Reykjavik, Iceland. Proposed by Miss P. Barclay-Smith.
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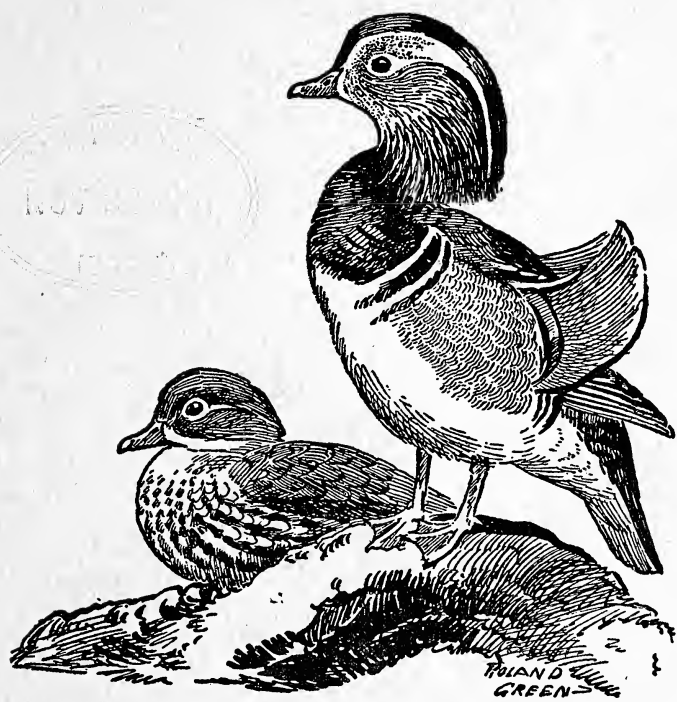
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FALCATED TEAL.

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SEPTEMBER-OCTOBER, 1951

THE FALCATED TEAL

By TERRY JONES (Leckford, Hants, England)

The Falcated Teal breeds in North-Eastern Asia and winters chiefly in Japan. It is a large bird for a Teal being about the size of a Wigeon and is in fact a very Wigeon-like bird in many ways. The drake's call is a drawn-out whistle "who-eek", the duck is an extremely silent bird and only very occasionally do we hear the female make any sound. The call is a rather deep quack and when courting a drake the ducks make small clucking noises.

In feeding habits the Falcated Teal behaves much more like Wigeon in that they live to a very large extent on green food, feeding on water weeds or grazing short turf. Here at Leckford they are more independent of artificial food than is any other species of waterfowl, including the geese.

The drake's display is rather elaborate and teal-like. The Common, Greenwinged, and Chilean Teals I suppose spend more time displaying than do most waterfowl and the Falcated runs them pretty close in this respect.

Here the Falcated nest rather late in the season, generally about the third week in May. The nests are extremely well concealed in rank vegetation in a fairly dry site. The normal clutch is about eight eggs. The latter a rather long, creamish white in colour, somewhat smaller than a Mallard's. Eggs of individual ducks of the same species often vary considerably in size and shape. As our Falcated females consist of a mother and two daughters the similarity in the shape of the eggs may be a family characteristic. The colour of the eggs of a species of duck seems to vary much less than the size or shape, except of course that the first egg of a clutch is generally darker than the later ones.

The incubation period is 25 or 26 days and the ducklings on hatching are ginger-headed like young Wigeon, but much larger beaked. They are easily reared and grow quickly. They should have a plentiful supply of green food.

The adult drakes are not quarrelsome with other waterfowl and are extremely decorative birds. I hope some new blood will be imported into Europe or America so that the species may again become common in captivity.

NOV 26 1951

SOME COMMENTS FROM NISKA FARM

By G. H. MACK (Guelph, Ont., Canada)

Here, at Niska¹ Farm, we keep a collection of approximately a hundred wild geese of fifteen species, as well as some ducks, swans, pheasants, and peafowl.

It is always amusing to receive a request for a quantity of wild goose eggs. To the uninitiated "eggs is eggs" and anyone who has both sexes of any species of wild goose should quite easily be able to spare a few eggs. In 1927 I acquired a pair of European Gray Lag Geese from a New York importer. Doubtless they were wild caught, and I never expected them to lay. However, in 1938, after 11 years, the female laid in an elevated steel barrel and started incubating. Unfortunately an Egyptian gander escaped from his enclosure and finding the Grey Lag Goose on the nest, promptly killed her. When discovered, the eggs were spoiled.

Two years later, in 1940, I was fortunate in getting another female. She mated the following spring, and has been successful in rearing a brood in at least five of the succeeding years. The old gander, "Clarence," is not less than twenty-four years old, and quite possibly much older. He is not very nimble any more, but he and his mate "Lizzie" are still inseparable, and I am hoping he will be spared for a few more seasons to father some more fluffy yellow goslings.

Wild geese have so many interesting and intriguing personal qualities that it is unfair to generalize. However, no one could fail to admire their rugged independence. They will mate and reproduce if conditions are favourable and if they feel like it. All one can do is try to provide the facilities and the privacy—and hope!

One thing is sure: breeding pairs should be treasured and protected, as they cannot be readily replaced. Protection from predators is, I firmly believe, the most difficult problem of all. The Great Horned Owl cannot be fenced out, and it is almost as hopeless to depend on fencing against raccoon and mink. I try to encourage my geese to lay in steel oil drums, raised off the ground, to protect the eggs from crows. Many geese take to these barrels quite readily. However, they are still vulnerable to skunks and other ground predators. Placing the barrels on a stand in water limits the predators (in this area) to mink and raccoon. Constant trapping at the fence line is in order to hold the number of "possibles" down.

Where safety is reasonably assured, I like to permit the parents to hatch and rear their own goslings. As soon as they are hatched I remove the family to an individual pen, fairly small, so that their feeding can be controlled and the babies cannot be over-exercised. Grass, of course, is the most important single item of food. If there is

¹ Niska is a Cree Indian word for Canada Goose:

danger from predators, it is wiser to remove the eggs for incubation under hens. This not only ensures the safety of the eggs but protects the parents as well, as an incubating goose is easier for a raccoon or fox to catch than one at liberty.

Keeping wild geese is an absorbing and stimulating study. The more experience one has, the more one realizes how little one knows. Certainly few set rules apply, and each bird is an individual, with his own peculiarities. If it cannot be said that geese have brains, I believe they have a high degree of intelligence and character. If they hadn't, most species would have followed the Passenger Pigeon into oblivion. Some species are fighting a dogged rearguard action to-day, and their numbers are dangerously low. But the future of the tremendous flocks of Blue and Snow Geese that concentrate in James Bay in the fall, owing to their peculiar migration pattern, is reasonably secure. I have travelled throughout the southern and eastern coast of James Bay annually for some years, and my personal opinion is that the quantity of Blue Geese in this flyway has steadily increased. The Dominion authorities deserve great credit for taking prompt and firm action in limiting their exploitation, and if their protection on their wintering grounds on the Gulf does not deteriorate, we will continue to have on this continent "the greatest concentration of wild geese in the world".

* * *

FIRST EUROPEAN IMPORTATION OF THE KERGELEN PINTAIL

By JEAN DELACOUR (New York, U.S.A)

Col. P. Milon, who has spent four months on Kergelen Island during the autumn and winter of 1950-51, has recently brought to Paris ten Kergelen Pintails (*Anas acuta eatoni*). They all look, at this time of the year (June-July), like very small, dark, reddish female Common Pintails, the size of a Chilian Teal. The bill is narrow and short, bluish grey with a black band along the culmen. The birds are tame, silent, and they like perching on walls or large logs. Col. Milon reports seeing the drakes in breeding plumage between December and April. Very few seem to wear the complete adult dress, as figured in the *Catalogue of Birds*, vol. xxvii, which resemble a dull male Pintail, the white mixed with reddish brown. Most of them, however, resemble at that time Common Pintails in eclipse. Later on, they undergo an eclipse of their own, then differing only slightly from the females in the plain brownish grey wing-coverts and metallic-green mirror, which is brown in the ducks.

Four of these Pintails are now at Clères, the others remaining at the Paris Zoo. No specimens of these southern Pintails had so far been seen alive about anywhere in the world outside of these southern islands.

* * *

HARTLAUB'S DUCK

(*Cairina hartlaubi*)

By JOHN YEALLAND (Slimbridge, Glos., England)

Hartlaub's Duck inhabits tropical Africa from Sierra Leone to the Congo and mainly between the Equator and 10° North.

Specimens from the eastern part of the range show varying degrees of white on the head, and Neuman (Bulletin of the British Ornithologists' Club (1908), vol. xxi, p. 42) describes birds from N.E. Congo as *Pteronetta hartlaubi albifrons*. Birds from the westerly part of the range are entirely black on the head, but there seems little reason to suppose one to be sub-specific of the other.

This duck is of skulking habit and lives mainly on small streams overhung by forest, rarely being seen in more open places. The sexes are alike except for size; the body colour is chestnut; there is a large area of dull pale cobalt blue on the wings; the head, neck, tail, and flights are dull black; the irides dark brown; the legs, feet, and bill are dull black and there is a conspicuous flesh-coloured band near the tip of the upper mandible.

Four specimens collected in southern Sierra Leone by Messrs. Fleetwood and Smith were received by the Severn Wildfowl Trust in April. The smallest, which seemed to be the only certain female, was at first undecided whether to live or die, but on a diet of earth-worms, duckweed, soaked biscuit-meal, and soaked wheat all four rapidly improved.

We expected them to be sensitive to the cold, so kept them in a covered pen with a heated brooder attached but it soon became evident that they were not delicate, so they were put into a larger open pen and until about the end of May were shut at night into a thatched hut having a layer of dry straw on the floor. Exactly how they will stand the winter is not known, but they have the appearance of being at least fairly hardy.

A little displaying sometimes goes on; the birds face each other and both describe circular movements of the head, the presumed male uttering a quiet high-pitched wheezing noise and the presumed female a low clucking. None of the "rapid raucous cries" described by Bates have been heard, but if, as might be supposed, the voice is any indication of the sex, these birds are two pairs.

COMPARATIVE STUDIES ON THE BEHAVIOUR OF ANATINÆ¹

By Dr. KONRAD LORENZ (Dulmen in Westfalen, Germany)

Reprinted by kind permission from *Journal für Ornithologie*, 1941.
(*Festschrift Oskar Heinroth*)

Translated by Dr. C. H. D. Clarke, Division of Fish and Wildlife, Ontario, Canada

1. INTRODUCTION AND STATEMENT OF PURPOSE

The success of the investigator in zoological classification is more dependent than in other branches of biological research upon an instinctive feeling which can, it is true, be learned but not taught. In the introduction to his work "The Birds" in Bronn's *Classes and Orders of the Animal Kingdom*, Gadow made the experiment of a "Thirty Characteristic Systematics". He chose thirty common characteristics, which, from the point of view of classification, are certainly important, and divided the groups of birds in tabular arrangement according to whether the characteristics are present or not. Along with far-reaching harmonies in many bird groups, the systematics thus improved showed, in places, astonishingly gross deviations from the commonly accepted arrangement considered to represent true relationship. This is explained, in the first place, by the fact that the so-called "Classifying instinct" rests upon an unconscious valuation of a very much greater number of characteristics which, not easily accessible to individual observation, are woven into the general impression which such an animal group makes upon the investigator. Such unanalysed complex qualities include very minute individual characteristics which cannot be severed from the general impression at will, although they influence it by determinative qualities. This fact, which is obvious to the psychologist of observation and form, must now be taken into consideration, if one wishes to analyse the instinctive feeling for classification and know the grounds which determine one's own judgment as to the degree of relationship of the different animal forms.

The inadequacy of a classification built upon a limited number of predetermined characteristics, does not rest merely on the fact that their number was too small. Much more disturbing is the circumstance that a definite character does not possess the same weight within the separate parts of a greater classified whole. The rate of differentiation and the variability of a definite character can be decidedly different even in two closely related species. The hypothesis that a character, such as the lack of the fifth secondary, or the form of the furcula, possesses equal taxonomic value throughout the whole class of birds,

¹ This is the first of a series of instalments and references are made to figures and a Table which will appear in later issues.

in all orders and families, is false to begin with. The weight that can be ascribed to a characteristic as a measurement of phylogenetic relationship must be decided in each case by its relative proportion to other characteristics of the group examined. The statement, as to whether a characteristic is relatively fixed or variable can concern only a narrow selection of closely related forms. This is so, not only for critical characteristics of limited distribution, but very often for characteristics of general distribution. Even the usually fixed ontogenetic characteristics, as, for instance, the immature plumage of so many bird groups, can be affected in a narrowly circumscribed systematic unit by secondary changes in such a way that it would lead to the greatest confusion if one were to ascribe to them that taxonomic value which generally belongs to them. Imagine one considering peculiarities of natal down, which in the Anatidæ are so unusually fixed and taxonomically useful, in the taxonomy, in a similar manner, of Rails, in which they are overlaid by secondary differentiations, acting as releasers. The number of characters known to the one who judges the degree of phylogenetic relationship is important not only in itself in the determination of group-specific "complex qualities" but more than that because the more characteristics the examiner can take, consciously or unconsciously, into consideration, the better he can evaluate the relative importance of a single character. The "classifying instinct" does all this without the man who possesses it needing to be able to analyse it himself. However, only when the analysis is accomplished does his performance become science.

In the basis given here briefly, of conscious or instinctive judgment of phylogenetic relationship, one can determine that it is not the man who knows an organ in all its forms in which it appears and where it is represented in a large systematic group, who has the most reliable judgment about relationship, but the man who surveys minutely a small unit with as large a number of characteristics as possible in mind. The possibility of *a priori* conclusions about phylogeny mount not only in arithmetical progression with the number of known characteristics, but decidedly in geometrical progression, because with every additional characteristic examined in all the representatives of the group, our estimate of the importance of the known characteristics gains in correctness. Now we can understand for once why those zoologists who, as keepers of zoological gardens or as fanciers, know a definite animal group through many of its living representatives, attain such peaks in the development of systematic intuition and in the critical understanding of phylogenetic relationships. One thinks of Heinroth's work on Anatidæ and the "Study of Equidæ" by Antonius. The Zoo director, who is equipped with a knowledge of the anatomy and perhaps even of the palæontology of many representatives of a group of animals has a well of knowledge of inherent

specific characters to draw on as compared to the purely museum classifier. This indubitable fact is of significance and value not only for the systematist, but still more so for the psychologist. Since Wundt's time it has been emphasized that the problem of comparative phylogenetic development is just as vital in psychology and the theory of behaviour for the understanding of any given patterns in man and animals as it is in morphology. From the psychological point of view all forms of life are, in a way, phylogenetic attainments whose special objects would have to remain completely obscure without the knowledge of their phylogenetic development. Comparative psychology, which until now, unfortunately, has remained almost entirely a mere syllabus, has the urgent task of carrying on first of all a purely descriptive study of the behaviour of a group of animals suitable for the purpose, in order to combine the characteristics thus learned with every conceivable morphological characteristic, into a critical characterization of the group. Because of its harmony with the related anatomical characteristics, the applicability of the taxonomic homology concept even for special behaviour patterns would be established once and for all against all attacks, and thus a working hypothesis for all comparative psychology in the true sense of the word would be set up. Only such a critical characterization of a sufficiently thoroughly investigated animal group can give us knowledge on the ways and means whereby racial changes in instinctive behaviour, taxes, and inherited patterns and also, in a broader respect, basic mental structure, can come about. The fundamental importance of such knowledge, at present unfortunately still lacking, does not need to be stressed. The path that the investigation has to follow lies clearly before us, even though it be a particularly difficult and thorny one. The present work represents a very incomplete attempt to give a critical characterization serving the aims mentioned, for one group, including behaviour characteristics.

II. TECHNICAL

The task of making a purely descriptive inventory of the behaviour of very many species makes very great demands on the examiner's powers of observation. In order to make, even approximately, a sufficiently complete inventory, the observer must live with the animals day after day, year after year. It is really impossible to gain the necessary knowledge by observing the animals in the wild state. Even when one has kept the animals under observation for years and has been most conscientious about keeping entries in a diary, there are still, after the work is done, single dates missing here and there, which would have been of great importance in making comparisons, and concerning which, unfortunately, previous work contributes an all too feeble testimony. The animals investigated must be amenable to

captivity. Moreover the group concerned must be rich in comparable species and genera with, if possible, consecutive grades of relationship with the individual forms, also rich in comparable individual behaviour traits, analogous from species to species, yet different enough to serve as a test for the applicability of a common origin concept. All these requirements will be fulfilled ideally by two groups of animals, both of which I have kept to carry on the research of which we have been speaking, namely, in birds the Anatinae and in fishes the Cichlidæ. The former will be dealt with here. The Anatinae have been very carefully studied by Heinroth, Delacour, von Boetticher, and others, and in addition they afford the investigator in the field of comparative phylogeny a special advantage by the fact that hybrids can be bred easily. In addition these are in very many cases fertile, so that the inheritance of specific behaviour characters can be studied. Here we have a fruitful field for a synthesis of phylogenetics and genetics. In many cases a special peculiarity of hybrids helps us in making phylogenetic assertions on specific behaviour characters, namely, that they are not intermediates between the parents but, physically and in behaviour, show a third and a more primitive condition. A further value of hybrids lies in the fact that the degree of their fertility can be made a measurement for the degree of the relationship existing between the parents, as Poll has shown.

Of the family of the Anatinae and the two adjoining families of the Cairininae and Casarcinae, I have been able to examine the following species :—

- Anatinae*
- Mallard, *Anas platyrhynchos* (L.)
 - Meller's Duck, *A. melleri* (Scl.)
 - Japanese Spot-billed Duck, *A. zonorhyncha zonorhyncha* (Swinhoe)
 - Indian Spot-billed Duck, *A. z. pæcilorhyncha* (Forster)
 - Pintail, *Dafila acuta* (L.)
 - South American Pintail, *D. spinicauda* (Vieillot)
 - Bahama Duck, *Pæcilonetta bahamenis* (L.)
 - African Red-billed Duck, *P. erythrorhyncha* (Gm.)
 - European Teal, *Nettion crecca*
 - Yellow-billed Teal, *N. flavirostre* (Vieillot)
 - Gadwall, *Chaulelasmus strepera* (L.)
 - Wigeon, *Mareca penelope* (L.)
 - Chilœ Wigeon, *M. sibilatrix* (Poepp.)
 - Garganey Teal, *Querquedula querquedula* (L.)
 - Shoveler, *Spatula clypeata* (L.)
- Cairinine*
- Muscovy Duck, *Cairina moschata* (L.)
 - Wood Duck, *Lampronessa sponsa* (L.)
 - Mandarin Duck, *Aix galericulata* (L.)

Casarcinae Sheld-Duck, *Tadorna tadorna* (L.)
 Ruddy Sheldrake, *Casarca ferruginea* (Pallas)
 Egyptian Goose, *Alopochen aegyptiaca* (L.)

The Hybrids I shall describe in more detail elsewhere.

III. GENERAL REMARKS ABOUT EXPRESSION BEHAVIOUR

A. THE TAXONOMIC USEFULNESS OF SIGNAL MOVEMENTS.

Since Whitman (1898) showed that instinctive actions require phylogenetically the same amount of time for their evolution as do body structures, and since Heinroth (1910) published his studies of Anatidæ and his work (1930) on the systematic distribution of determined behaviour patterns in vertebrates, the taxonomic usefulness of inherited specific behaviour has gradually become common property of zoological systematics (Stresemann "Aves" in Kükenthal's Handbuch). I myself pointed out several years ago that well defined instinctive behaviour is particularly suitable for systematic use and hence, in obvious corollary, for research on the phylogenetical relationship of inherited behaviour patterns, namely those instinctive actions whose significance to the preservation of the species lies in the sending out of stimuli which are answered in a specific manner by other individuals of the same species. Such behaviour patterns, functioning as "releasers" (Lorenz, 1935) are especially characteristic of birds, as in them reaction to optical movement-perception plays a great role. In other animal groups, chemical, acoustic, and tactile releasers are more important. These do not afford man, the eye animal, nearly as good opportunities for experimental and comparative research, but apart from purely observation-technical grounds, the optically functioning signal movement of birds, like those of the bony fishes, is a very fruitful subject for investigation. First, it is very rich in identifying and striking characteristics which greatly aid in phylogenetic comparisons of species with species, and group with group. This wealth of characteristics is very closely related to their function as signals, for just like a human signal, the animal releaser must be incapable of being misunderstood if it is to fulfil its function completely. I have gone into these relationships more closely in a special work (1935) and have explained there that a combination of the greatest possible simplicity and the greatest possible general unreality is the main attribute of a clear and easily understood signal. Both properties make the releaser for purposes of appraisal an especially valuable criterion in a systematic comparison of characters. Even the fact that it can be easily described adds much to its value.

There is a second circumstance that makes the releaser a very valuable aid to an investigation of genetic relationship. Because its form is not directly derived from its function and influenced by it, as is

the case in mechanically effective actions, the possibility of convergence can most probably be excluded when the releasing ceremony is the same in two related species. That the wagging of the tail in the dog indicates friendly greeting, while in the cat, hostile feelings, has nothing to do with function. The meaning rests purely on a "convention" between the inherited expression movement in the one, and the equally inherited understanding in the other members of the same species. As far as the special form of the movement is concerned, it could just as well be reversed. In the same way the philologist, who finds the same word with the same meaning, among two different peoples, does not need to bother about the infinitesimally small probability that this is mere chance, but without more ado and quite correctly assumes a single historical root for both words. So also in many cases the comparative psychologist can assume a genetic homology where the releasing ceremonies, which have often many distinguishing features, agree in two related forms. All these circumstances have led to the point where we know far more about the origin, systematically, for instinctive releasing movements than for other inherited behaviour traits. In two ways, both independent of each other, we can trace back many, if not most, of them with high probability to other more primitive and mechanically effective instinctive movements without, naturally, knowing how these, for their part, have arisen. At any rate, in our present poverty of information about the phylogensis of psychic behaviour traits, even this small provable fragment of phylogenetical developmental history is very welcome.

B. SYMBOLIC ACTIVITY.

It is a distinguishing characteristic of any centrally co-ordinated autonomic automatism which we designate as instinctive behaviour that it changes into visible movements with the least intensification of the irritation created by it. Thus arise more or less pronounced indications of behaviour which can serve its real purpose in the preservation of the species only by a much more intense response. The weak responses which become noticeable even in the weakest intensities of stimulation are in themselves without meaning and purpose for the preservation of the species. The experienced person, however, can deduce from them the nature of the specific excitation which begins to well up within the animal. He is, therefore, in a position to predict what kind of activities, if any, are to be expected from it. Therefore, these initial activities have been called intention movements. Many instinctive actions, for instance the flying-up of a duck or goose, never happen quite suddenly, except as a result of a very strong external stimulation. When it is the inner urge of an instinct that is gradually cumulating within the organism, then we invariably find a very regular series of intention-movements preceding

the final, fully intensive, and biologically adequate activity. Thus there is the possibility that within the species concerned there is developed an "understanding" for the intention-behaviour of other members of the same species, through which inherited patterns are formed which are related to the responses engendered by any given intention-behaviour in the same way as the radio receiver is to the sender. In other animals of the same species these inherited patterns first, for the most part, cause an evoking of the same instinctive action as that which the response-stimulating animal was carrying out. The specific stimulating quality connected with this behaviour is transmitted thus through bringing out the specific intention-behaviour and evoking its corresponding inherited specific behaviour pattern, as between an individual and all others of the same species present. In my work *Der Kumpan in der Umwelt des Vogels* (1935) I have brought together many examples of this form of transference of a mood, which is never better exemplified than in the uniform orientation seen in the behaviour of social animals, falsely called "imitation". Through this procedure, obviously of the very greatest survival value for social animals, the once meaningless intention-behaviour now takes on a great significance, and, like every functioning organ, comes under the influence of those factors which are working towards higher differentiation. Releasing intention-movements, corresponding to their signalling function, are changed from the original form in such a manner that they become visually more pronounced. They become "mimic-exaggerations" like the nod movements of leading mallards, the upward-flying movement of the Casarcinæ, and the Anserinæ, the swimming movements of nest-leaving Cichlids, etc. The mimic exaggeration can often go so far that the original root of the action, the intention-movement, reduced to a purely mechanical protective behaviour without signal form, becomes practically unrecognizable and can be determined only by bringing in, for systematic comparison, other species in which it is little altered. The Egyptian Goose's flying-up behaviour, the movement in *Nannacara* indicative of leading young, etc., are certainly derived from intention-behaviour indicating flying or swimming away, but no one who was ignorant of the homologous behaviour of their relatives would recognize them as such. Such ceremonies, derived from intention-behaviour but often "formalized" beyond recognition, we designate by the term "symbolic activity".

