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BULLETIN

OF THE

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ITISH ORNITHOLOGISTS' CLUB.

EDITED BY

DAVID A. BANNERMAN, B.A. (CANTAB.).

VOLUME XXXV. (-XXXVII)

SESSION 1914–1915.

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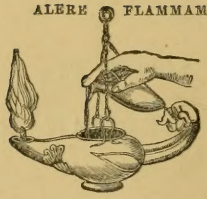
ALERE FLAMMAM.



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PREFACE.

Smithsonian Institution
OCT 18 1915
National Museum

The total number of Members of the British Ornithologists' Club at the end of the Session 1914–1915 was 210.

The number of attendances at the meetings of the Club during the past Session was 317. This included 271 Members and 41 Visitors, showing an average of just over 35 per meeting. The falling off in numbers may be entirely accounted for by the war, a number of Members being on Active Service *, while many are engaged in various branches of "war-work" in the United Kingdom.

During the past Session we have to deplore the death, in March last, of Capt. Savile Reid, who for many years was an active Member of the Club. The B. O. U. has also suffered a serious loss by the death in action in France of Lieut. Lord Brabourne (Grenadier Guards), which was briefly alluded to in the April number of the 'Bulletin'; also of Lieut. R. B. Woosnam (Worcestershire Regt.), who fell in Gallipoli on June 4. Both were well-known guests at the meetings of the Club, and their loss will be deeply mourned by all who knew them.

The present Volume (XXXV.) of the 'Bulletin' contains descriptions of 56 new species and subspecies of birds, the names of which will be found printed in heavy type in the Index. Many remarkable and rare forms have also been exhibited at the evening meetings.

* A preliminary list of Members of the B. O. C. now on Active Service will be published in the next (October) number of the 'Ibis.'

Lord Rothschild and Dr. Hartert have contributed further valuable notes on the avifauna of Algeria, and have exhibited many rare birds, including several new forms, from New Guinea and the adjacent islands.

Mr. Ogilvie-Grant has described a number of interesting new species from the Snow Mountains of Dutch New Guinea and from the Solomon Islands.

The fine collections made by Mr. Willoughby Lowe, last year, in British East Africa and Uganda ; also by the late Mr. Boyd Alexander in Cameroon and the islands of the Gulf of Guinea, in 1909, have both proved of exceptional value. Mr. Claude Grant has almost completed working out the former, while the present writer has worked out the latter : from both collections many rare birds have been exhibited at the Club during the Session and a number of the new species and subspecies obtained are described in the following pages.

Dr. V. G. L. van Someren, who has recently returned from Uganda with a valuable collection of birds, has described no less than ten new forms from that El Dorado of the Ornithologist.

Notable exhibits by Mr. G. M. Mathews were specimens of *Aphelocephala pectoralis* (Gould) from South Central Australia—the only examples of Gould's species in existence.

Rare species from India have been exhibited by Mr. Stuart Baker, and from South America by Mr. C. Chubb and the late Lord Brabourne.

Interesting exhibits of eggs have been made by the Rev. F. C. R. Jourdain, Dr. E. Hartert, Mr. C. E. Pearson, Mr. E. C. Stuart Baker and Mr. S. L. Whymper.

The Lantern-Meeting which was held on the 10th of March was well attended ; many of the slides shown proved

of exceptional interest, especially those exhibited by Miss Maud Haviland of Bird-life in Northern Siberia, and by Lord Rothschild depicting the three faunal regions of Algeria.

A notable feature of the Session has been the institution of organised Discussions on subjects of general Ornithological interest. The subjects which came under discussion during the past Session were :—

1. (At the February Meeting). "Coloration as a Factor in Family and Generic Differentiation," opened by Dr. P. R. Lowe ; and
2. (At the June Meeting). "The Effect of Environment on the Evolution of Species," opened by Lord Rothschild, F.R.S.

Further information with regard to this new policy of the Club, which has proved so successful, will be found on pp. 31, 32, 40, and 41 of the present volume.

Owing to the war no Ornithological expeditions of note have left England, several which were arranged to take place having been cancelled.

(Signed) DAVID A. BANNERMAN,
Editor.

London, August 1915.

RULES

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

(*As amended, June 9th,* 1915.)