C. DISPLACEMENT ACTIVITY.

Besides these releasing symbol-actions arising out of intention-movements, there are others which have arisen in an entirely different manner, the displacement activity, as N. Tinbergen calls it. At the upper levels of general excitement, there may be released instinctive movements which, so far as any real survival value is concerned, do not

belong at all to the immediate biological situation and are, so to speak, performed by mistake. This seems to take place especially when the normal movement, appropriate to the situation, is hindered for some reason in finding its outlet. Then the special stimulus "jumps over", so to speak, into another track and an action as unexpected as inappropriate ensues. Man, too, shows many examples of this procedure. Best known is the scratching of the head in embarrassment. Also, everyone knows the various automatic movements that lecturers make during their speeches. Tinbergen and Kortlandt, who, independently of each other, described this procedure for the first time, have given many examples of it, mostly from the behaviour of bony fishes and of birds. In ornithological literature displacement activity is designated mostly as sham-reactions, and also as mock-preening, mock-feeding, etc. Just as intention behaviour produced by the energy of an "autochthonous" reaction becomes a bizarre symbol of itself through visually acting "mimic" exaggeration of certain phases of behaviour, so also can the movements brought on by displacement activity undergo, in their higher evolutionary development, such formalization that it is necessary to examine comparatively many related forms in order to unveil their origin.

Most of the display actions, which we shall have to describe for swimming ducks, can be explained as symbolic and as displacement activities, and this interpretation takes on a high degree of probability in view of the self-evident phylogenetic relationships and their agreement with those arrived at by comparing other characteristics. Displacement activities outnumber symbolic activities; most of them are movements which are derived from the behaviour of preening and shaking. Also prevalent among the automatisms in other animals, innervated as displacement activities by allochthonic excitement (Kortlandt), are the common daily automatisms of the care of the body (head scratching in man, mock-preening in pigeons, cranes, etc.), the taking of food (mock-feeding by the threatening barnyard fowl) and others of similar significance. For more detailed treatment of symbol and displacement behaviour, you are referred to my *Der Kumpan in der Umwelt des Vogels* as well as to Tinbergen's *Die Uebersprungbewegung*.

IV. THE MALLARD

Anas platyrhynchos (L.)

A. GENERAL REMARKS.

Not only is the Mallard the duck whose behaviour has been known longest and in greatest detail, but it also occupies a central position among them in many respects. As a pronounced "primitive" characteristic of the species, we can use the fact that the drake has, in addition to the courtship whistle, another rather loud note, which

can take the form of a one-syllabled and drawn-out call (“raehb”), and a two-syllabled conversation note (“raebraeb”). For the same purpose we can use the corresponding note of the duck which is alike in both rhythm and meaning. In all other Anatinae, in the three Cairininae which we are concerned with here, as well as in the Casarcine *Tadorna*, the male’s true voice, produced in the syrinx, is very considerably underdeveloped in favour of the whistle which is produced by a special organ, the drum of the trachea.

B. THE NON-SEXUAL REACTIONS AND CALLS.

The one-syllabled call-note of both sexes of the Mallard arises ontogenetically in smooth transition from the likewise one-syllabled “whistle of desertion”, which is common homologically to all ducklings at present known, and duplicates it fully even to the position of the head and feathers (see Figs. 1 and 2). The conversation-call in all



FIG. 1.—The whistle of desertion of a Surface-feeding duckling.

FIG. 2.—One-syllabled call-note of Mallard drake, *Anas platyrhynchos* L. : a drawn-out “raehb”.

the Anatidæ ducklings known to me is similar, as well as in the Anserinæ in which it was originally two-syllabled. In the genus *Anser* this certainly original condition lasts only a few hours, after which it develops from the two-syllabled generalized duck-like conversation-call into the many syllabled type characteristic of the genera *Anser*, *Eulabeia*, *Branta*, etc. In both sexes of the Mallard, the one-syllabled call-note has also the significance of a warning, the sound, however, being just the same to the human ear. By the appearance of a strange dog the long, drawn-out “r a e h b” is released in all the drakes. In the latter case perhaps it sounds especially loud and long; at least, I am never able to decide from the call alone whether a drake is calling or warning his mate. Especially from the female, a repeated uttering of the one-syllable call signifies the intention of changing location. Before flying away it is given especially long and loud. It is uttered more softly, but more persistently by the duck when she is wandering around restlessly looking for her nest and when she is going to lead her brood

over a rather large area. This form of the call-note, which we term "the going-away call" is found in very many Anatinæ, and even in *Aix* and *Lambronessa*, where the real call-note no longer exists in its original form but is replaced by a specialized call. In males the going-away call is lacking.

The two-syllabled conversation-call, the accent of which is on the second syllable, is uttered even by the ducklings of a brood, but it is uttered oftener and with special intensity by both mates when they find each other after a rather long separation, or when ease of mind returns after a scare which has made the birds freeze for a long time. In both

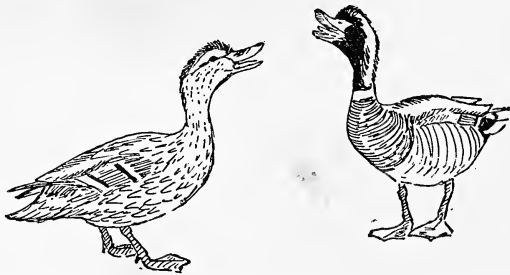


FIG. 3.—The "raebraeb palaver" of a pair of Mallards with chin raising which is similar to the triumph-cry. Note the position of the feathers of the head and compare with Figs. 43, 44, and 45.

cases it is the drake especially that utters his two-syllabled "raebraeb" with very great rapidity and loudness, while the duck, in her more intense reaction generally begins to "incite". Such a palaver of a pair, or a brood of ducklings, reminds one very much of the so-called "triumph-cry" of Casarcinæ and Anserinæ, of which it probably represents the phylogenetic first-step. In high degrees of reaction intensity, corresponding perhaps to the duck turning to incite, the drake particularly has a special way of holding his head with raised chin (Fig. 3); in moments of still greater intensity there appears, but very rarely, an action called the "down-up movement", which we shall discuss later in connection with the antics of courtship. It is established with certainty by phylogenetic links in Anatinæ which are more highly specialized with respect to a true triumph-cry, such as *Chaulelasmus*, *Mareca penelope*, and *M. sibilatrix*, that the "chin-raising" and "down-up" movements undergo a special differentiation. I will return to this when I discuss these species. When these "raebraeb" palavers of the Mallards, analogous to the "triumph-cry", reach exceptionally high degrees of excitement, passing even the threshold of the "up-down" movement, there appears an indication in the "raebraeb" of the drake, and even sometimes in the two-syllabled

call of the ducks, of a peculiar tone, which in the Gadwall has led to a further differentiation. It consists in the fact that in the three successive double sounds the middle one is always uttered more strongly than the ones preceding and following; thus "raebrae'b, raeb-RAE'B, raebrae'b".

C. THE SEXUAL REACTIONS AND CALLS OF THE FEMALE.

Just as, morphologically, the females of closely related ducks differ much less from one another than do the males, so also do they in respect to the inventory of their behaviour patterns. Therefore a sufficiently detailed description of the female Mallard will save a longer description of other ducks, with the exception of *Mareca*.

1. *Inciting*.

The most common female action of courtship is the so-called "inciting" that is found in a form fundamentally the same, certainly homologous, in all Anatinæ, in *Tadorna* and *Casarca*, and among the Cairininæ in *Aix*, *Lampronessa*, and *Amazonetta*. The duck turns to her mate, or the one to be her mate, swims after him and at the same time threatens another male of the same species over her shoulder. With the Egyptian Goose both these orientation reactions, i.e. the placing of the body in a line with that of the actual or potential mate and the movement of threatening "the symbolical enemy", are quite independent of each other, and in their relationship with each other are quite plastic. The angle between the axis of the body and the direction of the threatening movement of the head is determined solely by the position of the female, the male, and the threatened enemy. It can happen, for example, that the enemy, as seen from the position of the female, is behind the male; so that then the Egyptian Goose, pressed closely against her mate, threatens the symbolical enemy straight ahead. However, most frequently the female in inciting is placed more or less with her tail towards the enemy, because she herself first makes a little dash against him but, not daring to attack, has now to run or swim from the "enemy" to the mate in order to incite at his side. This performance, therefore, determines wholly in itself the particular angle between the head and the axis of the body. Even in *Casarca ferruginea* one often sees an inciting movement of the head directed in this manner backwards over the shoulder, and not motivated by the relative position of female, male, and "enemy". In inciting Anatinæ, in which the inciting is formalized to a pure ceremony, and in which the original significance of the instinctive behaviour, namely, bringing the mate into conflict with a real adversary, is completely obscured by the secondary meaning of "avowal of love" for the incited male, *the movement of the head backwards over the shoulder is nothing but a simple, taxis-free instinctive movement*, and the birds

can no longer perform it other than in the one way, fixed for all time. A Mallard female, for example, incites over the shoulder even when the "enemy" is not in the direction in which she is threatening. The direction of the threat can be directed only within a very small angle. I wish to emphasize that I am far from propounding a Lamarckian explanation of this remarkable differentiation—succession of inciting behaviour. I am convinced that it represents a real "phylogenetic order" for, beyond all doubt, the forms of inciting as they are found in *Casarcinæ* and indeed, to a certain extent in *Anserinæ*, represent the original form of the movement. Until one recognizes this one cannot understand at all the ceremonies of the *Anatinæ* which, in their significance, are strongly modified. Nevertheless, I reject the proposition

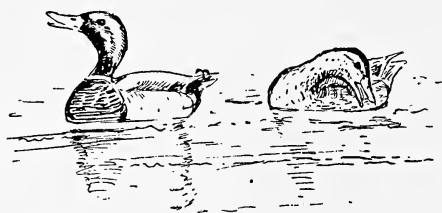


FIG. 4.—The inciting of the duck Mallard. Note the angle between forehead and beak and compare with Fig. 5. Backward movement of the head of the drake with chin-raising, compare with Fig. 14.

that an instinctive movement can arise from an orientation reaction which has become habit, through inheriting acquired characteristics. On the other hand we know of many examples of the rise of firmly fixed centrally co-ordinated forms of movement out of originally oriented movements, for example, the so-called zig-zag dance (Leiner) of the male Stickle-back.

When "inciting" the Mallard makes a specific call, a peculiar trembling sound, accented mostly on the third syllable, "queggege'ggegeggeggeg," through which is detectable a peculiar, querulous accent. This sound is not to be confused with the one that the duck makes when she is being pursued by a strange drake. When the bird is inciting, the very mobile head articulation enables the upper mandible to be bent down ventrally to its limit (Fig. 4); the head and back feathers are kept flat. Both cause a peculiar sheep-like expression of the face. Because of this downward bending of the bill the line of the chin presses close to the curve of the rump along which the head moves.

2. *The Gestures of Repulsion.*

The note of repulsion that one hears from a duck pursued by a strange drake, and which one hears from ducks already incubating,

sounds similar only superficially; it does not consist of a running succession of "quegg" sounds but of a broken series of single "gaeck" sounds, sharply uttered like a cough. While uttering these the upper mandible is bent upwards as far as possible at the so-called frontal-nasal joint, the feathers of the head and back are greatly ruffled, and the head is drawn deeply into the neck (Fig. 5). Female Casarcinæ, when disturbed on the nest hold their bodies and feathers in the same way and make a very similar sound, as does also a brooding *Cairina* if a drake wants to tread her. As in Mallards, as well as in the species named, mothers leading broods answer with the same sound and movement to every little disturbance, I am inclined to believe that this is the primary significance of the expression. It has been diverted by the

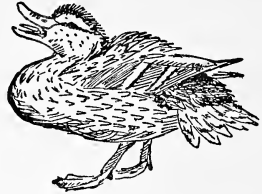


FIG. 5.—Gestures of repulsion of the Mallard.

Mallard into the more specific meaning of repulsion of a strange drake even for a non-brooding but fast-paired duck. The reactions and sounds, which were originally peculiar to a duck that was unwilling to mate because of brooding, found a new field of application in the Mallard, Pintail, and probably the Teal (*Nettion crecca*) in the dominance reaction of the drake, to be discussed later. When one hears clucking sounds from a Mallard duck in flight, being pursued by two drakes it is practically always the repulsion note just described. Only once in my life did I ever hear a Mallard in flight "incite".

3. The "Decrescendo" Call.

All female ducks including the genus *Mareca*, can make a very peculiar sound which, doubtless, with 14 syllables in *Nettion flavirostre* and one syllable in *Mareca*, represents the same homologous instinctive behaviour in all forms. In the Mallard it is generally a six-syllable "quaegaegaegaegaegaeg" with the strongest accent on the second syllable and a decreasing sound in those following. This sound is uttered especially by unmated ducks, and by fast-paired ones only when the male has flown away. The sight of another bird of the same species on the wing is the strongest releasing stimulus of the decrescendo call. However, unmated ducks with a very considerable lowering of the threshold to the reaction in question will respond in the same way to any flying duck and even to birds belonging to different orders.

4. The "Nod-Swimming".

This instinctive movement, which has been called by Heinroth the "coquette-swimming", corresponds in the female Mallard to the many highly differentiated behaviour patterns of the social display of the drakes, the "social-play" as Heinroth calls it. We shall see that

the drake also possesses the nod-swimming behaviour pattern, which in his case is linked with other behaviour, and is not independent as in the female. The duck brings the behaviour we have described into play only when several drakes are gathered together and have made their desire for courtship known by shaking themselves and by ruffling their head feathers, as we shall describe later. Then,



FIG. 6.—Nod-swimming of the Mallard.

holding her head in a peculiar flat way with a very marked nodding, the duck shoots among the drakes, swimming in short arcs around as many of them as possible. In nodding, the head is held so close to the surface of the water that the duck's chin grazes it (Fig. 6). This nodding has clearly

a releasing action for the ensuing display behaviour of the drakes. The phylogenetic origin of nod-swimming is not at all clear, as we do not as yet know any preliminary stages of the ceremony. We know this behaviour so far only in the Mallard and the most closely related members of the genus *Anas* in the old sense, and in the Chestnut-breasted Teal, *Virago castanea*, and the Grey Teal, *Virago gibberifrons* (E. Virchow).

5. *The Prelude to Mating.*

This consists of jerking movements of the head, which have great similarity to the intention-behaviour for flying up, but it proceeds in reverse. The head is here not moved slowly downwards and jerked

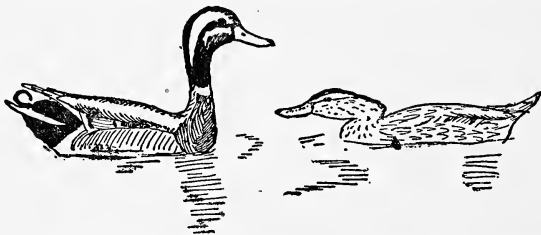


FIG. 7.—The "pumping" prelude to pairing in the Mallard. The pair face each other each taking the opposite extreme positions of the vertical head movement.

upwards but the other way round. The reaction has obviously arisen out of an intention-behaviour for "ducking-down-flat". While in the flying-up behaviour the head is quickly thrust upwards, the bill being held horizontally and brought back to the starting place with much less speed, in the prelude to mating the downward movement is accelerated with a jerk. Apparently this reaction has arisen from an intention-behaviour for the "ducking-down-flat" which takes place in mating itself. This theory gains in probability by the following chance observation: Once I saw standing on the upper edge of a very

steep bank a Mallard drake, which as I thought was performing the "pump" movement of the prelude to mating, but I could see no duck. The next moment the drake flew down over the bank, landing at the base. What I had thought was a prelude to mating was the intention-behaviour for flying downwards—something that hardly ever happens. I am quite sure that an intention movement downwards, i.e. to get flat, is the origin of the "pumping" prelude to mating in most Anatinæ. In the Mallard, as well as all other Anatinæ, perhaps with the exception of *Mareca*, the movements of the prelude to mating are alike in form in both sexes. Those of the female are much more intense, as she herself mostly gives the occasion for the prelude ceremony and for copulation itself. We call this behaviour "pumping" (Fig. 7).

D. THE SEXUAL REACTIONS AND NOTES OF THE DRAKE.

1. *The General Form of Courtship.*

As we know, the males of most Anatinæ as well as those of *Aix galericulata* in the Cairininæ and a number of species included in the Fuligininæ gather together for social courtship play in which the females take part only as onlookers, except for a few who provide the necessary releaser behaviour to stimulate the males to courtship. On the other hand the females of all Anatinæ that have a social-play (Heinroth) seem to have a very active role in choosing the mate, a matter we shall come back to, especially with the Mandarin Duck. Mallard drakes, along with Mandarin drakes are probably those in whose social-play the presence or absence of the female plays the least role. As is the case with hens of the Black Game, Capercaillie, Turkey, and Peafowl, their courtship is not the wooing of a special female but a general exhibition that takes place in apparently the same way whether the female is present or not. Within the Anatinæ we shall see all the conceivable smooth transitions from such an impersonal mass courtship to the personal courtship of a particular female. In their social courtship the drakes jointly perform a number, varying from species to species, of highly differentiated movements, mostly accompanied by sounds which are produced by means of the drum in the syrinx of the drake. The movement connected with sounds which, as we shall see, have arisen from very different instinctive behaviour of the symbol and displacement activity type, have however this one thing in common, i.e. they lead with very few exceptions to a tensing of the windpipe which is obviously necessary to bring about the courtship note. Preceding the true sound-accompanied courtship movements there is always an instinctive behaviour which, perhaps, serves as a self-stimulus, and whose distribution within the group allows one to conclude a greater phylogenetic antiquity than is required for the real courtship behaviour.

2. *Drinking.*

I shall first describe one such introductory movement which, perhaps, has not an exclusively epigamic character. When two ducks meet in a pond either the one gets out of the way of the other or both drink. One might first consider this drinking as chance. Heinroth often tells how he observed a long time before it was clear to him, that this drinking at meeting was no chance but a ceremony, with a definite social function and the significance of a "sign of peace". The origin of the significance of "drinking" he explains as a symbolic activity in the sense that two birds that eat or drink close together have no bad intentions toward each other. Thus, originally, drinking was a reaction with a purely social meaning, and is not at all confined to the relationship between the mates of a pair, even though it is very frequently done by them. With greater differentiation it is linked with mock preening behind the wing in many species, and in the Gadwall and in the Mandarin Duck, which belongs to the Cairininæ (q.v.), this has become fixed. In the Mallard such a linkage is merely suggested. The drake quite often does mock-preening right after he has drunk opposite to his duck, and then they go through both behaviours several times, and after each other, without any set order. I have already mentioned here that the established linkage between drinking and mock-preening in the Gadwall and the Mandarin is fixed in the reverse sequence.

Drinking is very widely spread in the family. In the Anatinæ there is no form of it lacking (see Table). With the significance of a male courtship act it is linked with other epigamic behaviour even with the Cairininæ, *Aix* and *Lampronessa* as well as with the Fuligulinæ, *Netta* and *Metopiana*, very close relatives of the Anatinæ.

3. *Mock-Preening.*

When a drake has drunk in front of a duck he is wooing, he frequently reaches with his bill behind his slightly lifted wing, just as though he were going to preen himself (Fig. 8), but instead of that, he moves the nail of his bill quickly and roughly over the underside of the keel of his wing so that there is a rather loud "Rrr" sound that can be heard many metres away. The movement is so short that I am still unable to tell whether the bill is rubbed over the secondaries or the primaries. The strength of the tone seems to indicate the latter, but on the

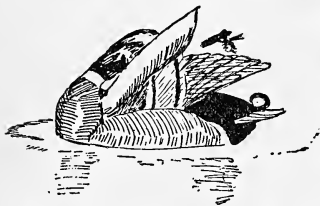


FIG. 8. — Mock-preening of Mallard drake. The rubbing of the bill on the quills of the wing produces a loud noise. Compare Figs 28 and 49.

other hand, one must remember that in the Wigeon, Garganey Teal, Wood Duck, and Mandarin, the drakes certainly mock- preen on the inner side of the secondaries, the last two on a definite feather especially

coloured and differentiated for this purpose. It is an interesting commentary on the psychology of animal observation that mock-preening was first discovered by us only in 1939, after we had devoted many years to the purposeful observation of these birds. What first opened my eyes to the procedure I had so often seen was that I noticed for the first time a homologous movement of the Garganey drake, done a little differently, in which the colours of the small wing feathers, obviously differentiated expressly for this behaviour, made it impossible to overlook. Then I seemed to realize vaguely that I must have seen this ceremony somewhere before, and in the course of special observations to discover this "somewhere" I came to the astonishing conclusion that all the species of ducks I had observed carried out this behaviour (see Table). To-day it seems quite unbelievable that the unusual yet characteristic sound had not drawn my attention to it much sooner.

Mallard drakes begin mock-preening, which almost always begins with drinking (not the other way around!), not only upon meeting the female but, in the same way, and perhaps more intensively, when meeting drakes, when the mood for social courtship begins to rise. With this significance the behaviour can be considered the first prelude to what Heinroth calls "social-play".

From the point of view of its phylogenetic origin, mock-preening is certainly to be regarded as displacement activity. There is hardly any behaviour pattern that can take on so many meanings as the avian displacement activity of preening. Besides its particularly frequent use as courtship behaviour it can be used as a threat, as with cranes, and as a prelude to mating, as among Goosanders and Rock Doves. In the last-named case there are, to be sure, very real doubts as to whether the preening ceremony has arisen from a real transition and not as symbolic activity from an autochthonous act, in about the same way as Heinroth (q.v.) proposes for the origin of drinking.

4. *The Preliminary Shaking.*

When several drakes have gathered in the way in which I have described above, the mounting of their specific courtship-impulse is expressed first by a special position of their body and feathers. The head is drawn in firmly between the shoulders so that the white neck ring disappears completely. The under feathers are lightly ruffled so that the bird swims imposingly high on the water, while the back feathers are held very smooth in an "intended" contrast to the usual position of rest. The head feathers are erected as high as possible so that, seen from almost every angle, the green sheen disappears and gives place to a deep velvety black (Fig. 9). This position differs from the one that a Mallard takes just before normal autochthonous action of shaking itself only in the fact that it is often held for several minutes. In ordinary shaking the drawing in of the head and the

ruffling of the feathers lasts only a few seconds. The experienced observer can tell from their progression exactly when the shaking will actually happen, just as one can foretell pretty well the moment of sneezing by the amount of preliminary drawing up of another's face. In the Mallard drake's "social-play" one has not only to wait much longer for the shaking but when it does occur it is not followed by relaxation or release from the preparatory position. Indeed the first shaking, in which the head, strangely restrained, is thrust upward timidly and with nervous haste (Fig. 10) is followed in a few seconds by a second

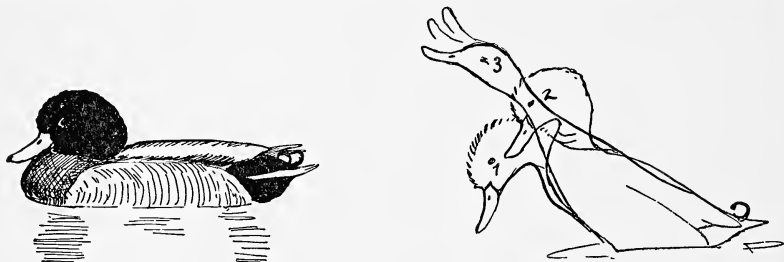


FIG. 9.—The starting position of Mallard drakes congregating for "social play". Ruffled head feathers and smooth back feathers. Compare Figs 19 and 48.

FIG. 10.—Diagram of the action of preliminary shaking.

and a third shaking. The intensity of the action then increases very gradually each time until finally the shaking movement seems to hoist the drake high out of the water as though he had a cramp. When this degree of intensity is reached there follows, almost regularly, instead of another shaking one of the three actions of courtship that I am now going to describe, i.e. the grunt-whistle, down-up movement, and the head-up-tail-up, whereupon all the drakes perform at each other. The whole company is relaxed for a while and stop courting, or else they begin again after a short pause with a preliminary shaking of less intensity. The preliminary shaking is certainly a substitute activity. It is found in all ducks except *Spatula*.

5. *The Grunt-Whistle.*

As in ordinary shaking the bill is first lowered so that the shaking action begins under the water and continues above it (Fig. 11a). This lowering is so decided that the end of the bill, at the first transverse movement, cuts the surface and throws up a shower of little drops in a high arch. This circumstance was not observed by any previous describer of drake courtship and we ourselves discovered it first when we noticed that a line of little black dots always appeared in photographs of drakes performing the grunt-whistle. The erection of the body then runs contrary to an ordinary shaking in that the head is so far forward that the body is standing rather upright in the water while

the head is still quite low, with the bill close to the surface. This strange bent-in position (Fig. 11b) has its mechanical explanation obviously in the stretching of the wind-pipe, for just at the moment of its peak there is a loud sharp whistle followed by a deep grunt, while the head straightens up again and the body sinks back to the surface of the water. The grunting sounds as if a body of air, compressed by the whistling, were escaping.

The extent of this grunt-whistle within the order of the Anatinae is peculiar (cf. Table) in that, on one hand, not all of them have this



FIG. 11a.



FIG. 11b.

Mallard. Two phases of the movement of the grunt-whistle. Note the arch of water-drops thrown up.

behaviour or one homologous to it. On the other hand, the Cairininae, *Aix* and *Lampronessa* and *Tadorna tadorna* in the Casarcinae, certainly have a homologous activity even though it is differentiated in a different direction. Other than the species of the genus *Anas* in the narrower sense in which this behaviour pattern is practically the same as the Mallard, the following have almost the same kind of grunt-whistle: The Pintail, *Dafila acuta*, the South American Pintail, *D. spinicauda*, the native and the Yellow-billed Teals, *Nettion crecca* and *N. flavirostre*, and probably all the other members of this genus which are unknown to me as well as the Chestnut-breasted Teal, *Virago castanea*, and in a somewhat changed form, the Gadwall, *Chaulelasmus strepera*. The grunt-whistle is lacking in the Bahama Duck, *Pæcilonetta bahamensis*, the African Red-billed Duck, *P. erythrorhyncha*, the various species of Garganey, and the Shoveler.

In view of the intermediate forms between grunt-whistle and shaking still to be discussed in the Wood Duck and Mandarin, as well as the intimation of shaking behaviour which comes at the beginning of the action in the Mallard itself, there can be no doubt that it has had its phylogenetic origin as a mimic exaggeration of what was originally a preliminary shaking. While the Mallard and other Anatinae and the Wood Duck have as reactions, in addition to the usual shaking, two

formalizations of this movement, and the Mandarin has no less than four different courtship movements, distinct from each other and from the original shaking, there is a peculiar reverse behaviour in *Tadorna*. The male has a display shaking very much like the corresponding behaviour of the Mandarin drake. At the beginning the head is lowered so as to suggest a grunt-whistle, and then while being shaken and tossed up a trilling whistle is burped out without the body being lifted. This movement, so peculiar to the Sheld-Duck, is in contrast to all other Anatinæ that perform homologous movements, its only shaking movement, which is to say that the original, ordinary shaking with its mechanical significances, has merged into this reaction. For example, if one seizes a Sheld-Drake and then lets him go there does not follow, as would be the case among all other drakes, an ordinary shaking, but usually the display-gesture described above. From this one would infer that the feather-straightening effect is much less important in it than the original movement which is contributory only in its mechanical effect. I should like to compare the phylogenetic procedure of this change of a mechanically effective instinctive movement into a releasing courtship-ceremony with that differentiation of morphological structures which is to be seen in the wing of a Goat-sucker and an Argus Pheasant. Doubtless these two so distinctive courtship structures have arisen primarily from the well developed specific use made of the wing in courtship before their existence. Now, while out of the Goat-sucker's wing there has, so to speak, developed a second wing especially for courting, beside which the original organ of flying has remained pretty well intact and useful, the Argus' wing has so completely merged into a courting organ that its original mechanical function has been considerably encroached upon by its new supplementary function as a releaser. In the same way with *Anas* and *Aix* the original behaviour of shaking remains in existence alongside the one developed out of it for courtship, while in the breeding *Tadorna* male it has disappeared into it.

6. *Head-up-tail-up (making itself short and high).*

Along with the grunt-whistle the Mallard male has two other courting actions that are of equal value, the head-up-tail-up and the down-up movement. Which of the three comes first after the introductory shaking seems to be a matter of chance. Heinroth writes that generally one drake gives the grunt-whistle and the rest of the drakes involved in the social-play answer with the head-up-tail-up or the down-up movement. This is, to be sure, frequent but it is not inevitable. All other possible combinations occur. The head-up-tail-up is perhaps the most striking of all the drake's courtship actions. It is certainly the most complicated. First with a loud whistle the drake thrusts his head, with indrawn chin, backwards and upwards, and at the same time

curves his rump upwards with rump feathers very ruffled, so that the whole bird becomes extraordinarily short and high. While doing this the elbows are lifted high so that the curl feathers, sticking up high on the rump, can be seen from the side (Fig. 12). This phase lasts about

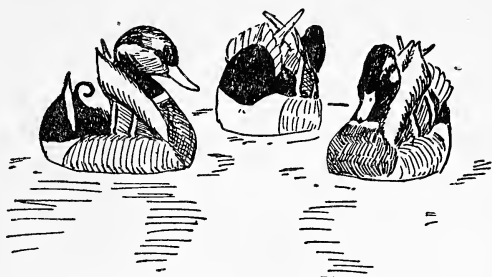


FIG. 12.—The head-up-tail-up of the Mallard drake ; the same phase of movement seen from different sides. Note the prominence of all particularly bright-coloured and morphologically varied parts of the feathers. Compare with Figs 20, 35, and 41.

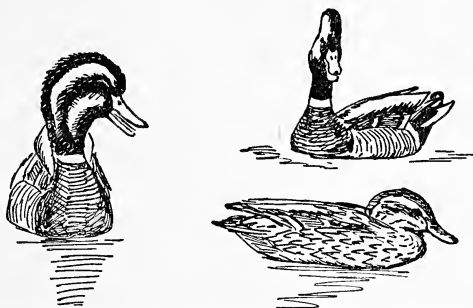


FIG. 13.—The turning of the head towards the female immediately after the head-up-tail-up. Note the position of the head feathers.

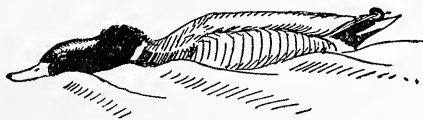


FIG. 14.—Mallard drake nod-swimming combined with head-up-tail-up and head-turning.

a second, and then the body sinks back to its normal position. The head alone remains high for a moment, when the bill is pointed to a particular female among those present at the social-play of the drakes. In the case of mated ducks it is pointed at the mate (Fig. 13). In the next moment the drake starts moving and shoots away over the surface, stretched flat in "nod-swimming" (see above) moving mostly in a circle around the duck he is wooing (Fig. 14). Toward the end of the nod-swimming, when the drake is gradually returning to his normal swimming position his head is now lifted high and the back of

the head is turned to the same duck to which his bill has been pointing (Fig. 15). Even during the head-up-tail-up and belching out of the whistle his head feathers take on a peculiar "set". The feathers are held flat on the side of the head but bristled in the medial portion so that the head becomes a narrow but high disk which, seen from the side, becomes very shiny, in sharp contrast to the dull black ball it was in the preliminary shaking. During the "nod-swimming" this set is changed so that all the head feathers are held flat, and only on the neck does a little area of stiffly lifted feathers remain (Fig. 14). This placing of the feathers is not understandable until the next phase, the

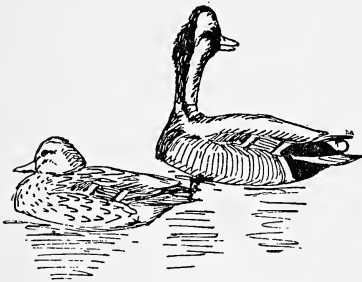


FIG. 15.—The head-turning of the Mallard drake without chin raising, mostly combined with nod-swimming. Note the position of the feathers at the back of the head and their shine, and compare with Fig. 23.

turning of the head. Then a little black field in a frame of shiny green is presented in a striking manner to the view of the female he is wooing.

This is the place for a word about the comparative morphology of this feather placing, wherein the word "morphology" will denote the concepts of both the form of the movement and the organic structure. The position of the feathers which are purely functional in the Mallard are definitely fixed into an unchangeable form in the Pintail, Teal, Wood Duck, and Mandarin drakes. All of the four species named, and

probably many others, possess not only movements homologous to those of the Mallard but also a corresponding feather-placing. With them, however, there are also colour and form characteristics, which show that the same lines that are apparent on the head of the Mallard drake, only in the various arrangements of the feathers, are permanent morphological characters. The disk-like "set", which the Mallard shows at the moment of "burping", has its sharp border exactly at the place where, in the Teal, there runs the fine white line that separates the green of the spectacle around the eye from the dull colour of the top of the head. In the male Wood Duck there is not only the same fine white line, but also a lengthening of the feathers which causes an obvious projection of the border marked in the Teal only by a line. The hoods of *Lampronessa* and *Aix* serve in the first instance as a "disk-set". In the Mandarin drake the same line is marked more clearly by the border of the white temples against the bright colours of the top of the head, and with it the lengthening of the feathers goes so far that the obviously projecting border exists even when the feathers are at rest. In the Pintail drake the "disk-dress" is less clear than in the Mallard but in his case the turning of the back of the head is especially

developed (see also Fig. 23) in conjunction with erection of the neck feathers. The black velvet cushion that appears in this position in the Mallard drake's neck has become in *Dafila acuta* a permanent morphological characteristic. His corresponding feathers are not only, as we know, a deep black, edged at right and left by a white line, but they are also longer than the surrounding feathers so that in the feather-placing part of the head-turning behaviour a prominent feather bolster appears. There is no doubt that in all these body and feather movements, *the movement is older than the organs which has become differentiated in such a way as to increase the optical effect.* The wide systematic distribution of the movements, and the much narrower distribution of the specific feather structures and colours, as well as the clear relationship of the latter to all the behaviour patterns underlying them as a common basis, and obviously present in the family a very long time, leaves no other theory possible. It is also proved by the fact that the distinctive body movements are present in quite the same way as in the Mallard, in males of other species of *Anas* which have not special display plumage. The placing of the head feathers is also traceable in them but to a lesser extent than in the ducks that have head feathers that are either very shiny or very long.

The distribution of the head-up-tail-up is much less widespread in this family than is the grunt-whistle (see Table). In addition to the members of the genus *Anas* proper, it occurs only in the Pintail and in the European Teal, as well as in the male Bahama Duck, where it represents a movement of courtship. It is interesting that it is lacking in the drake of *Dafila spinicauda*. In *Nettion flavirostre* parts of the movement exist, i.e. burping and subsequent turning of the head to the female. We can as yet form no theory about the origin of the head-up-tail-up. As with the grunt-whistle the strong bending of the backbone has obviously something to do with the tightening of the windpipe at the burping out of the whistle, but we cannot decide yet whether the movement itself is derived from an instinctive behaviour, originally operating mechanically, or developing through symbol or displacement activities.

7. *The Down-Up Movement.*

Instead of the grunt-whistle and the head-up-tail-up a third movement may follow, in which the drake thrusts his bill into the water as quick as lightning, and in the next movement jerks up his head alone without lifting his breast (Fig. 16), which is still low in the water. At the instant when the head is highest and the breast is deepest there follows the whistle, just when there is the greatest tension on the windpipe. In raising the bill a little fountain is often raised by the quick bill movement which, because of the short reaction time of a bird, may react optically on the duck. Right after this very brief movement the

drake says his "raebraeb" quite quickly and with lifted chin. More than in other courtship movements one has the impression from the down-up that the drakes must be influencing each other in some way for, with a frequency far beyond the probability of mere chance, practically all the drakes of a courtship-society perform this movement. Then after the ensuing "raebraeb" palaver the courtship ends for the time being.

The down-up is the only behaviour occurring in social play that is used occasionally also at other times and then only in a quite definite

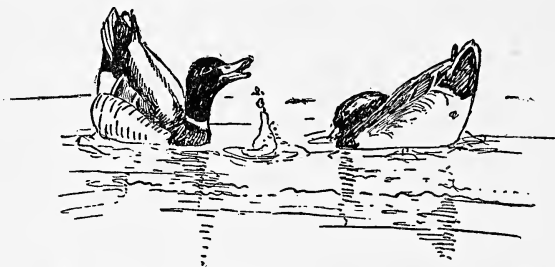


FIG. 16.—The down-up movement of the Mallard drake, the right drake at the deepest point of the movement and the other at the highest, which immediately follows. Note the little fountain of water raised on the surface by the great rapidity of the movement.

situation, as in a "raebraeb" of maximum intensity, which is particularly common after a disturbance, or after a fight between two drakes.

The distribution of the down-up movement is restricted to the closer relatives of the Mallard and is, so to speak, the reverse of the head-up-tail-up. Except for the species of *Anas* in the narrowest sense it is found in a homologous way only in the Gadwall and the different species of Wigeon. An apparently homologous differentiation is found in *Virago castanea*. It is lacking in all kinds of Pintails and Teals, which are otherwise so like the Mallards in courtship behaviour. One possibly homologous courtship movement is the extreme lifting of the head, which is the most important courtship movement of the male Rosy-billed Pochard, *Metopiana peposaca*.

The origin of the down-up movement can be given with some probability. It might be a formalized exaggeration of the "drinking" as found in almost all the Anatinae. If one comprehends the movement of chin lifting done by the Mallard drake after the down-up movement and also, moreover, at great "raebraeb" palavers, as a stage of weaker intensity of the down-up, then we get a somewhat wider distribution of the movement within the family, and at the same time a clearer relationship to the drinking. In the male Wood Duck at times much chin lifting and head turning follows "drinking".

8. "Gaspings."

Often individual drakes without any particular movement, but at the exact instant when the remaining members of the courtship society utter the whistle, make a peculiar hoarse sound. One can imitate it best by saying a three-syllabled "chachacha", while breathing out, then in, then out. One hears the sound especially from weak drakes, or those whose reactions are not yet strong. I have heard it in the same way, but given from a correspondingly different position, from a female Khaki Campbell duck and from a female hybrid of

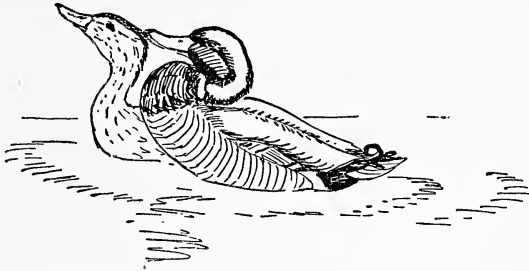


FIG. 17.—The flinging back of the head of the Mallard drake after coition. The same action follows the head-up-tail-up (Fig. 12) with head-turning towards the female (Fig. 15) as a preliminary to nod-swimming (Fig. 6).

Virago castanea and *Pæilonetta bahamensis* which was showing interest in the social-play of the Mallard drakes. The origin and significance of the manifestation are uncertain, as well as its broader distribution.

9. *The Combat of the Drakes.*

Fighting Mallard drakes, with necks drawn in, grab each other by the feathers of the crop and shove each other hard, with one trying to shove the other back. Early in the spring one sees round bare places, the result of this specific manner of fighting. Only when the excitement of the fight is very great do the drakes begin to hit each other with the shoulder of the wing. It is then seen that the peculiar position of the head, neck shortened, was predetermined by the proximity of this additional action. Other Anatinae that hit with the shoulder in fighting hold their opponent with the neck drawn in tightly against the breast exactly at the spot where the shoulder hits.

10. *The Post-Coital Play.*

In the Mallard drake this is marked by a special behaviour. Immediately after treading, while still hanging on, the drake suddenly flings his head and neck far down his back; without lifting them high. Often in this act he is still holding the neck feathers of the female in his bill so that her head is pulled backward (Fig. 17). Then, as if this backward movement had been only the introduction to an exaggerated mimic nod, the drake shoots away with the typical behaviour of nod-

swimming, and circles around the duck, just as after the head-up-tail-up behaviour. This behaviour of flinging the head upward and backward, for which we shall use the term "bridling", appears often as an insertion in the head-up-tail-up, and it follows the lifting of the head and turning of the bill to the female, with the subsequent nod-swimming, in exactly the same way as it follows the mating.

The same post-coital play is found in all species of *Anas*, in *Nettion flavirostre* (whether in *crecca* or not I do not know) and *Virago castanea*. In both of the last named forms the "bridling" enters in as a quite independent behaviour in social-play (Table). In *N. flavirostre* there is no subsequent nod-swimming, and in *V. castanea* it is either quite isolated, or linked up in a single tight chain of actions that begins with the grunt-whistle and closes with nod-swimming and head-turning.

(To be continued)

* * *

THE HAWAIIAN DUCK

By JOHN YEALLAND (Slimbridge, Glos., England)

The Koloa or Hawaiian Duck, endemic to the Hawaiian Islands and formerly common on all the larger ones excepting Lanai, is now reduced to approximately 300 birds and found only on Kauai. The reasons for its decline are the familiar ones of land drainage and consequent disappearance of feeding and breeding areas; indiscriminate shooting and, perhaps the most serious of all, the introduction some sixty years ago to all the main islands except Kauai of the mongoose. Now, as with all other native birds, a strict protection is in force, so there is reason to hope that this small Mallard may yet be saved from extinction.

The sexes are much alike and in general appearance rather resemble females of the common Mallard but for being no more than half the size. The drake differs in having the top of the head darker and indistinctly greenish; orange-yellow legs and feet and the two central tail-feathers slightly upturned. If there is a breeding and an eclipse plumage they are scarcely discernible one from the other, but in the spring of this year we thought that the drake of the pair at Slimbridge looked a little smarter than usual and rather more greenish on the top of the head. They appear to be fairly hardy. There are a few pairs in captivity; one at San Diego Zoo, at least two at Honolulu Zoo (where they breed), and one which Mr. Paul Breese, the Director, kindly presented to the Severn Wildfowl Trust.

This pair, the first to be brought alive to Europe, laid two clutches of eight eggs this year from which seven young have been reared.

The downy young are much like the young of the Yellow-billed (*A. u. undulata*) in general coloration and have similar faint facial markings.

MARBLED TEAL

(Anas angustirostris)

By TERRY JONES (Leckford, Hants, England)

We received five of these little ducks from the Severn Wildfowl Trust as ducklings in 1948. They had been flown from Basra to England when five or six weeks old.

Till they came I had never seen a live specimen and was very pleased to have them. In size the drakes are about the same as a female Bahama Pintail. The colour a dusty grey-fawn, each feather being lighter in the middle than at the edges. A dark streak passes through the eye. Peter Scott first noticed their striking resemblance to a very small pale-coloured Crested Duck. Unlike the other surface feeding duck they have no coloured speculum bar. And most extraordinary of all the ducks don't quack or growl like all other female surface feeding and diving duck. I did not know of this and for some time was puzzled as to what the sexes of my ducks were. They looked like two males and three females, but three had a high weak double note, "pleep-pleep", rather like a very faint edition of a Common Teal drake's call. These proved to be the females. As far as I know no other female duck other than Tree Duck has a high-pitched whistling note. The drake's voice is one of those little nasal squeaks which are so difficult to describe, a similar sort of note to the Bahama Pintail or Cape Teal drakes. Before calling the neck is stretched vertically and then jerked backwards and downwards on to the back and the little call made. The duck does not do this.

In 1949 they did not breed, but in the spring of 1950 they settled down as a pair and a trio. The two drakes did not quarrel with each other, though the ducks of one drake would chase away the female of the other when the drakes were displaying. They spent a good deal of time displaying which considering the very primitive display was rather surprising. The drakes when doing this sat on the water with their necks drawn in, often changing their position suddenly in relation to the other drake or to the duck nearest them, as do most surface feeding drakes. Most drakes I have noticed prefer to be side on or nearly side on to the bird they are showing off to. Suddenly up would go the neck, the little crest sticking out behind and equally suddenly down it would come backwards into the shoulders followed by the little note exactly as when merely calling. The sole difference being that the bird displaying was conscious of his position in relation to the others when displaying. Sometimes a drake would rise in the water with a shake as do Mallard or Teal drakes.

Two ducks laid, the first nest was made in one of the barrels which had been fixed in a willow tree for Mandarins. This barrel was about

five feet from the ground with a rough ladder leading up to it. The eggs are very small, 13 mm. by 11 mm. in diameter and are of a pale creamy white. The clutches are large, 12, 10, 10 were the clutches laid by the two ducks. Just before the clutch is finished the nest is well lined with down: this is light grey of an even tone. The second duck laid in a burrow constructed for Sheld-Duck. The second clutch of the second duck was placed in the side of the stem of the tall carex which grows here. This plant makes fibrous trunks about a foot in diameter and three feet high. The grass-like leaves and inflorescences come out of the top and the sides are hidden by a layer of drooping dead leaves. Water voles often dig out, or rather cut out, little landing places in the sides of these trunks where they may safely sit unseen. It was in one of these little hollows that the duck nested. Incubation is twenty-five days. The ducklings have the typical Mallard or Teal down pattern, but in two shades of greyish fawn, the darker markings being the fawner. A very good down pattern for a bird from semi-desert places I should imagine. The colour of the legs and toes are a bright greenish grey-blue and the webs a khaki colour. The ducklings are terrible jumpers. We put two broods hatched the same day into two coops with their bantam foster-mothers. In the runs right up against the coop spars we placed very shallow dishes partly filled with gravel and about $\frac{1}{2}$ an inch of water. In this water swam an attractive assortment of shrimps and various fly larvæ, also a little fine biscuit meal. But the ducklings jumped against the coop sides, climbed their foster-mother's backs and jumped and jumped and jumped. As anyone who has reared Carolina or Mandarin knows a jumping duckling is a non-feeding duckling. Once they start feeding they give up jumping. We pushed the little beggars out into the dishes, we dipped their beaks in the water, but all they did was jump. We were in despair. The first brood started looking hump-backed and were obviously going to die soon. Then I had a brainwave. I rushed to my pigeon cote and tore the glass panes out of the windows, the only pieces of glass handy which were large enough to cover the coop tops. We removed the coop lids and substituted the panes of glass. The light now was as brilliant inside as out and the ducklings stopped jumping. Soon they were feeding. The older brood died off badly, but the second was saved in time. For several days the wretched hens had to sit panting in the sun under a pane of glass.

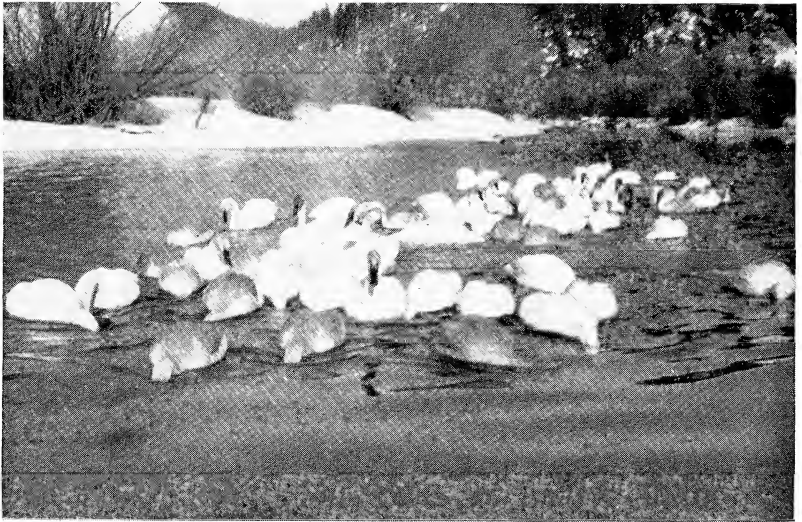
For Mandarin and Carolina in particular we place boards sloping towards the sun. The ducklings love to sit on the warm boards and after paddling generally come on to these boards to preen. The slope causes them to drain quickly and also to heat quickly. No ducklings we have ever reared liked their boards as much as the baby Marbles did. Once started they were not particularly difficult to rear. Their first plumage is similar to the adult, but the markings are less distinct.



[Falcon Studios Salisbury

MARBLD TEAL.

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[Ralph A. Edwards

TRUMPETER SWANS ON LONESOME LAKE, B.C., CANADA.

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THE TRUMPETER SWANS OF LONESOME LAKE

By RALPH A. EDWARDS (Hagensborg, B.C., Canada)

Nearly forty years ago when we first came here the Trumpeter Swans were in the habit of wintering in this area from the last of October to April. They made out fairly well in mild winters, except for the occasional bird shot by Indians for food and feathers. But when the cold winters came along they lost most of their cygnets. (They come here in family groups, and stay as families at least until spring.) In those early days the flock numbered from twenty to maybe one hundred and fifty, depending on how difficult the previous winter had been.

The swans seem to get their food from the black mud which they dredge from shallow parts of lakes and slow running streams, probably pond weed seeds and other food matter available in such places.

When bitter winds roared down from the north and all waters froze up tight the Swans were in the habit of sitting patiently on the ice waiting for a Chinook wind from the south-west to unlock their food supply, living in the meantime on the fat accumulated the previous summer. That was when the cygnets, having spent the summer in growth instead of laying on of fat, succumbed.

After a particularly hard winter with heavy losses the Canadian Federal Government decided to try feeding the birds during such times. At first the feeding was carried on in a rather hit and miss way. One difficulty was the extreme wildness of the birds, and another was the isolated location of Lonesome Lake, thirty some odd miles from the end of the road, about seventy-five miles from salt water. But the Trumpeters gradually acquired confidence in their feeder and after a catastrophic flood with landslides blocking outlets of lakes, raising the water so the swans could no longer reach large parts of the lake bottoms previously available, and because owing to less speed of flow the water froze with less cold, the feeding was placed on a daily ration basis, which proved effective in preserving the species in this area. Their numbers climbed from some thirty odd to around one hundred in five years, during several of which we had record cold winters.

Whole barley at the rate of $\frac{1}{2}$ lb. per bird per day is fed at noon each day during the time the lakes and rivers are frozen over. There are nearly always some open bits of water in swift streams and springy places, but when the thermometer drops to 20 below zero we have to chop ice to get open water to feed in. The Swans will pick the barley off snow but they tramp too much of it into the snow and then cannot get it.

The accompanying illustration shows the Trumpeters feeding in the river as it flows through our place. Lonesome Lake lies between the hills in background. The name of the river is Atnarko.

TRUMPETERS PAY A ROYAL VISIT

By GWEN E. COLWELL (Kleena Kleene, B.C., Canada)

(Reprinted from *The Vancouver Daily Province*)

Whirring wings stirred the snow-chilled air on that New Year's morning of 1945. . . . Lives in isolation are always cheered by such sounds for thus is heralded the advent of spring. However, this was much too early in the year to expect the annual migration, so we wasted no time in running out to see what it was all about. From the river came splashing sounds, and so towards these sounds we turned our steps.