I. This Club was founded for the purpose of facilitating the social intercourse of Members of the British Ornithologists' Union. Any Ordinary Member of that Union can become a Member of this Club on payment (to the Treasurer) of an entrance fee of *One Pound* and a subscription of *Seven Shillings and Sixpence* for the current Session. Resignation of the Union involves resignation of the Club.

II. Members who have not paid their subscriptions before the last Meeting of the Session, shall cease, *ipso facto,* to be Members of the Club, but may be reinstated on payment of arrears *and* a new entrance fee.

III. Ordinary Members of the British Ornithologists' Union may be introduced as Visitors at the Meetings of the Club, but every Member of the Club who introduces a Member of the B. O. U. as a Visitor (to the dinner or to the Meeting afterwards) shall pay *One Shilling* to the Treasurer *on each occasion.*

IV. No gentleman shall be allowed to attend the Meetings of the Club as a guest on more than three occasions during any single Session.

V. The Club shall meet, as a rule, on the Second Wednesday in every Month, from October to June inclusive, at such hour and place as may be arranged by the Committee. At these Meetings papers upon ornithological subjects shall be read, specimens exhibited, and discussion invited.

VI. An Abstract of the Proceedings of the B. O. C. shall be printed as soon as possible after each Meeting, under the title of the 'Bulletin of the British Ornithologists' Club,' and distributed gratis to every Member *who has paid his subscription.* Copies of this Bulletin shall be published and sold at *One Shilling* each.

Descriptions of new species may be added to the last page of the 'Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at the discretion of the Editor and so long as the publication of the 'Bulletin' is not unduly delayed thereby.

Any person speaking at a Meeting of the Club shall be allowed subsequently to amplify his remarks in the 'Bulletin'; but no fresh matter shall be incorporated with such remarks.

VII. The affairs of this Club shall be managed by a Committee, to consist of the Chairman, who shall be elected for five years, at the end of which period he shall not be eligible for re-election, the Editor of the 'Bulletin,' the Secretary and Treasurer, and the Editor of 'The Ibis,' *ex officio*, with three other Members, one of whom shall be changed every year. The Committee shall have power to make and alter Bye-laws.

VIII. Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted must communicate in writing with the Chairman, who will call a Committee Meeting to deal with the matter.

[The Rules governing the Discussions are set out on page 41 of this volume.]

COMMITTEE 1914–1915.

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LIST OF MEMBERS.

JUNE 1915.

Alexander, H. G.; King's College, Cambridge.
Aplin, Oliver Vernon; Bloxham, Banbury, Oxon.
Arundel, Major W. B.; High Ackworth, Pontefract.
Bahr, P. H.; 12 Vicarage Gardens, Kensington, W.
Baker, E. C. Stuart; 6 Harold Road, Upper Norwood, S.E.
Baker, Dr. J. C.; Ceely House, Aylesbury.
Bannerman, David A., B.A. (*Editor of the 'Bulletin'*); 11 Washington House, Basil Street, S.W.
Barclay, Hugh Gurney; Colney Hall, Norwich.
Barrington, Richard Manliffe; Fassaroe, Bray, Co. Wicklow.
Baynes, George K.; 1 Fleet Street, E.C.
Bickerton, W.; The Firs, Farraline Road, Watford.
Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C.
Blaauw, F. E., C.M.Z.S.; Gooilust, s'Graveland, Noord-Holland.
Bonhote, John Lewis, M.A.; Zoological Gardens, Giza, Egypt.
Boorman, S.; Heath Farm, Send, Woking, Surrey.
Booth, H. B.; "Ryhill," Ben Rhydding.
Borrer, C. D.; 20 Pelham Crescent, South Kensington, S.W.
Bradford, A. D.; Upton Lodge, Watford.
Bradford, Sir J. Rose, F.R.S.; 8 Manchester Square, W.
Briggs, T. H.; Rock House, Lynmouth, R.S.O., Devon.
Bristowe, B. A.; The Cottage, Stoke D'Abernon, Cobham, Surrey.
Buckley, C. M.; 4 Hans Crescent, S.W.
Bunyard, P. F.; 57 Kidderminster Road, Croydon.
Buxton, Anthony; Knighton, Buckhurst Hill, Essex.
Carroll, Clement Joseph; Rocklow, Fethard, Co. Tipperary, Ireland.
Carter, Thomas; "Wensleydale," Mulgrave Road, Sutton, Surrey.
Chaplin, Nugent; The Lodge, Bourne End, Bucks.
Chapman, Abel; Houxty, Wark-on-Tyne.