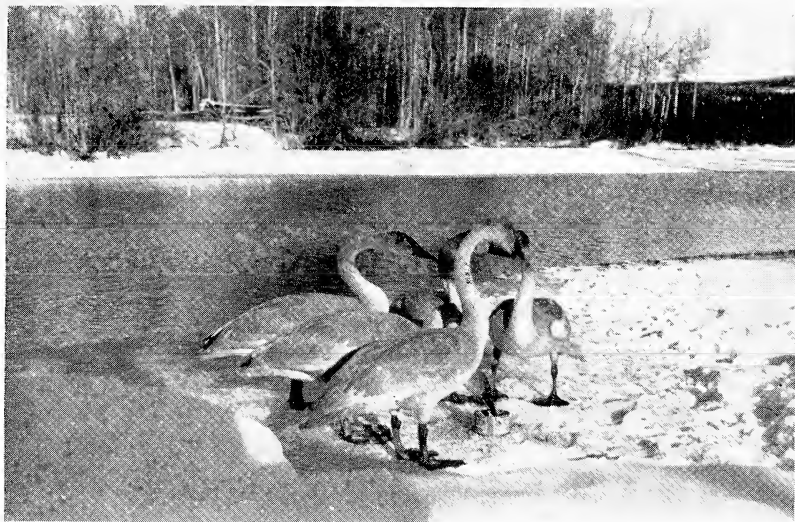
The Kleena Kleene River which carries the snow of Perkins Mountain in its winding passage to Knight's Inlet, passes within fifty feet of our front door. At this point in its journey, being warmed by One Eye Lake from which it has just emerged, the water does not easily freeze over.

In this patch of open water five guests had alighted. They were moving gracefully about giving little heed to our presence. We identified them, unmistakably, as Trumpeter Swans. Their silvery shadowed plumage bespoke their youth.

Our first thought was to secure a permanent pictorial record of the Royal Visit. With the greatest possible speed and stealth we slipped up to the house, secured our cameras, and returned with trembling eagerness to avail ourselves of the opportunity of a lifetime—pictures of the rare Trumpeters. Slipping into a tree's shadow we used up two films and felt lucky to have got within fifty feet of the Swans. After this we moved about more freely, feeling that should the Swans take fright at our proximity we had our pictures for the records.

Imagine our astonishment when the birds continued to swim about—to dive for and feed upon the luscious river grass. They gave no hint of alarm at our presence and moved even closer to the bank on which we stood. An occasional low-pitched trumpet sound, characteristic of this bird, was the only intimation of their awareness of us.

If we were astonished at the Royal Visit still more were we surprised to find that they had come for a lengthy sojourn. For two months they remained. We threw grain into the water but, though interested, they seemed not to understand that it was food. The second day we decided upon a practical lesson. A young wild goose, the last survivor of his family, had adopted us and stayed when his cousins flew south. What a perfect chance! Peter, our goose, was fed his breakfast that morning on the ice ledge along the river bank. In no time the swans showed interest and were soon literally shovelling in mouths full of wheat. They would dive for the grain we threw into the shallows but refused cut carrots.



TRUMPETER SWANS AT KLEENA KLEENE, B.C., CANADA.



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[Gwen R. Colwell

MR. S. H. COLWELL AND TRUMPETER SWANS.

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They became so tame that they would scramble on to the ice when they saw us coming. Before many days had passed Peter was fighting a losing battle at meal times and we had to provide a separate spot for his grain and to police it until he had taken his fill. At the end of the first week they had found their way to the house door. They would parade up and down, necks stretched—bright eyes focussed on the windows. Soft trumpet calls would always attract our attention.

By this time they were tame enough to take grain out of a tin held in our hands. They would take bread or cake from our hands. Their appetites were enormous. We fed them a coffee tin filled with grain three times a day with lots of other odds and ends. This, of course, was only supplemental to the natural food they garnered for themselves out of the river. After being fed, they would sit about outside the house—either watching, or just sleeping. Upon several occasions we had all five huge birds in the telegraph office at one time. They literally filled the room. Indeed, one felt that should they become alarmed and decide to take to the air, the roof would, in all likelihood, be carried off on their backs.

One day the boldest of them ventured inside the back door of the house and spent some time in exploring the enamel finish on the range with his bill. They were great company for the goose, even though bowing to their authority made him quite jealous. He would join them in their flights. Being so much smaller than they, he could take off and land with greater ease. Once airborne the swans could easily outdistance him. That is, when flying in straight line—as soon as the swans began to circle, Peter, putting on an extra spurt, would cut across the arc and come in for the blue ribbon. We, on our part, would shout our cheers from below, and Peter seemed to understand.

On the last day of February the goose deserted the swans in our favor. He followed us every time we went outside. If we were indoors he would stand at the door making disturbed little honks. Being stupid humans we could not guess the reason. At five o'clock on the morning of March 1, Peter and his pals took to the air. They circled twice over the house as a final salute; set their course to the north—and were gone.

Why they came here is a mystery. Some think that they had strayed from Lonesome Lake, where Trumpeters have been fed for years on grain provided by the government. The argument against this, of course, is the fact that the birds quite evidently knew nothing of grain feeding until they learned from the goose.

Why they have never returned we shall never know.

REARING CINNAMON TEAL IN CAPTIVITY

By R. S. MACKENSEN (Yardley, Pa., U.S.A.)

For the past several years my father, William J. Mackensen, and I have been rather successful in rearing the Cinnamon Teal (*Anas cyanoptera*). We are both very enthusiastic about these splendid little ducks and would like to share a few of our observations concerning their activities and breeding habits at our farm in Pennsylvania.

We secured our original breeding pair from Mr. M. R. Cheesman, of Utah, who has been the outstanding breeder of many species of wild North American ducks for many years. Through several generations of mating the female progeny of this pair with wild males, we have developed a prolific strain well adapted to captivity.

We find that these tiny ducks seek a mate before they are even a year old and remain strongly bound, even during the winter months between breeding seasons. Their natural beauty, delicate size, and friendly manners make them a great favourite of many collectors.

They usually breed during their first year and are among the earliest to nest, getting busy at the very onset of spring. If cover is close by they do not wander more than a few feet from the water to nest. Since they breed before the natural cover has become dense enough, we have found that it is advantageous to place about groups of evergreen branches under which they readily nest, thus concealing them from the ever-searching Crows, Hawks, etc.

Their nests are not too well-made, containing barely enough material for them to cover their eggs while they are laying their clutch. If we find a nest, we prefer to substitute dummy bantam eggs rather than to chance having the true eggs stolen by some predator. The eggs are about the size of a very small bantam egg, creamy white, and usually ten per clutch.

The drake travels with the duck until she has found a suitable site to nest. Once she has started laying, he stays in the water while she goes off to her nest. She lays an egg approximately every 36 hours.

By the time all but one or two eggs have been laid, she becomes very broody, feathers her nest, and is most reluctant to leave it. In fact, many of them set so close that you may stroke their backs without their moving. Of course this boldness makes them quite vulnerable and it is easy to understand why they fall easy prey to any predators who may gain entrance to their pen.

When we are sure that the clutch has been completed, we destroy the nest, since the duck will continue setting for several days even after all eggs have been removed. We then incubate the eggs under close supervision, using a small hybrid bantam. Occasionally after two or three weeks the same female will lay again.

The incubation period is 26 to 28 days and fertility always runs

very high (about 90 per cent). The young have good vitality and are easily raised if protected carefully from predators. They grow and feather quickly, being full-sized and completely feathered in a few weeks. Of course the males do not assume their coloured plumage until fall. However, they may be early identified by their brighter wing speculums and their yellow eyes, in comparison with the brown eyes of the females.

Breeders and young are fed entirely upon free choice of chicken pellets with a small amount of wheat mixed in. This can be supplemented with greens of some sort, but it is not actually necessary.

The young are kept in small, well-guarded enclosures with their bantam foster-mothers until they are completely feathered, at which time they are moved to the pond and have their first try at swimming—the bantam going back to her drab life in the hen house.

* * *

QUEER BEHAVIOUR OF BARNACLE GEESE

By JEAN DELACOUR

There are three Barnacle Geese at Clères at present, one male and two females, reared by Major Pam in a brooder five years ago.

From the beginning of the time when they arrived, one female was taken with a sudden and overwhelming love for one of the wild Turkeys which she has ever since faithfully followed about everywhere. The Turkey simply ignores the goose. Up to this last winter the other two Barnacles lived together in the park, behaving as a normal pair, but I was astonished last April, on my arrival from America, to find that the second Barnacle female had imitated the first one and attached herself to another cock Turkey! This shows what a bad example can do. Each goose follows and loves her own Turkey and chases away the others. This is all the stranger as these Barnacles had never seen a Turkey before coming to Clères. When they meet, the female Barnacles are rather cross to each other. The lonely male seems to live happily, if singly, among the other Geese of the park. In July, however, his lawful wife, tired of the Turkey's indifference, I presume, rejoined him. Neither of these female Barnacles has ever laid.

BRITISH AVICULTURISTS' CLUB

The twenty-ninth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 12th September, 1951, following a dinner at 7 p.m.

Chairman : Miss P. Barclay-Smith.

Members of the Club : Dr. M. Amsler, Miss Kay Bonner, W. Brain, Captain A. Clarence, T. Crewes, A. H. D'Aeth, W. T. Dring, O. E. Dunmore, A. Ezra (Patron), J. F. M. Floyd, Miss S. A. Fothergill, J. C. Garratt, T. Goodwin, C. F. Harding, H. J. Harman, R. E. Heath, Dr. E. Hindle, G. T. Iles, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, G. C. Lynch, P. H. Maxwell, G. S. Mottershead, S. Murray, K. A. Norris, Sydney Porter, A. A. Prestwich (Hon. Secretary), D. M. Reid-Henry, R. C. J. Sawyer, Peter Scott, D. Seth-Smith, A. E. Sibley, E. Wilford Smith, E. N. T. Vane, H. Waller, C. S. Webb, Professor J. Wheatley, Mrs. J. Wheatley, R. C. Witting, Mrs. M. K. Woodford.

Guests : Dr. K. Aylwin-Gibson, Jim Bailey, L. C. Bushby, G. S. Cansdale, Mrs. W. T. Dring, Mrs. M. Fairbrother, Mrs. J. C. Garratt, Miss S. Goodwin, Mrs. T. Goodwin, G. T. Lynch, J. D. Macdonald, F. Mosford, Mrs. S. Murray, Mrs. Peter Scott, Mrs. F. B. Scragg, Mrs. D. Seth-Smith, Mrs. F. R. Skermer, Mrs. E. Wilford Smith, Miss M. Wilford Smith, T. N. T. Vane, D. Waller, Mrs. D. Waller, Mrs. H. Waller, Mrs. C. S. Webb, Mrs. R. C. Witting, Dr. T. H. Work, Mrs. T. H. Work, Dr. E. T. Wright, Mrs. E. T. Wright.

Members of the Club, 41 ; guests, 29 ; total, 70.

The Chairman, opening the meeting, the first of the seventh session, described briefly the formation and progress of the Club since its foundation in 1946, and said it was a matter for general congratulation that it had gone from strength to strength.

On behalf of the Club the Chairman said she would like to extend a special welcome to Mr. J. D. Macdonald, in charge of the Bird Room at the Natural History Museum. Aviculturists were greatly indebted to him for his unfailing courtesy and patience in identifying birds, and she was glad to have this opportunity of thanking him for all the help he had so willingly given.

The Chairman went on to say that ornithology and aviculture seemed to have a special attraction for medical men, and many distinguished doctors were foremost in these fields of study. The Club had great pleasure in welcoming Dr. and Mrs. Telford Work, from California, who had studied and photographed birds in many parts of the world.

Dr. Work said he was pleased to show his films to the Club. He and his wife were due to leave England and it was fitting that one of their last evenings should be spent amongst bird-lovers. The colour films

“ From the Arctic to the Tropics ” began in Spitsbergen, showed sea-birds of the British Isles, animals and scenery in Canada and the United States, and then moved by way of Hawaii to Fiji and New Zealand. Dr. Work throughout gave a very interesting running commentary.

The Chairman, in thanking Dr. Work, said that in a long experience of nature films she did not remember having seen one superior to that now shown. The sustained applause of the large audience testified their appreciation of Dr. Work’s excellent photography and of his remarks in general.

The next meeting of the Club is on **14th November, 1951.**

ARTHUR A. PRESTWICH,
Hon. Secretary.

* * *

NEWS AND VIEWS

Monsieur Jean Delacour has recently been made an officer of the *Legion d’Honneur* and all members of the Avicultural Society will wish to join in warm congratulations to Monsieur Delacour on this high distinction.

* * *

Some fifty members and friends accepted the invitation of the Duke of Bedford and visited Woburn Park on the afternoon of 7th July. The Duke met the party at the Lion Lodge, and conducted it round his 20,000 acre estate. The weather, for once, was perfect.

In the course of the drive round, stops were made to view the aviaries, homing Budgerigar “ lofts ”, the lily pools with their innumerable Golden Carp, the orangery, and, in the woods, the giant cedars. The party was able to approach quite close to the 300-strong herd of Père David’s Deer. Amongst the many other deer were Manchurian Sika, Chinese Water-deer, Reeve’s Muntjac, Indian Swamp, and, of course, Fallow.

Some American and a dozen or so of the much rarer European Bison were of particular interest.

To many the highlight of the visit was the sight of the three young blue Indian Ring-necked Parrakeets, only out of the nest the previous week. (N.B. The aviary was securely locked !)

All were profuse in thanks to the Duke for a memorable and very enjoyable afternoon. This was the first visit of the Society to Woburn. It was an unqualified success, and the general hope was that it might be possible to make it an annual event.

* * *

Dr. Alan Lendon writes : “ I was in Sydney a few weeks ago, and find that Mr. E. J. L. Hallstrom has bred the Blue-eyed Cockatoo (*K. ophthalmica*) of New Britain. I think this is a first record ? ”

A. G. Shearing, the young son of A. P. Shearing, has obtained a remarkable breeding success, having bred the Redstart. One young one, believed to be a cock, is flying strongly. Thus, after the lapse of thirty-five years, he emulates a feat of the great Teschemaker.

* * *

At the last B.A.C. meeting, Dr. Amsler mentioned several prominent aviculturists who also were great horticulturists. Modesty, of course, prevented his including himself in this number, but we have no such inhibitions. Dr. Amsler should very deservedly be included. He has just been awarded the Lindley Medal of the R.H.S. for his *Camellia Japonica*.

* * *

Peter Scott was married at Reykjavik, Iceland, on 7th August, 1951, to Miss Philippa Talbot-Ponsonby, assistant secretary of the Severn Wildfowl Trust.

Mr. and Mrs. Peter Scott arrived back in London on 14th August. The expedition was completely successful, 1,100 geese were ringed in ten days.

* * *

Miss Emily Hopkinson has recently lost her Africa Ring-neck "Michael". Dr. Hopkinson brought it and a Senegal back in 1901, and it had been in her possession for a day under fifty years. The Senegal ("Ferdinand") has a dropped wing, and indulges in a little feather-plucking, but is otherwise quite well.

* * *

I. Baty has reared three young birds which he believes are Twite \times Siskin hybrids. The only doubt is that there was a male Siskin in the aviary, although it took no part in the proceedings. This cross is a very unusual one. The only record appears to be to the credit of G. L. Hey, of Luton: two nests of four each reared in 1937. There is, however, no doubt about the eleven Elegant Parrakeets, reared by three pairs (3, 3, and 5).

* * *

A complete set of the original edition of Audubon's *The Birds of America*, published in London between the years 1827 and 1838, was auctioned at Christie's on 3rd July, and fetched £7,000. The set was sold by Mr. Charles Silvertop, and the purchaser was Mr. W. H. Robinson, of Pall Mall.

The previous highest was £3,700, given at Christie's on 11th June, 1945. The subscription price was £182 14s. the set (\$1,000 in America), and it is believed that fewer than 200 complete bound sets were made up.

Mrs. G. T. Clark does not normally breed hybrids, but sometimes birds have their own ideas or odd birds need mates. A cock Barnard definitely and persistently refused a hen of his own kind, and decided to take for a wife a Golden-mantled \times Mealy Rosella. Result, four nice young ones flying.

Last year seven (nests of four and three) Queen Alexandra's \times Barraband's Parrakeet hybrids were reared. The parents again have young this year.

* * *

H. Murray has bred the South American Black-crested Finch (*Lophospingus pusillus*); one young one reared.

Before the war this was known in the trade as the "Pigmy Cardinal". Dr. Amsler was successful in breeding it in 1939. The female parent was killed by a Thrush the day after the two young ones left the nest, but the male, nevertheless, succeeded in rearing them unaided. Allen Silver also bred this bird about the same time, but Dr. Amsler just beat him for a "first".

* * *

John Yealland takes up his duties as Curator of Birds to the Zoological Society of London on 1st October. He is not altogether a stranger to the Regent's Park Zoo, having received part of his early training there before his lengthy service with the Duke of Bedford.

For a time before the war, Yealland was in charge of the late Dr. J. M. Derscheid's collection at Sterrebeek.

Since the war Yealland has had plenty of variety, having made collecting trips to East Africa, helped in the conservation of the Sandwich Island Goose in Hawaii, collected ducks in Iceland, and acted as Curator to the Severn Wildfowl Trust.

* * *

Dr. Alan Lendon has kindly sent the following information. The Medal of the Avicultural Society of South Australia has been awarded for the following breeding successes during 1950-51:—

- Swamp Quail (*Synoicus ypsilophorus*), R. W. McKechnie.
- Madagascar Weaver (*Foudia madagascariensis*), H. J. Hutchinson.
- Red-capped Robin (*Petroica goodenovii*), F. R. George.
- Golden-breasted Bunting (*Emberiza flaviventris*), F. F. Welford.
- St. Helena Seed-eater (*Serinus flaviventris*), D. Meadows.

Of these, the Red-capped Robin was adjudged the outstanding achievement of the year, and Mr. George was awarded the Society's Silver Medal.

The total number of Medals now awarded since the Society's foundation in 1928 is one hundred and sixty-one.

In the last number we announced an increase of 10 per cent in the cost of printing the Magazine. Now we have to report an additional increase of $7\frac{1}{2}$ per cent to cover a cost-of-living bonus agreed between the Master Printers and the Printing Trades Unions.

Each number of the Magazine costs over twice as much as before the war. Once more we would impress on members the fact that *they are members of a Society*, and not just subscribers to a Magazine, and that it is incumbent on them to help the Society in every way possible.

A. A. P.

* * *

LONDON ZOO NOTES

By C. S. WEBB

An interesting breeding result has been that of Schlegel's Dove (*Calopelia puella*). Two were hatched in late June and successfully reached maturity. This species, known also under the names of Cinnamon Dove and Odu Dove, is probably the prettiest of the African Columbidae, being mainly cinnamon in colour with a blue head. It is a West African species, living in the wild state in forests where it finds its food—fallen berries and seeds—on the ground. In this respect it resembles the Lemon-Doves (*Aplopelia*). As far as I know this is the first breeding record of the species.

Another interesting event in the pigeon world is that our Pheasant-tailed Pigeons (*Otidiphaps nobilis aruensis*) have at last gone to nest and have laid one egg. They have been in an enclosure on their own since May, 1950, with a shelter entirely cut off from public gaze and we were beginning to despair of any happy result. However, one can hardly blame birds from the Aru Islands delaying their nesting activities in a year like this wondering if summer would ever arrive. It will be grand if this effort ends in success as this species is not only rare in captivity but is extremely interesting on account of its gallinaceous appearance and habits.

Something of even greater interest is the nesting of a pair of Grey-winged Trumpeters (*Psophia crepitans*). Two eggs were laid in a wooden tray high up in the aviary shelter and a third egg, unfortunately cracked, was found on the floor. These are large, white, and sharply tapering. They were laid at infrequent intervals, the female spending a certain amount of time on the tray but not sitting tightly. However, a few days after the laying of the last egg both birds took to incubating in earnest. When the female flies down from the nest, the male rushes up to her, bows a few times, then flies up to the nest to take his turn. As is well known Trumpeters usually show no inclination to breed in captivity though they invariably become exceedingly tame, so we are

awaiting results with interest. There are no golden rules for breeding certain birds in captivity. Some pairs under the most natural conditions will never attempt to breed and others, as is the case with our Trumpeters, will go to nest with no particular privacy and in a mixed company of birds.

We have recently witnessed a complete departure from a bird's normal nesting habits. A pair of Goldfinches in our British Aviary made their nest on the ground under a tuft of grass. This was so well concealed that it was not noticed until the young were hatched. These were all reared.

We had no luck with the Stone Curlews or Thick-knees reported as nesting in my last notes. Both birds took part in the incubation and one, which we took to be the male, was always on close guard and attacked the keepers if they approached. However, after the hen had sat well beyond the maximum incubation period the eggs were found to be infertile, within a week of the end of this episode two more eggs were laid and we concluded that they were laid by the supposed male.

A King Penguin chick was hatched on 31st August. It is doing well and is being cared for, and fed by regurgitation, by both parents. As is the case with the single egg the chick is supported on the feet of one of the parents with the fold of skin on the stomach lowered to form a perfect downy covering. This seems much more promising than the one hatched last year which died when 2 days old as this mother is much more attentive. Another factor may be that we have switched to whiting which is apparently much more suitable to the young King Penguins than herring.

Further breeding results are 2 Red-rumps, 2 Queen Alexandra's Parrakeets, 2 Fischer's Lovebirds, 2 Masked Lovebirds, 3 Masked ditto, blue variety, 1 Night Heron, 1 Silver Gull (*Larus novæ-hollandiæ*), 6 Bob Whites, 3 Sonnerat's Jungle Fowl, and about 80 pheasants, including Common, Golden, Silver, Reeves, Amherst, Black-breasted Kaleege, Red, and Sonnerat's Jungle Fowl.

New arrivals include :—2 Ariel Toucans, 2 Iberian Red-billed Choughs, 4 Delamere's Giant Whydahs, 5 Jackson's Whydahs, 1 Bluish Finch, 2 Common Firefinches, 2 Stock Doves, 1 W. African Quail Finch, 1 Vieillot's Fireback Pheasant, 1 White-fronted Guan (*P. jacucaca*), 3 White-eyebrowed Guans (*P. superciliaris*), 1 Mealy Rosella, 3 Red-faced Lovebirds, 4 Abyssinian Lovebirds, 27 Blue-winged Parrotlets (*Forpus passerina*), 14 Yellow-headed Conures (*Eupsittula jendaya*), 13 Cactus Conures (*Aratinga cactorum*), 2 Natterer's Hawks (*Buteo magnirostris nattereri*), 1 Red-backed Buzzard, 2 Black Kites, 1 Azara's Scops Owl (*Otus choliba*), 1 Brazilian Pigmy Owl (*Glaucidium brazilianum*), 1 Spectacled Owl (*Pulsatrix perspicillata*), 1 Abyssinian Spotted Eagle-Owl (*Bubo africanus cinerascens*), 2 Brazilian Cariamas (*Cariama cristata*), 4 Garganey Teal, 2 Red-breasted Geese,

1 Little Egret, 4 Black-tailed Godwits, 7 Yellow-billed Sheathbills (*Chionis alba*), 1 White-crested Tiger Bittern (*Tigriornis leucolopha*), 2 Great Indian Hornbills, 3 White-breasted Touracous (*Corythaixoides leucogaster*), 1 Common Guillemot, 1 Golden-fronted Fruitsucker,

* * *

REVIEWS

RECORDS OF PARROTS BRED IN CAPTIVITY. Part III. Conures, Parrotlets, and Parrots. By ARTHUR A. PRESTWICH. London, 1951. 7s. 6d. net.

This third volume continues the excellent series on records of Parrots bred in captivity, and like its two predecessors is excellently set out and full of valuable information. Sixty-two species are dealt with in the volume and, as in the first two volumes, the indices of both English and scientific names are most helpful. Parrots are the group most favoured by aviculturists and the many people all over the world who keep these birds have reason to be greatly indebted to Mr. Prestwich for producing the detailed records of their breeding in captivity in such a practical form to which quick and easy reference can be made.

P. B-S.

THIRD ANNUAL REPORT OF THE SEVERN WILDFOWL TRUST. 1949-1950. Country Life, Ltd. London. Price 10s. 6d.

The Report contains a list of all the species in the Trust's collection with notes on important additions and new species. An excellent table of hatching and rearing includes much information on each species concerned, such as number of breeding pairs, date of first egg, number of eggs, what happened to the eggs (whether hatched, destroyed by vermin, broken by hen, etc.), percentage of young hatched, and percentage of young reared. A section of the Report is devoted to observations on the wild geese, ducks, and other birds occurring in the neighbourhood. The volume concludes with a series of short descriptions of the swans and geese of the British Isles by the Hon. Director, Peter Scott, illustrated with four attractive plates in colour, by the author, of the Swans, the Black Geese, the Grey Geese, and the Snow Geese. The Report is also profusely illustrated with photographs and a number of charming pen and ink sketches by Peter Scott.

P. B-S.

NOTES

ACKNOWLEDGMENT.

The Editor acknowledges with many thanks the kind permission of Mr. James P. Rooney to reproduce the painting by Kobayashi of the Falcated Teal, which forms the frontispiece of this number.

HARTLAUB'S DUCK (*Cairina hartlaubi*) IN CAPTIVITY.

This beautiful African counterpart of the Muscovy has always been rare in captivity, and so far has not bred in confinement. It was gratifying to hear that three pairs have recently joined the collection of the Severn Wildfowl Trust. As far as I know, four specimens have previously been kept at the Antwerp Zoo, and also a female at the Jardin des Plantes, Paris, between 1925 and 1935 about. Some lived up to five or six years and proved hardy and easy to feed. There are at present two males and a female in perfect condition at the New York Zoological Park, brought from the Belgian Congo by C. Cordier in 1949. These birds are quiet in their ways, but savage towards other waterfowl. The two males cannot be kept together.

J. DELACOUR.

A LONG-LIVED LAUGHING KINGFISHER.

A Laughing Kingfisher (*Dacelo gigas*) has just died at the Zoological Gardens, Belle Vue, Manchester, after thirty years' residence in the Parrot House. The Kingfisher remained in good health almost to the end and was certainly in good voice only a day or so before it died. Besides the usual flesh diet, this specimen used to relish an occasional grape.

G. T. ILES.

PHILIPPINE MALLARDS.

Dr. Dillon Ripley has recently received seventeen Philippine Mallards from their native islands. This fine species has so far been very rare in captivity and has never bred, although Dr. Ripley had eggs and chicks in 1950. The late Mr. de Laveaga, at San Mateo, California, reared hybrids between the Philippine and Australian Mallards.

JEAN DELACOUR.

* * *

CORRESPONDENCE

POSSIBLE ESCAPED BIRDS

In connection with a book on the History of Birds of the London Area, 1900-1950, which is being prepared by the London Natural History Society, I shall be grateful if any of your readers can give me any information regarding the possibility of the following birds having been escapes from captivity:—

White Stork, seen at Mill Hill, 6th April, 1938.

Barnacle Goose, one at Ruislip Reservoir on 9th November, 1924, two at Elstree Reservoir on 30th April, 1941, and one at Hamper Mill from about 5th February, 1950, to 26th March, 1950.

Brent Goose, twenty at Ruislip Reservoir from 9th November, 1924, to 25th January, 1925, two flying east at Mill Hill on 13th February, 1946, and five at Hamper Mill on 23rd December, 1950.

R. C. HOMES.

62d ALBEMARLE ROAD,
BECKENHAM, KENT.

"PHANTOMS."

It was with considerable interest that I read the article by that famous aviculturist, Mr. Edward Boosey, in the July-August issue of our Magazine and noticed that he claimed to be the first to cross-breed Pheasants and Bantams and produce what he calls "Phantoms".

I venture to challenge this claim, not only as regards the breeding itself, but also as to the name of the product! Let me now proceed to substantiate my own claim.

During the heavy snowfall which occurred in April last year, the area of rural Surrey, in which I live, was heavily affected and several of my aviaries collapsed under the weight of the snow, with consequent chaos to their inhabitants, where no less than eight trios, chiefly Pheasants, had been already mated up. The result of the mix-up was that a cock Sebright Bantam mated with a Hen Golden Pheasant, and at the subsequent hatching, two unusual chicks appeared. At the time their colourings did not greatly differ from that of other Pheasant chicks, but they were unusually active, even at a very early age. Both have survived, are still in my possession, and it is interesting to note that in spite of the colourings of their parents, they are rather uninteresting to the eye, their colour being a dull brownish black. At the time I christened them "Phantoms" and the name has stuck to them ever since.

While sympathizing with Mr. Boosey over his bad luck in losing his bird, I feel he will be interested to hear the story I have related of my accidental breeding.

F. E. THOMAS.

BARNFIELD, DUNSFOLD, SURREY.

LIBERTY SHAMAS

In reading Mr. Dulanty's interesting account of his Shamas at controlled liberty, I was struck by the very odd coincidence that his hen, as well as a hen of a pair we had at controlled liberty at Keston before the war, should both have come to grief in the same way—namely by drowning themselves.

As, therefore, hen Shamas at liberty appear partial to this form of suicide, it would seem that anyone who is contemplating trying this very fascinating branch of aviculture next season would be well-advised to see that any open water-butts, tanks, etc., that they may have in their garden are safely covered over before they let out their Shamas.

I see Mr. Dulanty thinks his hen was drowned when attempting to bathe in a water-butt. Our hen, however, always had her bath among some irises in the shallow water at the edge of a lily pool, so the fact that she was found drowned in a half-filled sunken watering tank in our greenhouse was, I feel certain, explained by the presence of a very small drowned mouse in the same tank. Both our Shamas were ardent mousers and I have little doubt that the hen was chasing this one when, in desperation, it either fell or jumped into the tank, and she must have plunged in after it. It was a very sad ending to a fascinating experiment, particularly as the Shamas had a brood of four young ones just on the point of fledging, all of which were dead by the time the body of their drowned mother was discovered.

EDWARD J. BOOSEY.

BRAMBLETYE, KESTON, KENT.

CHINESE WHITE-SHOULDERED MYNAHS

I am working on a problem concerning the colour phases of the Chinese White-shouldered Mynah, *Sturnia sinensis*.

As I am anxious to obtain information regarding these birds in captivity I would be very grateful if any aviculturist who has kept a White-shouldered Mynah would get in touch with me.

B. P. HALL (Mrs.).

THE BIRD ROOM,
BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD, LONDON, S.W. 7.

AUSTRALIAN PARROTS IN CAPTIVITY

A series of articles by Alan Lendon published in the Avicultural Magazine. A full account of 60 species of Australian Parrots is included in the book which deals where possible with the author's personal experiences in keeping them in captivity in South Australia.

There are one coloured and seven photographic plates. Stiff paper cover. Price 7s. 9d., post free. Published by the Avicultural Society, and obtainable from the Hon. Secretary, 61 Chase Road, Oakwood, London, N. 14.

THE SOCIETY'S CHRISTMAS CARD.

The Society's Christmas Card, a group of Gouldian Finches, from a painting by Peter Scott, is still available. Members are urged to help the Society by ordering as many as possible. Price 1s. each, including envelope.

Orders, with remittance, should be sent to the Hon. Secretary.

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★

Practical Hints on the Keeping and Breeding of Gouldian Finches.

By P. W. Teague. 1s. 1d.

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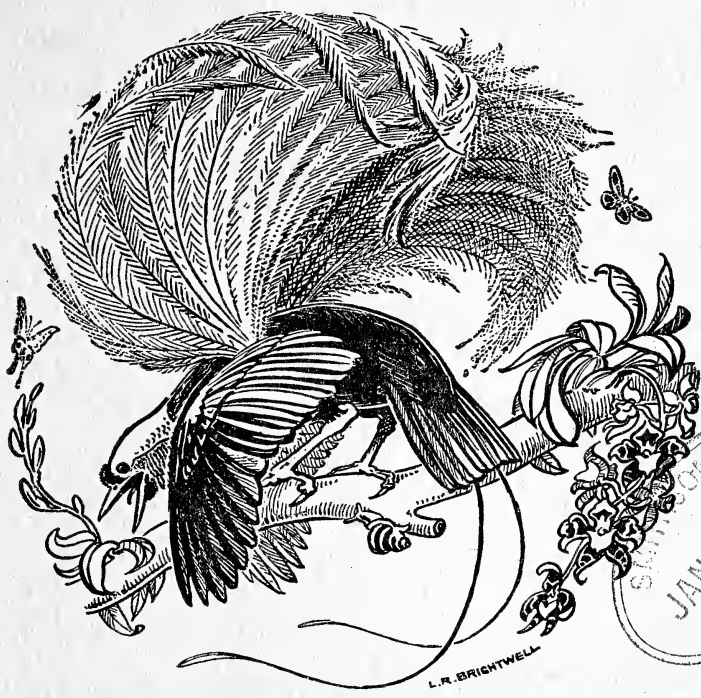
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HYBRID VIRGINIAN X EUROPEAN EAGLE-OWL.

Left to right : Young bird, mother, one-eyed father.

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THE JOURNAL OF THE AVICULTURAL SOCIETY
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NOVEMBER-DECEMBER, 1951

THE REARING OF A HYBRID VIRGINIAN × EUROPEAN EAGLE-OWL AT DUDLEY ZOO

By D. H. S. RISON (Dudley, Worcs., England)

As there appear to be several records of the straight breeding of both the Virginian and European Eagle-Owls, a hybrid between the two species is perhaps not very surprising, but nevertheless, as it seems to be the first authenticated cross, I thought it worth while recording in the Magazine.

Both parents are among the oldest inhabitants of Dudley Zoo. In fact, they came to Dudley as part of the original collection from Oxford Zoo on the latter's disbandment in 1937, so their actual age is not known.

On reading through Mr. Prestwich's *Records of Birds of Prey Bred in Captivity*, one gathers that success with Eagle-Owls generally comes when the birds have been many years in captivity, first efforts usually ending either with infertile eggs or callow young being killed and eaten by the parents.

Infanticide is, I believe, often the experience with birds of prey deprived of live food, the explanation being that the desire to kill their own prey overwhelms the parental instinct to such an extent that the old birds cannot resist making a meal of their offspring.

It would appear, however, that after many years in captivity, this appetite passes, and then success is achieved.

I experienced rather a similar occurrence many years ago with Blackbirds. For the first two years the old pair let their young die from lack of live insects, but in the third and successive years I saw them taking artificial food to the nest and young were successfully reared.

To return to the Owls at Dudley, this particular pair behaved true to form. Incidentally, the Virginian is the cock, and he has been blind in one eye for a long time. From what I can gather, the pair have shared the same enclosure on and off for many seasons. The hen has laid regularly, but whether she has been with the Virginian or not her eggs have always been infertile.

Last year, my first season at Dudley, the European Eagle-Owl was

in an aviary by herself. In the spring she made a scrape on the gravel floor of the flight right in the open and laid two or three eggs, of course infertile.

This spring, however, due to shortage of space, the old one-eyed Virginian, of whose sex incidentally we were in some doubt until this year, was again put with the European, and to give her a fair chance a heap of rough dried grass was placed in the darkest corner of the concrete floor of the shelter shed, behind the door and out of sight of the public gaze.

As we never really expected success, I am afraid that accurate records were not kept, but during May a rough nest was made in the grass. Eggs were laid and incubation commenced. The number of eggs laid and number of young hatched are not known, as the hen sat tightly and was never caught off the nest, which she guarded ferociously, snapping her bill and puffing herself out threateningly at one's approach.

Between three and four weeks later a careful watch was kept, and eventually it was reported to me that part of at least one downy young one had been seen under the hen when she raised herself up in defence of her nest.

From then on the birds were disturbed as little as possible, and whenever procurable young rabbits, freshly killed and whilst still warm, were put in the aviary. There is no doubt, however, that cold dead "shop" rabbit and butcher's meat were taken as well, and the youngster grew apace.

Throughout, Mr. Jack Westwood, who looks after the Owls, told me he never saw the cock actually feed the young one. It took food in lumps to the nest, which presumably the hen dismembered and fed to the youngster.

At quite an early age, when still covered in down and less than half grown, the young one would walk about the floor of the shelter, occasionally appearing at the doorway to take a look round. Towards the end of July it became more or less independent of its parents, and although still partly covered in baby fluff, would sit about in the open sunning itself. At this stage it could also apparently feed itself, although it is difficult to say whether or not it still received a helping hand from its parents.

They have always been shy, and I myself never saw them feed it in the open at any rate.

Now (mid-September) our young hybrid is almost as big as its mother the European Eagle-Owl, and considerably larger than its father, and as the adult feathers appear more and more through the down it is evident that the markings are going to be a mixture of the black smudging of the Virginian and the dark streaks of the European. At present its eyes are the straw colour of the adult Virginian. There

are, as yet, the merest little bumps where the "ear tufts" will eventually be. The facial discs are well developed. The colour of the nestling down was pale fawn, faintly barred with darker wavy lines.

* * *

NOTES FOR 1951

By THE DUKE OF BEDFORD (Woburn, Beds, England)

The breeding season of 1951 has been the best I ever remember—for coccidiosis microbes—and the worst for Parrakeets. This, I fancy, has been the experience of some other aviculturists also. The excessively wet winter and the complete absence of anything deserving to be called spring until the middle of May seemed to affect both the fertility of the old birds and the stamina of their offspring. (In the latter connection, it may be interesting to note that the percentage of weakly Red Deer calves in the Park this summer is quite abnormally large.)

A hen Barraband which bred last year was beginning to come into breeding condition in April, when she fell a victim to coccidiosis. A pair of Princess of Wales' hatched two young, but killed one when nearly feathered by feeding it on unhusked millet, a lazy and disastrous habit to which individual Grass Parrakeets are also prone. The survivor, a strong bird but badly plucked by the hen, left the nest in due course. The hen started to lay again when coccidiosis claimed her also. The same fate later befell a young hen Rock Peplar trained as a day-liberty bird. According to my experience, no treatment will save a Polyteline Parrakeet once it gets coccidiosis, nor will lactose in the drinking water always prevent it.

The young Princess of Wales', as recorded elsewhere, I trained as a day-liberty bird, but after some weeks of exemplary behaviour he unexpectedly blotted his copy-book by flying several miles away and staying out for the night. He returned early next morning, but I judged it prudent to shut him up again as, with Rock Peplars, such behaviour is a prelude to ultimate complete departure. The old breeding pair of Rock Peplars reared four good young ones, all of which were successfully trained as day-liberty birds, though one has been lost from the cause already mentioned. Incidentally, what rot those people talk who try and make out that if an animal is perfectly healthy and is fed on wholesome food not grown with the aid of artificial fertilizers, it can never get ill from microbic infection! Like many enduring falsehoods, the theory has an element of truth mingled with it for there are *some* diseases, notably those caused by parasitic worms, which *some* animals can resist better when well fed than when undernourished; with this qualification, however, the theory is, as I have said, rubbish. A bird fed on nourishing seed

and grain, fruit, etc., with access to unlimited wild foods *not* grown with artificial fertilizers may be the picture of health, well-grown, in perfect feather, and abounding in playful energy, and high spirits. Yet the day comes when it gets a virulent microbic infection. In a few hours it is sick, and within a few days it is dead.

A hen Barnard that bred successfully last year laid a large clutch of eggs at the end of April. On 30th April, however, we had a terrific blizzard, and the aviaries were darkened by a heavy fall of snow. The Barnard understandably decided that the Australians were right, after all, in considering April the beginning of winter, and deserted her nest. Later, when the thaw came, she began to lay again, but got egg-bound with a malformed egg, and when she had laid it in the hospital dropped into moult.

Brown's Parrakeets, which bred last year, nested rather late and lost their young at about ten days old. A young pair of Pileated bred at Keston, and still in immature plumage, did the same.

Derbyan Parrakeets and Green-winged Kings, both pairs very old birds, laid two clutches of eggs as they did last year, which, in spite of wheat germ oil, were infertile.

Crimson-wings reared one young one in their first nest, and then, very unexpectedly, went to nest again and hatched four more. These also left the nest, but one broke its leg a day or two later and, as I was carrying it to the birdroom, it escaped out of my hands and flew away. It was seen the following morning, but not again. The old birds are excellent parents, feeding their children when in heavy moult themselves.

The lutino Nyasa Lovebird and his mate have got no further than eggs with young dead in the shell. Ordinary Nyasas have reared five young.

The old albino hen Roseate Cockatoo mated to her son, raised my hopes by going into a nest quite a lot, but she did not lay.

I was unsuccessful in obtaining a suitable mate for the other white-bred cock. The first hen I got was bad on her feet from too long caging. Another bird I selected as a hen in a rather dark room, behaved exactly like a hen when first turned out in the aviary. When I got "her", "she" had a *very* dark red breast, and I thought a red eye. "She" has now, without a moult, assumed a pink breast of normal shade, and a dark eye, and appears to be a cock. Roseates can alter their breast colour without a moult, but I don't think they alter their eye colour and sex except when they want to play a bad joke on their owner!

A normal pair of Roseates reared two good young and one rickety one that had to be destroyed in their first nest and three in their second, and the Gang-gangs reared two good young, both cocks.

I have had a couple of hen Little Bluebonnets for about three years.

One has had several illnesses, but it was her sister who went down badly with coccidiosis this summer. I have never known a small Parrakeet so very ill for so long. For several days we gave up all hope of her recovery, but in the long run she did get well, not quickly as most birds do once they begin to mend, but very slowly like a human patient after a severe illness.

Coccidiosis, I find, is not very difficult to distinguish from enteritis in the early stages. A bird with enteritis has the droppings much changed in appearance but, in the early stages of coccidiosis they look more normal though later they have a tendency to clog the vent, and need removing. Coccidiosis is certainly the worst disease we have to contend with at Woburn, attacking birds of all kinds, both wild and domestic. One of our leading veterinary authorities takes a pessimistic view of the ailment throughout the country, saying that during the past quarter of a century it has become much more prevalent among all classes of livestock, and that our knowledge of methods of prevention and cure has not progressed to the degree necessary. Among poultry breeders etc., there appear to be two schools of thought. The older holds that if an infected bird recovers, it is thereafter a "carrier" and a menace to the health of young stock; the other, and newer, considers that birds which have recovered are, if anything, more satisfactory afterwards in every way. On the whole I am inclined to agree with the new view rather than with the "carrier" view. From mid-July onwards the Budgerigars at liberty provided me with an unwelcome amount of experience, although I realize that I have still quite a lot to learn! The incidence of the disease was rather curious. Young birds are far more susceptible than old; cocks far more susceptible than hens; birds with access to the natural soil are more likely to get ill than those confined in aviaries with tiled floors. With the exception of one young bird that had strayed and been caught and returned in rather poor condition, all the fatal cases—about six—were among young birds bought and turned out in the liberty aviary or bred in a closed aviary at Woburn, and later put into it. Of the young birds affected, only two were saved, both after rather long and severe illnesses. In the case of two young birds—brother and sister—the disease followed an unusual course. The cock appeared to recover after a slight initial illness, but a few days later, and before he was turned out, he had a relapse and died. The hen also recovered after a slight illness, and again flew at liberty for some weeks, when she developed a sudden and severe attack, and died. Thus, although I believe an attack *does* usually confer subsequent immunity, there seem to be exceptions.

In the hens' "resting" aviary, which has a tiled floor, three hens, after breeding, developed mild bowel trouble which looked rather like coccidiosis, and recovered without ever being seriously ill.

Three adult cocks fell ill in the liberty area and recovered. Two were mild cases ; the third a severe one. Two fledged young belonging to this latter bird died in the nest and clearly caught the infection from him. The youngest nestling and the hen were not infected. One of the mild cases, on recovery and return to the aviary, reared a large brood, all of which remained healthy. No young birds got ill in the closed tiled-floor aviary, but many of the same got ill or died, some weeks after transfer to the liberty aviary, which also has a tiled floor but, of course, access to the soil outside.

Next year I intend to experiment with birds moved from the closed to the liberty aviary in the egg and very young nestling stage to see if it makes any difference to their susceptibility to the disease when they are older. If it does not it will indicate the presence of a hereditary factor. It is rather difficult to say how far sulphamezathine, seven drops in two ounces of water given for five day periods—and lactose—one tablespoonful dissolved in a pint of boiling water and cold water added to make one gallon—have been useful for cure or prevention. They are not 100 per cent successful but, on the other hand, without them losses might have been heavier and recoveries fewer.

* * *

ALARIO FINCHES

By R. GARNER (Nottingham, England)

I have always had a great interest in the keeping and breeding of foreign birds, and before the war, was successful in breeding Zebras, Javas, Cuthroats, etc., in outside aviaries. In 1939 I had quite a few foreigners, which all had to go, as I was called to the Forces at the outbreak of hostilities.

All through the war I longed to start up with birds again, and as soon as I was demobilized I put up my garden aviary, but owing to the import licence restrictions no foreigners were available, so had to stock it with a few Canaries. These did well, and the next year a few foreigners came on the market at rather high prices, so I acquired three pairs of the commoner species. One evening I noticed that the Keston Bird Farm was advertising one cock Alario Finch, so I sent for him, and in due course he arrived in good feather and in full song, so he was placed with my other six foreigners in an indoor aviary in my birdroom. About six weeks later the same firm advertised one hen Alario, so of course I phoned right away for her, and she duly arrived in good feather, but not much to look at, being something like a small hen Redpoll.

She was also placed in the same aviary as the cock and the other

foreigners, as it was too late in the season to think of breeding. In the spring the pair of Alarios was given an indoor aviary to themselves, and were duly supplied with nest boxes, but no attempt was made at housekeeping either that year or the next.

This spring I placed the Alario pair in a small outdoor aviary, about 12 feet by 8 feet, with a small shelter portion, together with three pairs of Canaries, and supplied several nest pans and small nest boxes made of wood, about 8 inches by 4 inches, with a half open front. These were placed both in the shelter portion and in the outside flight, and a small quantity of hay was placed in each.

The Canaries commenced housekeeping, and shortly after I was pleased to see that the Alarios were interested in one of the boxes in the outside flight, and very soon a nice little nest was built of hay and feathers in one corner of the box. The first egg was laid about a week later, followed at daily intervals by three more. The eggs were of the same size and very similar to those of the British Redpoll.

The hen sat very closely, and on about the tenth day I found one egg on the aviary floor, which had either fallen or been thrown out of the box. On examination this egg proved to be well advanced in incubation, and contained a well-formed chick. About three days later the first live chick appeared, followed by two more. Both parent birds were very busy feeding the chicks (brown bread and milk, Canary rearing food, soaked seed, and plenty of fresh lettuce leaves being provided).

All chicks did well for four days, when one appeared to fail, and died. The remaining two grew very quickly, and after eighteen days left the nest, and were similar in colour to the hen. About four weeks later one chick showed signs of the white patches and black head of the cock bird, while the other remained in the hen-like attire. I imagine I have a pair, although the believed cock has not yet assumed the black head and dress of the adult cock, but shows even more distinct signs of doing so, and the other still remains in the hen's attire.

The adult pair have had another attempt at housekeeping, and this time laid three eggs in the same nest box as the previous family was reared. Two chicks hatched, and one died after about a week, and the other, which I think is another young cock, left the nest on 18th August.

PS.—Since writing the above article I am able to confirm that the first two chicks are definitely a pair, as the cock has assumed its full male attire. The youngster from the second nest is also showing male characteristics. All are doing well and are exceptionally strong.

28th October, 1951.

* * *

BIRD COLLECTING IN THE BELGIAN CONGO

By CHARLES CORDIER (New York, U.S.A.)

In October, 1948, in the company of my wife, I set out for the Belgian Congo to assemble a collection of live animals for the New York Zoological Society. At the top of our list of specimens wanted stood the Congo Peacock, several other winged rarities, and many mammals.

From New York the Norwegian freighter which we boarded made a beeline for the port of Dakar, French Senegal, and then proceeded stopping here and there at ports of the Gold Coast. Twenty-five uneventful days later we reached the mouth of the Congo River and then raced upstream against the swiftly flowing muddy current to the port of Matadi.

Contrary to our expectations, the Congo River in its lower reaches bears no resemblance whatsoever to the majestic sea-like aspect of the Amazon. The former runs very deep, compressed between high hilly banks which, in their bareness, bring to mind a Chinese landscape.

There we set foot on Congo soil and kept an eye on the unloading of our voluminous equipment, which included an 8 cu. ft. kerosene refrigerator, which later proved absolutely indispensable. Two days later we boarded a train which was to take us, surmounting an altitudinal difference of perhaps 600 feet, over hilly and bare country, to the modern capital city of Leopoldville. We were serene in our knowledge the duffel was following right behind us and, subsequently, realized we had been lucky. Unaccompanied baggage often languished at Matadi harbour and elsewhere for half a year or so.

As our train wound its way upwards, stopping at neat stations embellished with flower beds, nothing brought to mind the epic struggle and tremendous cost in human lives and capital it took to build these narrow-gauge steel ribbons linking the upper navigable part of the Congo River with the sea.

At Leopoldville we groaned at having to dip deep into pockets to pay customs duties assessed on everything we had with us, no matter whether old or new. The competent Forestry Service issued a collecting permit, at a substantial figure of so much per head to be collected—and sent us forth with its blessings.

We now boarded with our duffel a cargo sternwheeler, somewhat slower than a passenger boat, bound for Stanleyville. Our vessel, flanked by two barges as big as herself, first ploughed through Stanley Pool and then proceeded up one of the many Congo River channels. It took twenty-one days to cover the next 1,000 sinuous miles of the Upper Congo, island-dotted throughout its length. Every evening the boat would tie up for the night at the river's bank to take on firewood.

The waters of the river were at flood level ; no sandbanks were showing. The vegetation reached right to the water edge and, consequently, during the whole three weeks we rarely saw anything alive, except an occasional crocodile, which the ship's captain would use for target practice with his army rifle, some Cattle Herons floating seawards on clumps of vegetation, snowy white and black Angola or "Palmnut" Vultures (*Gypohierax angolensis*), slowly cruising overhead while deciding whether to fish or get an easier meal of palm nuts. Incredibly as it sounds, this bird is responsible for the spreading of the Elais Palm over much of the forested part of the Congo. Another large black and white bird, the Hornbill, with its conspicuous two-storey beak, would cross the river high above in rapid flight.