Chase, R. W.; Herne's Nest, Bewdley, Worcestershire.

Chubb, Charles; British Museum (Natural History), Cromwell Road, S.W.

Clarke, Capt. Goland van Holt, D.S.O.; Brook House, Hayward's Heath, Sussex.

Clarke, Col. Stephenson Robert, C.B.; Borde Hill, Cuckfield, Sussex.

Clarke, William Eagle; Royal Scottish Museum, Edinburgh.

Coles, Richard Edward; Rosebank, New Milton S. O., Hants.

Collett, A.; 5 Stone Buildings, Lincoln's Inn, W.C.

Collier, Charles; Bridge House, Culmstock, Devon.

Court-Treatt, C.; 29 Fulham Park Gardens, S.W.

Curtis, Frederick, F.R.C.S.; Alton House, Redhill, Surrey.

Dalgleish, John J.; Brankston Grange, Bogside Station, Alloa.

Davidson, J.; 32 Drumsheugh Gardens, Edinburgh.

Davis, K. J. Acton, F.R.C.S.; 16 Upper Wimpole Street, W.

Dawson, G. H.; 21 Great St. Helens, E.C.

De Winton, W. E.; Southover Hall, Burwash, Sussex.

Dobbie, James B.; 12 South Inverleith Avenue, Edinburgh.

Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.

Drewitt, Dr. F. D.; 14 Palace Gardens Terrace, Kensington, W.

Earle, Edward V.; Fowden Hall, London Road, Maidstone.

Elliot, Edmund A. S., M.R.C.S.; Slade, Mounts, S. Devon.

Ellison, Rev. Allan; Althorpe Rectory, Doncaster.

Elwes, Henry John, F.R.S.; Colesborne Park, Cheltenham.

Evans, Arthur Humble, M.A.; 9 Harvey Road, Cambridge.

Ewen, Guy L'Estrange; 1 Claremont Road, Windsor.

Fanshawe, Captain R. D.; Broxmore, Cavendish Road, Bournemouth.

Finlinson, Horace W.; Lancing College, Shoreham-on-Sea, Sussex.

Fitzherbert-Brockholes, W. J.; Claughton-on-Brock, Garstang, Lancashire.

Flower, Capt. S. S.; Kedah House, Zoological Gardens, Giza, Egypt.

Forbes, Henry Ogg, LL.D.; Redcliffe, Beaconsfield, Bucks.

Foster, Nevin H.; Hillsborough, Co. Down, Ireland.

Frohawk, F. W.; Stanley House, Park Road, Wallington, Surrey.

Gainsborough, The Earl of; Exton Park, Oakham.

Garnett, Charles; 97 Whitehall Court, S.W.

Gerrard, John; Worsley, Manchester.

Gibson, Ernest; 25 Cadogan Place, S.W.

Godman, Captain E. S.; Hampsteel, Cowfold, Horsham, Sussex.