Gone into limbo with the days when you could trade beads for valuable souvenirs, or a native would do anything for an empty tin can, is the high forest which used to cover the Congo rivers banks. As on a highway, the sides are lined with fields, immense palm nut tree plantations, villages, or just plain uninspiring second growth forest.

At Stanleyville, where a series of falls interrupts navigation, we disembarked, glad to be done with major travelling, and were gratified to find all our belongings on hand and intact. We managed to store the nearly sixty cases temporarily and set out in our jeep truck, which we had brought with us, with the intention of locating a likely ground for Peacocks and a convenient site for a collecting camp.

As many of our readers will remember, this mysterious bird became only known to science when Dr. James Chapin, of the Museum of Natural History of New York, in 1936, while on a visit to the Congo Museum, at Tervueren, in Belgium, spied, relegated on a cabinet in a corridor, a pair of large mounted birds labelled Crested Peacock. A barred broken feather protruded from one of the wings and, upon closer examination, it proved identical to a puzzling feather which Dr. Chapin took from the hat of a native in the Congo twenty-three years earlier. When in 1937 Dr. Chapin returned to the Congo to look for *Afropavo*, already skins collected by alerted friends awaited him.

To-day several dozen skins repose in three or four museums ; I contributed some skeletons and brought back six males and one female alive ; I also collected chicks, which up to then were unknown. It has been established that its area of distribution covers an immense part of the forested Congo territory and yet we know little about its habits and much less about its nesting.

We headed in the general direction of Ikela, 180 miles south-west of Stanleyville, as the crow flies, where, during the last war, a government employee had kept two pairs and obtained from them a clutch of two eggs. This gave rise to a short notice I remember having seen in this very publication, erroneously reporting that the Peacock had been bred in the Congo.

As, on a Sunday, our shiny, canary-coloured jeep bounced and jolted along the dirt-highway, which we found to be bad, and worse in most of the forested section of Stanleyville Province, we were amazed at the reaction this sight provoked in the villages we traversed. Shouts of amazement would be heard, women and children would come streaming out of the shade of huts and the men would get off their deck-chair-like seats or resting platforms in their palaver houses open on all sides, tightly packed with humanity and, sheltering besides the log drum. On reaching the end of a village, usually flanking the highway for half a mile and more, we would drive through widely gesticulating, shouting, and yelling crowds, and the combined noise would be like the droning of a giant bee-hive. I have been told that the same enthusiastic reception is still being given to the train that has run bi-weekly from Stanleyville to Ponthierville for the last fifty years.

After driving for several hours we had no trouble collecting a crowd and unveiling to these primitives our paintings in almost natural size of male and female Peacock. The first reaction was of consternation and query; then a brighter lad said "Itundú", and they all took it up. Our "wapi"—where—brought forth "Yaolonga" and pointing up the road we were on. The map revealed such a village name and, with the kind help from white employees of a rubber plantation, we were soon installed in the government resthouse of Yaolonga. We were now not quite half-way to Ikela and on the fringe of the no-man's land found on the west bank of the Lualaba river. We had never been able, up to then, to find out for sure whether there really was a passable road to Ikela; therefore, already tired, we thought this might be as good a spot as any.

Next morning, at daybreak, I started out with two guides into the forest. After a dog-trot of several hours, which the natives seemed to keep up effortlessly, while I was sweat-soaked and somewhat winded, a welcome stop ensued as our progress got barred by two almost naked, spear-carrying hunters straining under heavy loads. An all-pervading sweetish smell of decaying flesh, mingled with an acrid smoky tang came from the charred lumps being carried, and I got introduced to their brand of jerky "nyama", a delicacy the average native mostly dreams about. A watery, pinkish exudate had collected from the stuff and was trickling down the porters' backs. Suddenly I noticed a bunch of blue-edged wing feathers tucked under a vine holding a load and . . . Congo Peacock feathers they were. My halting inquiries brought forth the obvious explanation. The male bird had stepped into the foot sling of an antelope trap. I could hardly get over the fact that of the very first day of my assignment I was that lucky. There seemed to be nothing to this collecting. With renewed vigour I followed my fast progressing guides. There

was very little undergrowth barring our way and I complimented myself on this feature. Later, however, attempts at penetrating the Congo forest in other sections brought out conditions under foot that were very bad. To get my breath back, once in a while, I would stop and inquire "Itundú wapi"—where? They would stop, point to the ground, and make a sweeping gesture. To gain more time I would say "haico"—there aren't any; they would then affirmatively stamp their feet and say "yes there are", looking annoyed. Once, near a little brook, they pointed to scratch marks made by an Itundú; a further moment's rest was later gained by examining a dropping right in the trail, also coming from an Itundú, according to them.

Around noon we reached a typical hunting camp of the Bamboli Negroes, consisting of a long string of thatched huts that were so low they seemed play-houses for children. Outside fires were smoking under stick platforms and one native was busy undoing leaf-covered parcels of meat literally alive with maggots. He would scrape most of those off with a knife and then place the pieces over the smoky fire. Later, I have seen jerking of meat done in the camps of other tribes but never again under such conditions. Wrinkling one's nose and remonstrating will bring the rejoinder that the meat gets eaten, not the smell. . . . Little by little several strapping fellows joined us each carrying one or two medium-sized Gaboon Duikers, some fresh, others smelly and fly-blown. I did then not yet realize that these genial natives were daring non-conformists, envied by thousands of rubber workers living on huge estates nearby.

After reconnoitring other sections of the same forest on successive days, without finding any more traces of Itundús, we returned to Stanleyville to begin an extensive search for a base camp. Our choice fell on an empty government house, a huge, thatched, stick-and-mud affair situated about 40 miles east of Stanleyville, on the road to Bafwasende. The natives there assured me that the Peacock was to be found in the surrounding forest. In the months to come their assertions were never proved, however; there was hardly any other choice as housing was very scarce. I also knew that, further east, near the Tschopo river, Peacocks had been found.

Mr. Bridges, the New York Zoological Society's Curator of Publications, soon joined us, flying in from New York, with the objective of providing the members with a first-hand account of how collecting is done.

About 40 miles east on the Bafwasende road, and 24 miles south of it, used to be the mining camp of Ayena, where twelve years ago, Dr. Chapin had personally collected Peacock skins. I decided on this location for a trial. There was one serious drawback to it as the mining camp had been abandoned with the road probably claimed back by the bush. We lost no time to realize the scheme by rounding

up an interpreter and porters. The ensuing difficulties, confusion, and late start between 9 a.m. and 10 a.m., soon made it clear to me that back home someone had failed to make contact with the Colonial Administration at Brussels, which action alone brings out the big Welcome Mat by the somewhat autocratic local administration. Obviously, the fonctionnaires who have the hardest time to make the natives understand that cash crops are good for them and tending fields a virtue, not to be left to their wives altogether, look with somewhat jaundiced eyes upon requests for activities disruptive of such teachings. Their black charges ask for nothing better than to follow a call into the woods with the prospective feasting on meat. As matters stood throughout our stay, we rarely received all-out government help and had mostly to rely on the appeal of greed upon the natives by offering unheard of rewards for the animals wanted.

The road to Ayena was, indeed, impassable for vehicles, and all eleven bridges had disappeared. A narrow trail often obstructed by windfalls, but mostly by second growth, pulled down and trampled by elephants, was all that was left of it. Towards evening we camped, perhaps at the half-way mark, and the following day we reached the natives' hunting camp, a crudely built roof of abandoned corrugated iron sheets. How far we were then still from the former site of Ayena was not clear, but the spot itself seemed a favourable location from which the natives fan out to set their traps or to dig skilfully long rows of oblong pits with smooth walls sloping slightly inwards, the bottom studded with slender hardwood spikes of irregular lengths. A marvel of murderous ingenuity goes into these constructions.

I set a number of natives to construct an extensive line of footslings. They choose to work not far from camp and bunched together, getting into each others' way. As the noise from our camp reached the trap line this effort was entirely wasted. We had hardly settled down when the people started to complain about the lack of food. The village head did not or could not comply with instructions to send porters with more food to us, and most of the men had to be sent back for more provisions.

It became apparent that the real mining camp had been situated much further in, and I persuaded one of the hunters to guide me in a search for it and the Peacocks that was to last two days. We left early and walked at a sharp pace until noon, past innumerable scratch patches of the Crested Guinea-fowl. For a time we followed a smooth elephant path. Often my guide would stop abruptly and then I would notice a vine stretched taut across. These were triggers of suspended poles high up in the foliage ready to crash on to unsuspecting pachyderms. Towards early afternoon my native stopped often, and I noticed our passing seven times the same stilt-rooted tree. Obviously we were lost. . . . We circled for hours, then gave up and decided to

build a temporary shelter. I helped in the gathering of roofing leaves, stepped into a masked hole, heard a crack, and realized, before falling to the ground, that the bones of the right leg above the ankle had snapped.

I spent a night of agony on the ground, with the native squatting and dozing near a fire in a little shelter he had built for himself at a short distance. Toward one in the morning he drew my attention to a call echoing through the perfect stillness: "ngowe, ngowe" it sounded. Then it was followed by an answering call on a lower pitch: "ngoá, ngoá." The sound was repeated from another direction, and very faintly still from another. I had listened for the first time to the nocturnal cry of five or six widely scattered Congo Peacocks, and was to hear this performance repeated twice more during this night of all nights. . . .

I had occasion to hear this raucous utterance again in other forest sections but had never the pleasure of being accompanied by hunters with enough guts to go out into the night to locate the roosting tree, to surround it at daybreak with nets, the bird getting captured when it comes down to the ground, late it seems, between 7 and 8 o'clock. The habit of giving its position away at night is, perhaps, the reason, according to Dr. Chapin, why the Peacock is not found in the Ituri forest which begins about 100 miles north-east of where I was. Pigmies dwell in it and it is entirely possible that these stalwart and ferocious hunters have been able to exterminate it. The more so, I agree, because our camp was on the north-eastern fringe of its range. The species there is to be found only at widely scattered spots and seems to have no push left to extend its range. Speaking of pigmies and the birds' range, it comes to my mind that about a year later, 500 to 600 miles south-west of Ayena, at the mission station of Loto, Province of Costermansville, a forest pygmy brought me a not quite adult, dying female Peacock which had fallen into a buffalo pit.

The next day my companion, accompanied by natives, came to my rescue, summoned by my guide. I was tied to a pole, my nose one inch from it, and thus carried, passing two more nights in the forest before reaching the highway and later the hospital at Stanleyville.

This mishap put a serious cramp into my activities. At my suggestion, Mr. Bridges took *Afropavo* collecting over and proceeded to Mangandu, near Lubutu, about 225 miles south-south-east of Stanleyville, where I had heard specimens were collected before. Thanks to an energetic black government official, spurred by promises of a substantial "matabishi" (reward), the inhabitants of a whole village were dispatched to a forest only four or five miles from the highway. There the bird seems not to have been driven back ten or more miles from the road because it probably made a comeback in a section hunted clean of other game previously. Perhaps, there, the

natives are being pushed to raise food for great numbers of men working in the gold mines and have not enough time and energy left for going after such scarce and unrewardingly small feathered "meat".

I reckon a good thousand traps were set out and, as a result, in the course of three or four weeks, six or seven *Afropavo* females were captured which were in various stages of disrepair. Some were dying, others had broken legs which proved that the traps were put up too far for supervision from camp and that these rather sullen and backward Bakumu people did not care and used tension poles for the traps which were too strong, better suited for holding small Antelopes. When such is the case, birds are left dangling by a leg. Mr. Bridges brought to our camp at Bongena, where I hobbled around after an eleven days' stay at the hospital, once two and then one female Peacock. To do so he made the hazardous drive at night. Of these specimens, one died, unable to swallow the morsels of meat and boiled eggs I forcibly pushed down her gullet. Of the other two, hardly able to stand on their legs for a moment, one died days later and the remaining bird rallied and started to feed on grubs, small pieces of raw meat, boiled egg, and, finally, on an insectivorous mixture suitable for Thrushes. This specimen remained exceedingly nervous throughout the time we had her, was distraught by noises, and generally behaved "headless" until its end, which came about some eight months later. She probably never fed sufficiently, and in the end the hookworms got the better of her. After Mr. Bridges had given up his camp at Mangandu we were several weeks later electrified by a telegram mentioning a captured "Itundú". We practically rocketed over the several hundred bumpy miles in the jeep and found a male, perhaps a year old, dark blue underneath, back greenish-blue, with the stiff white brush on its forehead, which in some males attains about 3 inches, having started to "sprout". The bird had been kept on evil-smelling grubs in poor light but seemed all right. I had no trouble inducing it to feed on an insectile mixture. It developed into a fine, steady specimen thanks to a spacious compartment, partially roofed over and planted, sealed against flight on the sides with closely spaced poles and with strong fish netting above. Unfortunately, this bird came to an untimely sudden end eight months later through poison administered by a native, I believe.

In April, 1948, Mr. Bridges returned to the United States. In June we moved our main camp to a spot six miles south of Stanleyville to lessen supply difficulties. By October only was I able to set out again in the search for more Peacocks. With a newly-acquired 3 ton truck, with an extra long body, I headed for the Adventist Mission, which is situated about half-way between Kirundu and Lubutu, south-south-west of Stanleyville. I stayed over a week with a dozen natives in the

forest at a spot vaunted for its Peacocks. A trap line half a mile in length was set up which rewarded us with a single Crested Guinea-fowl, useless to me on account of a broken leg. Peacocks were never even heard; instead, once deep in the night there was a general alarm among the natives brought about by the distant hissing and growling of Leopards having, possibly, an altercation about division of spoils. After giving up this fruitless search I rolled on with the truck to Lubutu, and from that post on northwards to the end of a short mining road. At Lubutu the competent administration official provided me with the one and only game warden, who in my mind's eye still stands out on account of his jug-ears, the lobes of which had huge circular holes, through which I found it fascinating to look at the scenery beyond. The usually flat landscape hitherto encountered changed into hilly, almost mountainous country, and it was thrilling to realize that now Mountain Gorillas were around. At Mundo, the road's end, the native administrator, on superior orders, provided the necessary porters and I limped on, on a wide trail, still headed north. My leg was then still giving me considerable trouble. On the third day of March the Maiko river was reached and there I was told there was no facility to cross it and to travel on the trail leading through uninhabited forest to Angumú. According to information obtained from Dr. Chapin, the Peacock is quite common on that trail, but back at Lubutu, later, the government men said they simply did not want me in that section for fear I would spy on their illegal hunting camps.

However, Peacocks were supposed to be right across the river and, with the aid of the game warden, I believed for a time, I had managed to send a lot of scouting parties out to locate the birds, for us to follow as soon as a favourable spot had been found. After a ten days' wait, a triumphant party of two men brought in the carcass of a leopard trapped in a noose. Voluble and energetic game warden notwithstanding, I had to leave, and in spite of having announced our return-safari well in advance, the village on that day was absolutely deserted. Porters could only be rounded up in the early afternoon, and they reached the next resthouse on the trail in the night. In due course I was back at our base camp with a few Water-Chevrotains and Gaboon Duikers; of Itundùs there was nothing. . . .

Next I turned my attention to the large forest reservation of Yangambi, on the right bank of the Congo River some 60 miles west of Stanleyville. At the Izangi government headquarters a sympathetic administrator gave me a paper calling on the black government man at Ueco to provide me with up to fifty men. I hurried to the place, only to wait in impotent frustration for many days as this rather turbulent tribe of Turúmbu natives was in the throes of a serious disturbance brought about by the question of who was going to bury

the corpse of a woman whose husband had been slow in paying the customary death-indemnity to the brother of the deceased. There was plenty of leisure to find out that the Turúmbus, fierce and repulsive looking due to evenly spaced skin flaps produced by tattooing in a straight line from the edge of the scalp on the forehead to the tip of the nose, imitating the serrated centre ridge of a crocodile's back, call the Peacock "Ngokóla". On this trip and later I was assisted by my Arab, Mwarábu, whom I had promoted from carpenter to collector. We finally did get fifty men; instead of coming to us with nets and food they appeared empty-handed in their Sunday best and had to be sent back to bring the necessary implements. It would be too long and tedious relating in detail what happened with this great force of helpers, but two events stand out. One attempt to collect Peacocks in the territory between the rarely used road running from Ueko or Weko to Bengamisa and the Congo river brought two Water-Chevrotains instead, and the natives who carried them out to the road in proper cages, in spite of being cautioned, bolted with the load and had great fun in being the first ones back. One of the animals was dead as a consequence. . . .

The next attempt, north of the road mentioned previously, I can still vividly remember. On the third stay after having established camp and distributed strings for traps, I heard a tremendous commotion in the depths of the forest; it swelled in volume and drew nearer. I could make out one man carrying something in a bag and over thirty wildly gesticulating and rhythmically chanting natives. They drew to a halt like a well-drilled platoon with a tremendous thumping of feet, and I was handed the bag, blood-stained, with a flourish amidst sudden profound silence. I extricated from that bag two Black Guinea-fowl, the bottom one practically dead. It died later, and its fate would have been different if one bag for each bird had been used, of which they had several provided by me. The terrific racket had scared all game for miles, and I had to give up the attempt, a little wiser, doubting that great numbers would accomplish anything, especially when, on calling in the string handed out for traps, I found half of it unused. As to their hunting prowess with nets to provide them with the so highly valued meat, a little figuring made it apparent that if the men are being paid at the more than modest 11 to 12 American cents per day, a ten or twelve man party with nets, which is about the largest number able to work together, and at their best if from the same family and village, bring in so little it is decidedly much less expensive buying meat in cans coming all the way from the Argentine. . . .

Next, I turned my attention to the hunting camp of the former village of Boma-Hay which used to be on the left bank of the Aruwimi river below the government post of Banalia. A Mr. Coultas and a

companion, both Canadians, had collected there five or six Peacocks years before. The village had been relocated much further up-river on the opposite bank, but with the help of the old chief, Lúpu, a former guide of Stanley's, as well as white administration officials at Banalia, I set out with a dozen men in dug-outs for the former hunting camp of Boma-Hay, or so I thought. I even had among our party the village chief of Boma-Hay, who described how the two Canadian "Muzungus" received news about the outbreak of World War II on their squeaking box precipitately abandoning everything such as tents and so forth, implying he hoped I would do likewise.

The hunting camp we reached after floating with the current for about five hours, entailing further a march of several hours across swampy forest, practically on the heels of elephants, to judge by the fresh signs, was the most picturesque ever seen by me. Many tiny huts were balanced on 30 ft. long stilts in a tiny clearing. Into these the men retired at night for safety, presumably, but I hate to think what would have happened if an elephant had leaned against the poles to scratch its hide. . . . A smoking rack laden with charred lumps of meat and day-old domestic chicken underfoot were proof it was being used. Towards sundown several hunters started making a rhythmic racket with little gourds and reeds resembling the squeaking of supernatural-sized bullfrogs, and after hours of this the tempo increased and the most stalwart of the hunters started to sway, teeter, and stagger backwards. The direction in which the magic powers drew him more often was the necessary indication which way next day's hunt would go. After a few days' wait, during which I inspected alone several of their widely scattered trap-lines to check the strength of the tension-poles used in their traps, at considerable risk of getting lost, many Black and Crested Guinea-fowl were brought to me, and this was topped off by a headless female Peacock and a Genet caught in adjoining traps. Then nothing more appeared, and one morning, outside camp, at the usual hour of starting operations at about 8 o'clock, my village chief of Boma-Hay officiated in a long-drawn out mystical ceremony in which two little smoky fires and a half gourd with water were placed on the trail. He gestured mostly silently, mumbled a short incantation, after which each participant had to step over the fires. From then on plenty of Water-Chevrotains and small Duikers, mostly dead, came into camp but, for me, nothing more. I kept insisting they should move into the next ex-hunting camp situated much further in as agreed upon at the start. However, the men showed a strange reluctance to do so, and I gave orders to return. In a village on the opposite bank of the Aruwimi river I had to wait some days for travel arrangements to get back to Banalia. In the meantime, many villagers got suddenly affluent by collecting substantial rewards for Black Guinea-fowl which they netted for me.

Plenty of talking also made it startlingly clear that our Boma-Hay village chief, who was on such good terms with the power controlling the movements of game, had not taken me to the former camp of Boma-Hay at all but much nearer instead. The men got duly punished by their chief, Lupu, but by a strange quirk of native Congo justice, the village chief mainly responsible, on account of being a blood relation of Lupu's, was spared the punishment.

On reaching the new Boma-Hay, from which we had started out originally, and where I had left my Arab collector, Mwarábu, I found a dozen Black Guinea-fowl on hand as well as a "Bulikoko" or Giant Plantain-eater. The first were doing fine, the same as my Tufted Guinea-fowl, by being fed at the start on the white immature flying termites coming out of the mushroom-shaped termite nests abounding in the forest. Some really hardy woman also brought for our Sesés, or Black Guinea-fowl, as called locally, pails full of the big termites constructing huge mounds often graced with spires. These imposing structures are so hard that every strike on them with a machete brings forth sparks. The numerous chambers contain vegetable matter on which tiny round mushrooms are raised. Disturbing their work is savagely punished by the square-headed soldiers, and every nip inflicted by their formidable jaws draws blood. On approaching a band of these termites foraging on the forest floor the myriads suddenly start rapping rhythmically the dead leaves and twigs, and the effect produced is startlingly like the sudden drumming of an oncoming tropical shower.

After being transferred to an aviary at our main camp, the Black Guinea-fowl learned to feed on an insectivorous mixture but they would always show the greatest enthusiasm on being given termites. They would rush to the termite covered spot trying to cover with their bodies as much ground as possible, shoving the companions away pushing with their shoulders sideways. Most unusual and un-Guinea-fowl-like. I suppose these rather small gallinaceous birds, absolutely black, with bald scarlet heads parted in the middle by a few black feathers, with a series of spurs on each foot, must have originated in the forest, which would account for their being wholly insectivorous, never touching grains while in captivity. The Tufted Guinea-fowl, on the other hand, probably existed in the sayannas first and then invaded the forest. In the forest no grains are found, of course, only fruit and insects. On breaking them in, after starting them on termites first, they would soon take to grains. The Congo Peacocks, also inhabiting the deep forest exclusively, gave evidence at first that they live mainly on insects by taking immediately to termites, as well as grasshoppers; they do, however, subsist also on many wild fruits, because whenever I had occasion to inspect trap lines later set up by natives they would be found in the vicinity of forest fruit trees

having fallen to the ground. Some of these were black, flat cherries, others mango-like. In a compound in Coquilhatville Province I was even shown a round fruit growing out of the bark of a seemingly fast-growing tree of hand-ball size, covered with a rough skin, bringing to mind the capping of bee combs, containing innumerable black flat seeds each in an envelope of sticky white meat. At these one freshly-captured Peacock once pecked but, on the whole, in the first misery of their captivity, they would take to insects only. The spotty distribution of these fruit trees accounts most likely for the equally erratic occurrence of the Peacocks. This species, in due time, here at the Bronx Park after two years of captivity, is showing a marked liking for grains.

The barbarously gaudy-coloured Giant Plantain-eater, an enormous fruit-eating Coucou, so to speak, on the bringing back of which we had counted, proved to be our greatest disappointment. We were unable to hold a single specimen. Their dissection showed them to have a very short, almost straight gut. This would indicate they are gluttonous and continuous feeders, showing a well-known preference for the sweet fruit of the Parasol tree. It is possible that between capture and our getting the specimens, to be promptly force-fed, too much time elapsed, thereby irretrievably damaging their digestive system. This species has been kept once at London's Regent Park and Villers-Bretonneux, in 1916-17. As a curious fact I must mention that they show a pronounced liking for freshwater algae which grow profusely in unshaded ponds and swamps. The natives, in order to get them, erect in the centre of such locations little gallow-like structures. By perching on these the birds are snared by the legs.

The bird-collecting activities at Boma-Hay were extended to a search for rare mammals, and suddenly I realized with considerable misgivings that our departure was slated for a few months hence and still we had no Peacocks, the specimens received at the beginning of our stay having died. I remembered Ikela, the spot where the Peacock had practically been raised. The road leading to it proved bad and worse, but passable, and on entering Equator—or Coquilhatville Province—the well-kept highways there were a welcome change. With the exception of an obscure native government clerk, nobody seemed to know of Mr. Herrling's former success with *Afropavo* there, but driving slowly along the road to Lomela and spreading the word for the reason of my coming, after staying for a few days near Yolombo, a native appeared with a round reed-basket terminating in a point fastened to a carrying pole. In that basket was a female Peacock, and from under her peeked five newly-hatched chicks. A day later the female died, in spite of feeding a little on termites provided. I think insolation was the cause of the death of this "Lítono", its local name. The hunter had the sense of shading the basket with

leaves, but heaven knows how far he walked in the glaring sun of the highway. Trying to elucidate how and where he had made his catch proved impossible. The trade language, called Lingalá, spoken there, neither of us knew well enough, but the huge cash reward was enough for him. The actual payment of such a sum was spread by throbbing tom-toms, and I was soon the sad recipient of many "Lítonos", all males from then on, with limbs whole but unable to come out of a deadly weakness, force-feeding notwithstanding. Either the specimens were carried too long in the blazing sun or left in the traps until fatally exhausted. As all these trapping activities were undertaken at the initiative of the natives without government supervision, such results were logical. I must add that there I had the rare opportunity of seeing a male Peacock in its natural habitat in flight. On examining some trap lines, perhaps two miles off the highway, a commotion ahead and a blue shape took to the air and a freshly-torn foot sling held up by a crestfallen native boy was the reason I managed to get so close. It was obvious that *Afropavo* in that region was more numerous than anywhere else I had been up to then, and why the captured ones never showed any broken limbs became clear when looking at their most ingenious traps which are suspended slings fixed at a height that obliges the bird to stoop a little when ducking under. Getting its head and body through the noose, the feet upon advancing pull it down and it closes slowly on one or two feet upon further progress. I had never seen anything that simple and humane anywhere, doing away with tension poles and traps not functioning due to rain. At this spot I also wanted to know where *Afropavo* nests. I engaged two hunters who professed to know, and we searched carefully hundreds of small windfalls, so fresh the crashed but dry limbs had still every tiny twig on. In these the bird is supposed to nest, as the crackling of the dry twigs would immediately signal a warning to the sitting hen. Perhaps the natives were only pulling my leg, because in the regions I knew to the north-east, such windfalls I had never met with. Besides, the hunters there profess not to know at all. However, an old chief in the Yangambi Forest Preserve emphatically stated they nested high in the trees, which would mean in the manner of a Curassow of the Americas. A Bamboli hunter at Opala, in the presence of a government official, positively asserted they build their nest some 10 feet off the ground on broken-off tree trunks. As to the number of eggs, from three to six are probable.

Of the five downy Peacock chicks, I managed to keep three alive for several weeks. Out of the skin of their dead mother and a corrugated cardboard box, I made a shelter with a sloping cover and placed it in their cage. They learned to take refuge and warmth there in no time. However, two of them on the way back came to grief by getting squeezed too hard under the lowest part due to the bouncing of the

truck. I could not properly drive the truck and look out for them at the same time, and this came about because at Ikela, on crossing the Chuapa River ferry outward bound, the crew thought it unnecessary to lash the ferry to the river's bank. On getting on to the steep movable ramp leading to it my heavy vehicle pushed the ferry off the bank and the truck fell in, the front coming to rest on the river's bottom while the rear was precariously balanced on the edge of the concrete ramp. It stood practically on its nose. With the help of all the Ikela jail inmates it got pulled out and received an emergency clean out. Later the headlights conked out; the motor, due to sand having entered it, became an oil-eater. I had to nurse the vehicle back to Stanleyville, driving all night with a pressure gasoline-lantern attached to the front bumper serving as a headlight substitute.

Some Bamboli-tribe native, whom I had for a while as helper, often extolled the merits of Elipa, some 60 miles south of Opala, on the Lomami River watershed, as wonderful Itúndu territory. Finally, I had to get rid of the obsession by travelling to the place. All I got for my trouble was a useless wait of over a week and the negative result proved in keeping with the diminutive village huts with fences in the front but nothing in the rear to keep out the goats, each man also coming to the usual morning roll-call provided with a 3 in. high piece of wood to squat on while the orders to collect Itúndus were being discussed and commented upon at length. In keeping with the place were the anklets many women and some men were wearing. These took the form of hammered copper balls the size of a child's head, and even larger, considerably hampering the wearer's movements, but considered very "chic". Realizing these tribal characteristics, I dropped the idea of going back to Yaolonga where I had met with signs of Peacocks on our first try.

After having delivered the Peacock chick into the hands of my wife, together with three adult males, I hurried back bound for points beyond Ikela. This time, instead of being alone, I had with me my collecting aide, Mwarábu, and an "interpreter" who had helped feeding our stock at the base camp. Mwarábu was set up in the vicinity of Bokúngu, some 75 air-miles east of Ikela, with the mission of getting more Peacocks, and the ex-government clerk-interpreter, very efficient in the Lingála language, stationed near Yolombo and provided with sufficient funds to pay for any Peacocks that might turn up. Passing through Ikela I was astonished to hear I had already set up a man with the very same instructions at Yolombo. The official stationed there pointed out to me a smart-looking man of the Cúcu tribe whom I had given a lift on the truck previously. He had, indeed, ordered the natives to bring him antelopes and sundry "nyamas" on his own initiative. He lived exceedingly well on the coveted meat but failed to pay, and his

providers got wise. There he was on the prisoner gang doing odd jobs, but the official could not help pointing out with admiration how fast and willingly he performed every task assigned, and concluded with conviction that after serving his term he would not fail to snap up this prize and keep him as his personal aide.

From Yolombo I walked some 14 miles to the Cúcu village of Yofofé and found there a native playing with an already weak downy Peacock chick. It was too far gone to rear it, and after several days of useless waiting I retraced my steps. I then motored along the highway in the direction of Lómela, situated in Costermansville Province, and to a mission at Loto, where a Pigmy, as previously stated, brought me a dying immature Peacock female, called in the Okêla language Omôno, whereas the male, curiously enough, goes by the name of Lófokele. On the way down I tirelessly inquired about the "Ditondo", the name by which the bird was now generally well known, but somehow I could persuade nobody to make efforts with a view to capture any. However, I got the conviction it was much more abundant there than in all the territory previously visited.

On my return to Yolombo I found several males in cages being attended to in a fashion by the ex-government clerk, but the people were in an uproar, clamouring to be paid. It seemed my representative had started functioning by having his picture taken by an itinerant pioneering black photographer and then had dazzled the local belles with the wealth at his command. There wasn't a trace of it, and he explained the loss with the most fantastic story of assault and robbery. We practically turned him upside down and recuperated, salted away, 25 cents. . . .

On fetching Mwarábu at his collecting station near Bokúngu, I was agreeably surprised to find a female Peacock with one downy chick on hand. He explained that he himself led a party of natives into the distant forest and did come across a female with many, perhaps five chicks, which scuttled into hiding while the mother flew into a tree. He made a man climb the tree, whereat the female flew down, started to run erratically, and hid, head first, under some tree roots, where he threw a bag over her. He put the whole gang of followers to search for the chicks but only a single one could be found. On a previous search in the forest they also had come upon a single female which took refuge in a tree, and got chased down the same way, also taking refuge, head first, under some obstruction. The pursuing native grabbed her rear end with both hands and practically plucked her naked. She did not survive such rough treatment, neither did the female with the chick stand the very rough trip back to our base camp. We arrived no sooner there when a telegram reached us that the government official at Yolombo had another female on hand. I did an about turn and found the specimen in very good shape

indeed, thanks to precise instructions previously given. This female, the only one of its sex, and six males finally reached the New York Zoological Park, but upon her death proved to be old, with atrophied ovary, presenting many male characteristics.

I will conclude by mentioning another slight disagreement that exists between Dr. James Chapin and myself regarding a possible breeding season proper to *Afropavo*. Dr. Chapin maintains that owing to the uniformity of the climate throughout its range it breeds the year round, whereas I am inclined to think the season for one particular section lasts from the middle of January to the end of May, during which period I collected chicks at localities in Equator-Province, previously mentioned, not so very far apart when considering air-distances. I will also give the opinion of a seemingly qualified native interrogated at the Kirundu Adventist mission. According to him, the breeding season starts when a large red hairless caterpillar makes its appearance there in September to October. The male is supposed to feed the female with these, thereby starting her on the way towards maternity. These caterpillars are a very welcome food item for the natives as well and, in the Equator-Province, a friendly government official related to me that myriads of these caterpillars present the most impressive spectacle when the voraciously feeding hordes high in the trees suddenly rear up and vibrate the upper parts of their bodies on being addressed by the natives in a highpitched thin whistling sound.

Our collecting assignment came to an end when we boarded a chartered plane at Stanleyville on 13th June, 1949, reaching New York two days later without mishap.

* * *

MODERN METHODS OF TRANSPORT AND AN INTERESTING HYBRID

By EDWARD BOOSEY (Keston, Kent, England).

In August we received at Keston a consignment of Australian Finches, consisting of Sydney Waxbills, Zebra Finches, Painted Finches, and Diamond Sparrows, and a single hybrid which is obviously a Diamond Sparrow \times Long-tailed Grassfinch cross.

In our last consignment of Australian birds there was a Zebra Finch \times Long-tailed Grassfinch and a Masked \times Long-tailed Grassfinch, but whereas both these are fairly common crosses, I have never seen a Diamond Sparrow \times Long-tailed Grassfinch hybrid before, so I thought a description of the bird might be of interest.

As in a Diamond Sparrow, the head is grey, the back and wings a

mousey brown colour, and the tail black, but the latter is pointed instead of square, and the rump, instead of being red is white mottled with salmon-pink. The cheeks are white and the breast pale pearly-grey, merging into white on the under tail-coverts. There is a large black patch on the flanks mottled with very dark grey and with a faint black and white striped effect at its outer edges. The bird has the dark maroon-red beak of a Diamond Sparrow, and a rather smaller edition of a Long-tailed Grassfinch's pear-shaped black bib on its throat. Altogether it is rather a handsome hybrid—much more so than the insignificant Zebra Finch \times Long-tailed Grassfinch cross.

Incidentally, although (living so close to a jet fighter aerodrome as we do) I have cursed the invention of aeroplanes often enough, I must say air travel certainly has proved a boon and a blessing for the importation of birds that have to come long distances. For example, the Australian consignment just received was dispatched from South Australia on the Monday, and reached us on the Saturday—just five days compared with the long six-week journey by boat.

This swift modern transport is, of course, particularly valuable for such bad travellers as Diamond Sparrows, which nearly always used to arrive having plucked each other bare, whereas those we nowadays get by air arrive in absolutely perfect feather.

Mortality, too, is reduced to a minimum, and in this last consignment, which consisted of 130 birds, only one—a cock Painted Finch—died on the journey.

It is interesting how comparatively common those once great rarities, Painted Finches, have become since the war, and the above consignment contained no less than twenty specimens, whereas before the war we used to think ourselves lucky if a very occasional pair arrived. They proved very little trouble to breed, so I suppose someone has bestirred himself in Australia, and is breeding them in really large quantities.

Ruficaudas, too, seem much commoner now than they used to be, and nowadays we can get fifty or more at a time, instead of the occasional half-dozen pairs or so which used to arrive before the war.

* * *

BREEDING OF THE ROSE-CRESTED COCKATOO

(Kakatoe moluccensis)

By KENTON C. LINT, Curator of Birds, Zoological Gardens of San Diego, California, U.S.A.

Rose-crested Cockatoo (Ger. molukken-Kakadu, rothhubiger Kakadu, Rothhauben-Kakadu; Fr., Cacatoés à huppe rouge; Dut., Rooduif Kakketoë).

This handsome Cockatoo, which Edwards described in 1751 and pictorially delineated, and which Gmelin named scientifically in 1778, has, like many other birds, been much confused or mistaken by several of the older authors.

The first successful breeding in captivity of this species in the United States, and possibly the world, was achieved this year in the Zoological Gardens in San Diego, when a baby was hatched on 8th June, 1951.

The forehead, head, and sides of the neck are pure white, the front crest feathers white, the next vermilion on the outer web, and white at the point and inner web; the rest have the outer web dark, and the inner web light vermilion. All the upper and under parts of the body are white, with a rosy shimmer and a yellowish tone over them in the bright light; the quills are light yellow on the reverse side, the tail feathers on that side are orange-yellow; the lower part of the body is rose-coloured. The beak is black, the cere a dark bluish-grey; the eyes are black or dark-brown, the eye cere a bluish-white. The feet are blackish-grey, with scales and claws black. The female is not differentiated generally, and the sexes are very difficult to determine. Their habitat is Ceram and Amboyna.

Comparable in size with the Great Sulphur-crested Cockatoo, the Rose-crested appears larger than it really is because of the thick plumage, which is often ruffled. (Length $15\frac{1}{2}$ inches to $17\frac{1}{2}$ inches; wings, 12 to $13\frac{1}{2}$ inches; tail, $6\frac{1}{2}$ to 7 inches.) It has the peculiarity of being able to ruffle not only the crest, but also the long chin feathers when excited.

Very little has been written, even by the older authors, concerning the wild life of this particular species. Dr. Russ says that these birds were taken in numbers from the nest and hand raised. Most of the birds of this species are already very tame when they come into the market, being hand-raised by the natives. In the many years we have exhibited this species of Cockatoo we have found them to be wonderful show birds, clever, and readily taught to talk and whistle tunes with a soft flute-like voice. In recent years the Rose-crested Cockatoo has not been imported frequently into the United States.

Since the baby hatched this year represents fifteen years of continued effort to induce the species to breed, we consider it quite an

achievement. Two eggs were laid by the hen Cockatoo, but one proved to be infertile. The incubation period was thirty days.

Of the many species of birds, especially of the psittacine family, I consider the Rose-crested Cockatoo to be the most difficult baby I have raised in the Zoological Gardens. This was due to its unusual temperament and to its specialized diet requirements.

In captivity we have found the most suitable food for the Rose-crested Cockatoo to consist of Indian corn (on the cob), sunflower seed, oat groats, peanuts, pinon nuts, orange, bananas, lettuce, and dried bread. Our pair of breeding Cockatoos are fed this diet throughout the year, divided into two feedings each day. During the breeding season only cuttlefish bone is added, to supply the calcium needed in the producing of eggs.

Even with such a variety of foods we have found through past experience that most Cockatoo parents feed their babies well for about ten days and then suddenly stop feeding, and the babies either die or develop a bad case of rickets. Hence we usually remove the babies from the nest at nine to ten days of age and feed them by hand.

On 18th June we removed the baby from the parents' nest, and found it to be in the need of food, as its crop was completely empty. Ten days old at this time, the eyes were barely open. Food was offered immediately, and a small amount was assimilated. A feeding schedule at four-hour intervals was then followed. This schedule was followed for eight weeks, when we discontinued the feeding at night. When fifty-six days old this baby tasted his first piece of fruit, a quarter of an orange. Banana, apple, pear, and orange were all offered to him, which had earlier been rejected. When grated up on the regular formula this was immediately regurgitated, and a second feeding was necessary. As I have said before, because of this species' nervous digestion, it is most difficult to raise. Closing a door, opening a window, moving a chair, any unusual noise would cause this Cockatoo to regurgitate his food at the most inopportune time. To-day, at three months of age, this Cockatoo is still a baby, and although able to eat by itself it is still being spoon fed three times each day as a supplement to its regular diet of sunflower seed, orange, banana, apple, bread and lettuce, and peanuts.

In hand feeding all members of the psittacine family we feed in the following manner. We first bring the water or milk to the boiling point, then add the following ingredients in the order named, stirring gently all the while : half-cup of sperry wheat heart cereal, 5 drops *Oleum Percomorphum*, 2 fresh egg yolks, 1 teaspoonful of ground cuttlefish bone meal. This formula will cook in three minutes. Cool until finger warm and feed to babies with a spoon.



ROSE-CRESTED COCKATOO (*Kakatoe moluccensis*).

Age 45 days, 23rd June, 1951.

[To face p. 224.



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[*N. Chaffer*

TURQUOISE GRASS PARRAKEET.

BREEDING NOTES ON TURQUOISINE GRASS PARRAKEET

By DAVID M. WEST (Montebello, California, U.S.A.)

Of the seven *Neophema* or Grass Parrakeets of Australia, only four species are now to be found in American aviaries. Of these four only the Elegant can really be regarded as commonly available, and the Bourke's, Scarlet-chested, and Turquoise are all rare.

The Turquoise is one of the most beautiful of the *Neophemas*—and next to the Scarlet-chested one of my favourites. This species is the rarest of the four mentioned species in America.

In the United States the first breeding was by F. H. Rudkin, senr., in 1933, when he reared four young. Others subsequently bred it—including the late I. D. Putman. Unfortunately the Turquoise is more difficult to mate-up than any other of the *Neophemas* we have kept—so that when we finally secured a pair of Turquoisines in 1947 there were considerably less than a dozen specimens left in the United States.

Before recording my breeding notes on this species, a short description may be of value to the many who have not seen a living example. In size they resemble a Bourke's, but differ vastly in their colouring. The back of the male bird is a very lovely green; the face and cheeks turquoise; the wings turquoise blue with a red patch on the wings; the tail is green with each feather tipped with yellow, and the yellow increasing in extent towards the outermost feathers on each side, which is almost entirely yellow; and the breast and under parts a very rich yellow-orange. The female is rather similar in colouring to the male, save she is much paler, lacking the red wing patches and the bright blue face and the brilliant yellow-orange breast. I might add here that while all the standard works show the female as not having red shoulder patches, almost all of our females have a small but definite red patch. However, it is smaller than the male's red patch but no less bright.

When we finally obtained a pair of these birds in late 1947 naturally we were very anxious to breed them. The pair was placed in an aviary twelve feet long and three feet wide and six feet tall, and this aviary was portable and was moved about on the lawns as weather indicated. In the warm summer months the aviary was under a sycamore tree, thus giving partial and filtered sun, and in the winter the cage was placed so that it received full sun. The greatest advantage of this aviary was that it gave the birds a large supply of the fresh grass they so greatly enjoyed. In the warm weather their delight was to run about on the lawn in their aviary following a sprinkling of the lawn. Incidentally, they are great bathers—and

rarely do they miss having a dip when the lawn sprinklers are on near their aviary.

Although in the wild state only one clutch of young are generally reared in captivity they are invariably double-brooded, and a third nest is not uncommon.

In March of 1948 a nest box was given to them. In size it was like those commonly used for Lovebirds (*Agapornis*), and was filled nearly to the entrance hole with coarse sawdust or more accurately wood shavings. It was amusing to see their excitement at this box, for when they saw it coming the male began to call and fly wildly about, spreading his tail while in flight, and thus showing the very lovely yellow webbing on the tail. After the box was hung (under the shelter) the male would fly to it and very cautiously look it over—while the hen sat with rapt attention near by. She would occasionally hover about it, but a good twenty minutes passed before she finally flew on to the nest.

The following days their interest grew and the male assiduously fed his hen—and she spent hours inside the box throwing out the superfluous wood shavings. Eventually they were seen to mate, and then she began to lay her clutch. This time the clutch was four eggs, and she began incubation with the third egg. All during the eighteen-day incubation period the male sat several hours daily at the entrance hole, and would frequently call to the hen. On several occasions he would spend a large part of the day in the box with the hen. The hen left the nest twice daily—once in the morning and again in the evening. She generally left the nest at the call of the male, who would fly up to the hole and call to her. She would remain away from the nest only a few minutes each time, just long enough to eat, drink, and fly about the cage a few times. Here it was interesting to note that her first activity was invariably to drink, after which she would eat and then fly for a few minutes.

The evening of the eighteenth day was a happy birthday for the Turks and also their owners. Now half the struggle was over, if only all would continue well. Both parents fed the young, the male feeding the hen and also the young. When the young were about four days old the male began to feed them directly, and sometimes he would feed them while the hen was out eating.

Their diet remained the same all during this period. They received a seed mixture of one part yellow millet, one part oat groats, one part sunflower, and two parts canary seed. To this was added one-quarter orange and one-quarter apple daily, and also wheat bread in the morning and again in the evening. They had a constant supply of greens, since their cage was on the lawn, but added to this was chickweed and the berries of ripe (red) *Pyracanthas* (Fire Thorns), a member of the Cotoneaster family.

After the fourteenth day the female no longer remained in the nest overnight. By the twenty-first day the young were being fed at the entrance hole, sticking their heads out and calling to the parents to be fed. They are quite noisy while being fed, and make sufficient noise that one might hear them at a distance of 60–75 feet away.

Finally, on the twenty-ninth, two young were found out and sitting quietly on a perch in the sun. Even at this very early date the sexes were clearly visible, the young male having a red shoulder patch and being brighter than his sister. On the thirtieth two more left the nest, and again these two were a pair and the sexes clearly visible. Although we had never looked into the nest, we felt there were no more young in the box, due to the lack of parental interest in the box on the following days. This supposition was proven to be correct, for we later cleaned out the nest box, and this hen had successfully hatched and reared the four eggs she had laid.

The parents continued feeding all the young for about ten days after leaving the box. Shortly thereafter the male began to attack the two young males, and they were removed to another aviary. The male continued to feed the two females (who were then on seed), and the female got busy with the second nest.

After the hen had been sitting for about ten days, the two female young were caught and placed in the same cage along with their brothers and some young Bourke's. Here it is of importance to note that even though we entered the aviary and caught up the two youngsters, the noise and confusion did not bother the nesting female enough to cause her to leave the nest box, or even come to the entrance hole.

This second nest was a close repetition of their earlier success ; producing three youngsters comprising a cock and two hens. Again the sex of the young was discernible the day they left the nest box. These youngsters left the nest on the 30th and 31st day.

Amazingly enough the hen returned to the nest for a third try, but this was not successful. Four young were hatched and reared for twenty-three days, but the hen deserted them at this time, and they all died. Contributing causes to this action were the heat of the summer weather and the hen being in a moult. This moult was begun shortly after the inception of the third nest. The four young were two cocks and two hens, the male's red wing patch just beginning to be visible at this time (twenty-three days).

Subsequent experience with this species has turned up some additional information on their handling. For one thing, Turquoisines are very aggressive birds, and we have found them a little difficult to mate up for this reason. They are more fussy about a suitable mate than any other *Neophema* we have had experience with. Further, individual pairs differ tremendously in behaviour ; while our old pair

never once fought, we have young pairs that do battle at the slightest provocation. They are not mean with other birds, but they would be quite impossible to keep on a colony breeding plan.

Each year following 1948 we have raised a few youngsters of this species. However our progress has been rather slow, for we have not allowed any young birds to nest until they are two years old. Even so we now have four breeding pairs and several extra males. In addition to this, three young breeding pairs have been sold to another fancier here in California.

This current year of 1951 has been a very poor breeding year with every local aviculturist singing the blues. We had great hopes for rearing a number of young Turks from our four breeding pairs, but . . . By late March each pair has four fertile eggs, so our hopes were really high. But for some strange reason not one of the sixteen fertile eggs hatched! Why? Later on they all went back to nest, and their luck was better, so that at this writing (June) I can report nests of young with two and three, and another nest of fertile eggs presently being incubated. The remaining pair had a second clutch of clear eggs following their earlier and fertile clutch. No thirds are encouraged, since the warm weather will soon be upon us, and many of the birds will begin their moult very soon.

We have found Turquoisines very tame, and they do not object to your checking their nests while the female is off. We usually check the nests twice, once after about fourteen days of incubation (we throw out any clear eggs at this time), and again after the young are about a week old. By knowing the number of young we can give extra food accordingly. Average clutch seems to be four, though we have had one nest of just two eggs and one youngster hatching.

I think that with care American aviculturists can again breed enough of these beautiful birds, so that you will see them in many collections instead of a few. This year there are a total of seven pairs in California that should reproduce—and there are a few unmated specimens about, so things are looking up for the future of the Turquoise. In 1950 I secured new blood with a female Turquoise from another breeder, so this will give me new stock. This year this particular bird is the mother of two youngsters due to fly in a few days. With average luck the next year should see quite an increase in the local population of this species—so it is rather nice to end this article on a note of hope rather than on one of dejection.

Correction.—The title of the plate facing page 225 should read “Turquoise Grass Parrakeet”.

PRINCESS OF WALES' PARRAKEET AT LIBERTY

By THE DUKE OF BEDFORD (Woburn, Beds, England)

Having on various occasions enjoyed watching the matchless speed and grace of Rock Peplar and Barraband's Parrakeets at liberty, I have often wanted to see the third member of the sub-genus—the Princess of Wales' Parrakeet—under similar conditions. Happening to have a young cock and not too well bred for stock purposes, I decided recently to take the risk and put him in an aviary containing four young Rock Peplars just trained as day-liberty birds, and an old cock Rock Peplar trained last year. The young Princess of Wales' father I put in an adjoining aviary as a call bird. The young bird found his way out fairly quickly, and behaved as a Rock Peplar or Barraband ought to behave if all goes well on the day of its release; that is to say, he flew backwards and forwards high in the air, and circled round and round, but never went more than a quarter of a mile away in any direction. Like other young Polyteline Parrakeets on their first day out, his powerful wings were inclined to take charge of him, and he experienced some difficulty in stopping, and especially in flying *down*. As a result of this difficulty one rarely gets a Rock Peplar or Barraband back into the aviary until the day after its release, and experiences some anxiety lest it should be taken by an Owl when roosting out. Fortunately these pests are not quite so keen on killing big birds in late summer as they are later in the year.

The flight of the Princess of Wales proved swift and graceful, but had not quite the dash of that of his larger relatives. He was, however, more amenable, and I got him down on to the aviary roof and safely back through the funnel that prevents day-liberty birds from emerging after their last feed before nightfall.

Since then he has proved a very docile and stay-at-home bird, spending much time sitting on his parents' aviary, and never going any distance away. He is, indeed, inclined to be unenterprising almost to the point of being dull, but it may be that his race, by reason of its quiet and friendly disposition and fondness of its dinner, is the safest of the Polyteline Parrakeets to fly at liberty. Rock Peplars and Barrabands, alas, are *not* very dependable. Adult cocks whose mates are confined will not, once trained, desert them, but there usually comes a day when trained young birds do not return for their evening meal. With luck, however, they may come back the following day or the day after. You have, however, had your warning. If you continue to let them out they will go completely wild, and never return. Consequently you must either catch them up and dispose of them, or mate the cocks and not release them again until they are really attached to their hens, which must be kept in aviaries adjoining the liberty one.

Subsequently, as recorded in another article, the young Princess of Wales' showed a tendency to wander too far and had to be caught up.

* * *

1951 BREEDING RESULTS

By DAVID M. WEST (Montebello, California, U.S.A.)

Although the breeding season under consideration is not yet over, and there may still be a few surprises, this year has been a very poor one to date. The 1951 season was our poorest in several years, and bad luck was our companion almost all the way. Other fanciers in the Los Angeles area report the same thing—but aviculture is one instance where misery does not love company.

The two saddest events were the loss of four young Pileated Parrakeets—deserted by their parents—and the Manycolors which kept our hopes up by looking in their nest boxes but proceeding no farther with the task of rearing a family.

Other bad luck (before passing on to happier events) included Barnards and Stanleys which did not even lay this year, and Adelaide Rosellas which laid seven eggs but did not sit and at the time we had nothing to put the eggs under for foster parents. The Blue Rosellas hatched young—but they were deserted—a strange event, for we have raised from sixteen to eighteen young from our two pairs every year for a good many years. Red Rosellas, Elegants, and most of the Bourkes all had clear eggs—though the pairs have all raised on previous occasions.

Better news department includes three young Princess Alexandras plus another nest of five fertile eggs still being incubated at this writing. There are now three young Blue Rosellas, two young Bourkes, sixteen young Scarlet-chested, and five young Turquoisines.

All in all, results were extremely disappointing. Again this year, even though I was away and in the Service, all the birds received (in addition to their staple diet of grains) $\frac{1}{4}$ orange and $\frac{1}{4}$ apple daily, plus greens every day. All the nest boxes were removed in the fall and cleaned and scrubbed in January, and filled with new nesting material. Considering the better results, both in varieties and numbers, of other years, this year can easily be said to be our worst since 1943.

No particular clue as to just what went wrong can be discerned. Rainfall again was much below normal this year in our area, and I feel (as many others do) that the lack of rain has been at least a contributing cause. At any rate, again I find myself saying (as I have every year since my first pair of Pigeons), "Next year . . ."

BRITISH AVICULTURISTS' CLUB

The thirtieth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 14th November, 1951, following a dinner at 7 p.m.

Chairman : Mr. D. Seth-Smith.

Members of the Club : Major J. E. Adlard, Mrs. J. E. Adlard, Miss P. Barclay-Smith, H.G. the Duke of Bedford, Miss K. Bonner, Mrs. V. M. Bourne, T. Crewes, A. H. D'Aeth, B. H. Dulanty, O. E. Dunmore, A. Ezra (Patron), Miss S. A. Fothergill, J. C. Garratt, Miss D. Gask, T. Goodwin, F. Grant, R. E. Heath, G. T. Iles, Miss M. H. Knobel-Harman, H. Murray, S. Murray, K. A. Norris, S. Porter, A. A. Prestwich (Hon. Secretary), J. H. Reay, D. M. Reid-Henry, D. H. S. Risdon, R. C. J. Sawyer, E. O. Squire, E. H. Tong, E. N. T. Vane, C. S. Webb, H. Wilmot, R. C. Witting, H. Wallace Wood, J. Yealland.

Guests : J. Bailey, P. Bates, P. Braun, Mrs. P. Braun, C. Campbell, G. S. Cansdale, Miss I. Dix, Mrs. J. C. Garratt, Mrs. E. Gask, Miss H. M. Gentry, Mrs. F. Grant, R. Hope, Miss P. A. Lawford, H. M. Luther, Mrs. R. Maurice, F. Mosford, Mrs. S. Murray, E. G. Pitman, Mrs. J. H. Reay, Mrs. D. Seth-Smith, Mrs. E. O. Squire, Mrs. E. H. Tong, Mrs. E. N. T. Vane, Mrs. C. S. Webb, Miss M. White, Mrs. H. Wilmot, T. Wilson, Mrs. R. C. Witting.

Members of the Club, 37 ; guests, 28 ; total, 65.

The Chairman, welcoming the guests, said he would like to extend a special welcome to Mr. Thomas Wilson, Vice-President of the Ornamental Pheasant Society of Australia, and of New Zealand.

Frank Grant then spoke on Waterfowl in Captivity. He pointed out the many charms and pleasures to be derived from keeping waterfowl and appealed to aviculturists to give more attention to this form of aviculture. His talk was a happy blend of rules and precepts, personal experiences, and anecdotes.

Some of the slides of birds in the speaker's extensive collection were apparently not suitable for the projector, and lost considerably thereby, but a series loaned by the Chairman were of his usual high standard.

The Chairman, thanking Frank Grant for his very interesting lecture, said no aviculturist, whatever his interests, could have failed to benefit by at least some of the observations.

The volume of applause indicated that this was most certainly the case.

The next meeting of the Club is on **9th January, 1952.**

ARTHUR A. PRESTWICH,

Hon. Secretary.

OFFICERS FOR 1952

A Council Meeting was held on 14th November, 1951, in the Council Room, Zoological Society of London.

There were the following appointments and retirements:—

Council.—Mr. K. A. Norris, Mr. A. H. Scott, and Captain C. Scott-Hopkins retired by seniority; Miss K. Bonner, Mr. G. S. Mottershead, and Mr. J. Yealland were elected to fill the vacancies.

Elected Vice-President.—Mr. E. J. Boosey.

Elected Honorary Members.—Mr. F. H. Rudkin, Mr. C. S. Webb.

ARTHUR A. PRESTWICH,

Hon. Secretary,

* * *

NEWS AND VIEWS

In 1942 our President was awarded the Silver Medal of the Zoological Society of London for "Donations over a long period of years and long service on Council and as a Vice-President". Now he has received the Society's highest honour, the Gold Medal. The importance of the award may be gauged by the fact that this is only the fifth medal bestowed since the foundation of the Society in 1826.

The present award is in recognition of Mr. Ezra's thirty-six years' service on the Council, most of that time as a Vice-President, and for his outstanding donations. The latter include six elephants, four tigers, and the two Kodiak bears at Whipsnade.

All members of the Avicultural Society will wish to join in hearty congratulations to Mr. Ezra on this almost unique distinction.

* * *

The thanks of the Society are due to the Directors of the Dudley Zoological Society, Ltd., to the General Manager, D. H. S. Risdon, to Head Keeper H. L. Hatch, and to the many others who contributed to making our Society's visit on 8th September a success.

Some thirty members and guests were welcomed by Director F. G. Cozens and D. H. S. Risdon, and after a very excellent lunch were conducted round the Zoo. As many of the visitors had come considerable distances their time was necessarily limited but all, especially those making their first visit, were very impressed by all they saw.

* * *

Mrs. L. Younger left England on 3rd September, flying to Australia via New York, Canada, Honolulu, and Fiji. She expects to be home by Christmas.

Further to the note on I. Baty's success in breeding Twite × Siskin hybrids.

W. Garrow has reared a nest of four this year. In 1938 he bred three hybrids with the parentage reversed.

* * *

Allen Silver has little time to devote to practical aviculture but he usually manages to breed a few good birds. This last season he has bred three Mealy Rosellas, four Golden-mantled Rosellas, five Bourkes, five Cockatiels, and four Mealy Rosella × Stanley Parrakeets.

* * *

The prospect of establishing the Masked Lovebird, blue variety, has slightly improved. This year three young ones have been bred at the London Zoo, and A. D. Campey has bred two blues from a pair of blue-bred. In addition, Campey has recently imported two pairs of blues. We may thus confidently expect an increase next year.

* * *

The Bronson Tropical Bird Aviaries, of New York, are showing considerable enterprise in the sale of pet birds. Using the slogan: "A bird to brighten every home," they are specializing in Hill Mynahs—four races are at present being offered. Birds are dispatched, complete with cage, food, and directions for keeping, by express locally and air express to distant points.

* * *

C. L. S. (Nantucket, Mass.) writes: "I am quite frankly amazed that you have kept the Magazine at its high level under so many adverse circumstances: rising prices for materials and labour, etc. It's a joy to receive it, and although I am not now actively engaged in aviculture, my interest remains as keen as ever."

E. T. (Bassett, Virginia) says: "This book you put out is really terrific! I can see I have missed a lot of authoritative reading by not having joined sooner." The Editor takes two bows.

* * *

Members are reminded that the annual subscription becomes due on 1st January.

In view of the present very high cost of publishing the AVICULTURAL MAGAZINE, Rule 5 will be rigorously enforced. *The Magazine will only be sent to Members who have paid their subscription.*

A. A. P.

NEWS FROM AMERICA

The best game birds breeding results in the United States during 1951 have been obtained by Mr. R. H. Gibson, St. Helena, California. During the past season he has reared 2 Malay Argus, 2 White Eared-Pheasants, 4 Imperial Pheasants, and 30 Sonnerat's Junglefowl, as well as a number of less rare birds. Excellent results have also been obtained by Mr. J. W. Steinbeck, at Concord, California (12 Temminck's Tragopans, 7 Satyr Tragopans (from birds lent by Mr. Gibson), 13 Monals, 10 Germain's Peacock-Pheasants, etc.), by Mr. Lehmann, Myerstown, Pa. (4 Monals, 4 three-quarter White × Blue Eared-Pheasants, etc.), and by Mr. W. J. Mackensen, Yardley, Pennsylvania (12 Imperials, etc.). Also 12 Ocelated Turkeys have been reared at San Diego Zoo, and a few Java and Sonneret's Junglefowl by Messrs. Parsonson and Rich in the Los Angeles district. Two Satyr Tragopans and a number of Pheasants have also been bred at the Philadelphia Zoo. Several pairs of Scintillating Copper Pheasants have arrived from Japan and come into the possession of Messrs. Mabey, Salt Lake City, Utah, and Gibson.

* * *

Last summer Mrs. Milton Erlanger raised at Eberon, New Jersey, a hybrid between a Red-eared Bulbul male and a Black-crested Yellow female (*Pycnonotus jocosus* × *P. dispar flaviventris*). These birds had been nesting for several years, but so far no young had been reared. The hybrid is brown with a greenish wash on the tail and wings; the head, crest, and neck are black.

* * *

Dr. E. Beraut writes from Rio de Janeiro: "On my return from Europe in August the weather was not good and I could only make a few trips in search of new Humming Birds. Following Professor J. Berlioz's directions, I went to the plateau of Minas Geraes to look for *Augastes superbus*, but I did not find it, although it was the exact time when he had seen it there. But on the mountains I found by luck large numbers of *Stephanoxis delalandei* on the eucalyptus trees in bloom; I have now five in my aviary, it is a beautiful species. I also caught some *Phaestornis pretrei* and *Glaucis tomineo (hirsuta)*. I now possess twenty-three species in perfect health. I have kept several over a year and some, such as Violet-ears (*Colibri*) and *Heliathrix*, more than six months. I have forty in a space 10 × 7 feet. It is an extraordinary thing that although they fly after one another at terrific speed they do not fight viciously, probably because they are so numerous. Of the Brazilian species, the Coquette (*Lophornis magnificus*) is still lacking; I have not yet been able to locate it. I plan to go soon to the hinterland of Matto Grosso and to procure there some interesting specimens.

In December, on Monsieur Cordier's advice, I plan to visit northern Brazil, when I should find *Topaza pella* and *Heliactin cornutus*. In this way I hope to add to my collection and to keep it up by means of periodical trips. I have a few true pairs, but they have not yet made any attempt to nest. I believe the perfect condition of my Humming Birds is due to three main reasons ; complete suppression of Mellin's food ; daily addition of vitamins A, B, C, D ; daily supply of a large number of fruit flies which are indispensable to certain species, in particular *Heliathrix*, and in a still higher degree to all those which wag their tails—*Rhamphodon*, *Phaetornis*, *Pygmornis*, and *Glaucis*."

J. D.

* * *

LONDON ZOO NOTES

By JOHN YEALLAND

A number of interesting birds have been added to the Society's collection during the past two months, some of them such old favourites as the Malachite (*N. famosa*) and Mariqua (*C. bifasciatus*), Sun-birds ; Black-cheeked (*Estrilda erythronotus*), Golden-breasted (*E. subflava*), Blue-breasted (*Uræginthus angolensis*), and St. Helena Waxbills.

All these, together with such notabilities as the Greater Amethyst Sun-bird (*Chalcomitra amethystina*) ; the White-bellied Sun-bird (*Cinnyris leucogaster*) ; the Crimson-breasted Shrike (*Laniarius atrococcineus*) ; the Cape Bulbul (the sub-species *Pycnonotus capensis nigricans*) which is new to the collection) ; a Pied Barbet (*Tricholæma leucomelas*) ; a White-eyebrowed Coucal (*Centropus superciliosus*) ; a Green-necked Touraco (*Gallirex porphyreolophus chlorochlamys*) ; Wattled Starlings (*Creatophora carunculata*), and some Long-tailed Rollers (*Coracias caudatus*) being received in exchange from Pretoria Zoo.

An interesting new sub-species is the pretty Gosling's Rock Bunting (*Fringillaria tahapisi goslingi*), a pair presented together with a Blue Rock Thrush (*Monticola solitarius*) by Mr. R. C. J. Sawyer.

A young Green Woodpecker (*Picus viridis virescens*) has been successfully established and, like the other birds already mentioned, may be seen in the Small Bird House.

Ostriches are again in the Gardens, six young ones having been received from Kenya and another welcome addition is a pair (?) of King Condors (*Sarcoramphus papa*)—young ones not yet in colour—presented by San Antonio Zoo.

Indian Darters (*Anhinga melanogaster*) ; Great White Herons (*Egretta alba*) ; Indian Wood Ibis (*Ibis leucocephalus*) ; Black-headed Ibis (*Threskiornis melanocephala*) ; Spot-billed Pelicans (*Pelecanus*

philippensis); Ceylon Serpent Eagles (*Spilornis cheela spilogaster*); a Wedge-tailed Eagle (*Uroæetus audax*); a Great Skua (*Catharacta skua*); Chiloe Wigeon (*Anas sibilatrix*); Cinnamon Teal (*A. cyanoptera*); a Falcated Teal (*A. falcata*); Bahama Pintails (*A. bahamensis*); a Western Slender-billed Cockatoo (*Licmetis tenuirostris pastinator*); Lineolated Parrakeets (*Bolborhynchus lineolatus*); a Richard's Pipit (*Anthus richardi*), an uncommon visitant to this country; a Southern Hill Myna (*Eulabes religiosus*), and Red Ground Doves (*Oreopelia montana*) complete a very attractive list of new arrivals.

Sad to say, the young King Penguin, after growing well and apparently thriving for a month, died suddenly from nephritis and anæmia.

The Black-footed now have two chicks; earlier in the autumn they were earnestly engaged in nest making, carrying twigs and other material, with a very consequential air into their nesting kennels. A child's beret, accidentally dropped into their enclosure was immediately seized and borne off.

Two Satin Bower-birds, still in their green plumage, have commenced the building of a bower.

* * *

REVIEWS

THE PHEASANTS OF THE WORLD. By JEAN DELACOUR.
Country Life. London, 1951. Price £7 7s.

The appearance of this most excellent monograph on the pheasants of the world will be universally welcome. William Beebe's monumental *Monograph of the Pheasants* appeared from 1918 to 1922 in four quarto volumes, but unfortunately for some years it has been out of print and practically unobtainable. In his foreword to Jean Delacour's book William Beebe writes: "After more than three decades there is abundant need for bringing pheasant lore up to date, and for publishing all recently acquired information concerning this group of splendid birds. No one is better fitted for this new undertaking than my very good friend Jean Delacour, and I am delighted that he has chosen to put into print this knowledge gained by himself and other ornithologists. The dominant feature in my earlier work was the direct observation of wild birds in their natural haunts, and it is this part of the monograph which possesses the greatest permanent value, unchanged by time. Fortunately this can now be ably supplemented by Jean Delacour's incomparable experience in breeding the rarer species in captivity and thus adding immeasurably to our knowledge of the life histories of these pheasants."

During the last twenty-five years new discoveries have been made,

fresh information gathered, and deeper knowledge gained ; relationships between species particularly are better understood. The present volume, as Jean Delacour states in his introduction, completes and brings up to date Beebe's monograph. It has a twofold purpose, to offer a summary of modern knowledge of systematics, life habits, and geographical distribution of the birds, and to supply the ever-growing numbers of pheasant lovers with necessary data concerning the birds in confinement, Jean Delacour's experience in keeping and breeding pheasants in captivity is, indeed, as Mr. Beebe, says, incomparable, and his collection of these birds at Clères, before the second world war, attained a level never surpassed. Mr. Delacour's many expeditions to Indo-China to collect and study pheasants in the wild made it possible for him to acquire a knowledge of these birds second to none, and on his very first trip he discovered a startling new species, the Imperial Pheasant.

The book opens with a most informative and detailed general account of pheasants and includes sections on history ; systematics ; life habits ; acclimatization ; housing ; feeding ; rearing ; procuring, transporting, and establishing pheasants ; and diseases. This general account is of the greatest value to aviculturists, and there is a wealth of information put at their disposal, including such details as the best methods of dealing with cock pheasants intent on murdering their wives, early ailments of chicks, construction of aviaries, and the different treatment required by different species.

This is followed by sixteen chapters on the sixteen natural genera into which the pheasants are divided, consisting of Blood Pheasants ; Tragopans ; Koklass ; Monals ; Junglefowls ; Gallopheasants ; Eared Pheasants ; Cheer Pheasants ; Long-tailed Pheasants ; True Pheasants ; Ruffed Pheasants ; Peacock Pheasants ; Crested Argus ; Great Argus ; Peafowls ; and Congo Peacock. A general description is given of each genus and a map showing distribution is included. This is followed by a detailed and clear description of each species. Whenever a species has been kept in captivity a full account of general habits and captivity is added. The volume is profusely illustrated with thirty-two most excellent plates by J. G. Harrison, sixteen in colour and sixteen in black and white.

In his introduction Jean Delacour points out that the future of pheasants in the wild is very problematic owing to the ever-easier penetration and the threatened destruction of their natural habitats, the perfecting of weapons, and the changes in the food habits of native populations. He believes that within the next fifty years a large number of species will undoubtedly become extinct if appropriate measures are not immediately taken to save them, and points out that at present the difficulties in enforcing regulations in Asia are very great. He concludes : " Fortunately nearly all pheasants can be kept and reared

in captivity, and many may be established in coverts as game birds. It is the duty of both private individuals and public institutions to organize their propagation more carefully and to do their utmost to preserve these remarkable birds for the joy, welfare, and interest of future generations."

These words should be taken to heart by every serious aviculturist, and all those who have the possibility of maintaining these beautiful birds should do their utmost to assist. The Pheasant Registry, organized by the Avicultural Society to facilitate the formation of pairs by the exchange and loan of birds, has done much to this end, and it is hoped that its usefulness will continue and increase.

In these hard times seven guineas is a great deal of money, and many readers of the AVICULTURAL MAGAZINE will be wondering whether they can afford to buy this magnificent book, but if they are really keen on keeping these popular and beautiful birds the question really resolves itself into whether they can afford *not* to buy the book.

P. B-S.

WILD WINGS. By FRANK STUART. Fanfare Press, Ltd., London, W.C. 2. Price 14s.

In the publisher's preface we are told that although this story (of a year in the life of a Pintail) is not a textbook on Ducks, "the information is there." They naïvely add that "... sometimes the information is startling..." It is indeed! The reviewer was more than startled to learn that young Pintails gape for food like young Passerines, and that both parents bring food to them. That both duck and drake collect "softest mosses" from a distance to build their nest. That young ducklings are *taught* (with the aid of corporal punishment for the recalcitrant or slow-witted) to *crouch motionless* when their mother gives the alarm. That a day's walking overland suffices to cure a thoroughly "oiled" bird, and that Pintails protect themselves from a fox (who might otherwise swim underwater after them) by clustering beneath the perch of a Snowy Owl.

That these and many other equally fantastic statements are intermixed with (misinterpreted) accounts of actual behaviour patterns and a moving if rather ornate style of writing will, one fears, render them the more capable of misleading the general public.

The author acknowledges his indebtedness to officers and members of the B.O.U., the B.T.O., the Edward Grey Institute, the International Wildfowl Research Institute, and other organisations. One wonders if they will feel a reciprocal indebtedness for being thus connected with this book!

D. G.

CORRESPONDENCE

UNUSUAL OCCURRENCES AMONG THE BREEDING BIRDS AT
DUDLEY ZOO

Two rather unusual occurrences among the breeding birds this year at Dudley Zoo may be worth recording.

The first is the instance of a cock Cockatiel whose mate died three days after the young hatched. Alone and unaided, the cock has successfully reared four beautiful young ones. I have often heard of hens bereft of their husbands carrying on and rearing their brood, and cocks doing the same thing under similar circumstances, provided the young are well grown and feathered sufficiently not to require brooding at night, but in view of the fact that a cock Cockatiel normally only broods during the day, I think his effort in doing the whole job almost from the time the young hatched, is a particularly noble one.

The other instance is a typical example of how the most unlikely looking birds often make the best parents.

We have here a very nice hen Golden Mantled Rosella, and in the absence of nothing better this spring, she was given a particularly undersized, moth-eaten looking husband in the shape of an ordinary cock Red Rosella. This bird also plucks himself badly, so I was afraid that even if young were produced, they would almost certainly be plucked in the nest. In this I was wrong, as they have produced three of the finest young Rosellas it has been my luck to see.

Incidentally, these being Zoo-bred birds, and reared to the accompaniment of the screams of children, and the constant banging on the wire-netting of their aviary from the public in general, left the nest and behaved without any of the usual panic of young Parrakeets just fledging. Moreover, it is quite a joy to be able to stand in front of their aviary and watch the parents feeding their young, completely indifferent to one's presence—a thing I have seldom had the opportunity of doing in the past, without hiding behind bushes, peering through a knot-hole in the wood of an aviary, or through field glasses at about 100 yards range!

I am also trying this year the experiment of establishing some Golden Pheasants loose about the Zoo grounds, by rearing the chicks in my garden under bantams, and allowing them complete freedom, except for the clipping of one wing. This does not prevent them jumping up into the trees to roost at night, but so far, to date (mid-September), they all turn up at meal times on the lawn when I rattle the food tin.

DUDLEY ZOO, WORCS.

D. H. S. RISDON.

A SUGGESTION

Most aquarists are now using a species of nematode worm which belongs to the order *Enchytræa*), a small white worm about one inch long and of the thickness of a piece of thread. Unlike mealworms, their propagation is extremely rapid, a few dozen of them soon forming colonies of many thousands.

The breeding is extremely simple, a shallow box is filled with crumbly soil, or better still peat, the little worms are added together with a few tablespoonfuls of oatmeal or even breadcrumbs, and the whole is kept damp and shaded. Frost would probably kill the whole colony, but excessive heat is not appreciated, a temperature of 55° to 65° being about the ideal. Food must be added every few days as it quickly disappears with growth of the worms.

I have two such boxes in one of my greenhouses and I have frequently noticed that one very tame Robin was always hopping around one or other of these boxes. Finally I gave him a good helping of peat and worms and within a matter of seconds every worm had been picked out and swallowed. It then struck me that here we had a live food which was much more wholesome than the leathery mealworm and which might be ideal for the more delicate softbills such as some of the Robins, Niltavas, and even possibly Sunbirds.

I am sending a small quantity of these white worms to our President and also to Mr. Dulanty, and perhaps one or other of these will kindly report on his experiences. White worms can be purchased at any of the many shops which deal in tropical fish.

DELMONDEN MANOR, HAWKHURST, KENT.

MAURICE AMSLER.

LIST OF EXCHANGES AND PRESENTATIONS

Members are reminded that the publications presented or received in exchange are deposited in the Library of the Zoological Society of London, Regent's Park, London, N.W. 8.

- Great Britain . . . *British Birds, Cage Birds, The Ibis, Our Zoo News*
(Chester Zoological Gardens).
- Australia . . . *Australian Aviculture* (official organ of the Avicultural Society of Australia and the Avicultural Society of South Australia).
- Belgium . . . *Le Gerfaut, Le Monde Avicole, Natuurwereld, Ornithologie, Zoo* (La Societé Royale de Zoologie d'Anvers).
- Denmark . . . *Dansk Ornithologisk Forenings Tidsskrift, Stuekultur.*
- France . . . *L'Oiseau, La Terre et la Vie.*
- Germany . . . *Die Gefiederte Welt, Die Vogelwarte, Die Vogelwelt, Ornithologische Abhandlungen, Ornithologische Berichte, Ornithologische Mitteilungen.*
- Netherlands . . . *Ardea, Onze Vogels.*
- South Africa . . . *The Bokmakierie, The Ostrich.*
- Sweden . . . *Vår Fågelvärld.*
- U.S.A. . . . *America's First Zoo* (Philadelphia Zoological Gardens), *Animal Kingdom* (New York Zoological Society), *The Auk, The Condor, The Wilson Bulletin, Zoologica.*
- Yugoslavia . . . *Glasnik* (Journal of the Ornithological Institute, Zagreb).

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