Godman, Frederick DuCane, D.C.L., F.R.S.; 45 Pont Street, S.W.
Goodall, J. M.; The Nest, Bembridge, Isle of Wight.
Goodchild, H.; 17 Priory Gardens, Shepherd's Hill, Highgate, N.
Goodfellow, Walter; The Poplars, Kettering.
Gosse, Philip, M.R.C.S.; Curtlemead, Beaulieu, Hants.
Gould, F. H. Carruthers; Matham Manor House, East Molesey.
Grant, C. H. B.; Sports Club, St. James's Square, S.W.
Grey, The Rt. Hon. Sir Edward, Bart., K.G., P.C., M.P.; Falloden, Christon Bank, Northumberland.
Griffith, Arthur F.; 59 Montpelier Road, Brighton.
Gurney, G. H.; Keswick Hall, Norwich.
Gurney, John Henry; Keswick Hall, Norwich.
Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.
Hale, Rev. James R., M.A.; Boxley Vicarage, Maidstone, Kent.
Harington, Lt.-Col. H. H.; 84th Punjabis, Rawal Pindi, India.
Hartert, Ernst, Ph.D.; The Museum, Tring, Herts.
Harvie-Brown, John A.; Dunipace House, Larbert, Stirlingshire.
Hawker, R. M.; Bath Club, Dover Street, W.
Headley, F. W.; Haileybury College, Hertford.
Hellmayr, C. E.; Zoologische Sammlung des Staats, Alte Akademie, München, Germany.
Hett, G. Seccombe; 8 Wimpole Street, W.
Hony, G. Bathurst; 4 Beaufort Road, Clifton, Bristol.
Horsbrugh, Major Boyd R.; Tandridge Priory, Oxted, Surrey.
Horsfield, Herbert Knight; Crescent Hill, Filey, Yorkshire.
Howard, H. Eliot; Clarelands, near Stourport.
Howard, Robert James; Shearbank, Blackburn, Lancashire.
Ingram, Capt. Collingwood; Sussex Mansions, Westgate-on-Sea.
Iredale, Tom; 98 Riverview Gardens, Barnes, S.W.
Jackson, Sir Frederick J., C.B., K.C.M.G.; Entebbe, Uganda, East Africa.
Johnson, Sir Henry H.; 55 Sloane Gardens, S.W.
Jones, Major H.; 41 Vineyard Hill Road, Wimbledon Park, S.W.
Jones, Staff-Surgeon Kenneth H., R.N.; Manor House, St. Stephens, Canterbury.
Jourdain, Rev. F. C. R., M.A.; Appleton Rectory, near Abingdon, Berks.
Joy, Norman H.; Thurlestone, Bradfield, near Reading.
Kelso, J. E. H., M.D.; Edgewood, Arrow Lakes, British Columbia.
Kinnear, Norman B.; Bombay Natural History Society.

Kloss, C. Boden; Kuala Lumpur, Federated Malay States.
La Touche, J. D.; Chinese Customs, Chinwangtao, N. China.
Laidlaw, Thomas Geddes; Bank of Scotland Branch, Duns, N.B.
Lambert, Godfrey C.; Woodcote, Esher, Surrey.
Langton, Herbert; St. Moritz, 61 Dyke Road, Brighton.
Lascelles, Hon. Gerald; Tillington House, Petworth.
Le Souëf, D.; Zoological Society, Melbourne, Australia.
Lodge, G. E.; 5 Thurloe Studios, Thurloe Square, S. Kensington, S.W.
Long, Sydney H., M.D.; 37 St. Giles' Street, Norwich.
Lowe, P. R., B.A., M.B., B.C. (*Secretary & Treasurer*); The Nuns, Stamford.
Lucas, The Lord; 32 Old Queen Street, S.W.
Lynes, Captain Hubert, R.N.; Garthmeilio, Corwen.
Macmillan, G. A.; 27 Queen's Gate Gardens, S.W.
Macmillan, W. E. F.; 27 Queen's Gate Gardens, S.W.
Macpherson, Arthur Holte; 21 Campden Hill Square, Kensington, W.
Magrath, Lieut.-Colonel H. A. F.; 54th Sikhs, F.F., Kohat, India.
Marshall, A. McLean; Great Chitcombe, Brede, Sussex.
Marshall, James McLean; Bleaton Hallet, Blairgowrie, N.B.
Mason, Colonel E. S.; 10 Lindum Terrace, Lincoln.
Mathews, G. M.; Foulis Court, Fair Oak, Hants.
May, W. Norman, M.D.; The White House, Sonning, Berks.
Meade-Waldo, Edmund Gustavus Bloomfield (*Vice-Chairman*); Hever Warren, Hever, Kent.
Mills, Rev. H. Holroyd; The Rectory, St. Stephen-in-Brannell, Grampound Road, Cornwall.
Monro, Sir Horace C., K.C.B.; Queen Anne's Mansions, S.W.
Munn, P. W.; Stourwood Cottage, Stourwood Avenue, Southbourne, Hants.
Munt, Henry; 10 Ashburn Place, South Kensington, S.W.
Murray, E. Mackenzie; Drum Leys, Kirriemuir, N.B.
Musters, J. P. C.; Annesley Park, Nottingham.
Nesham, Robert; Utrecht House, Poynder's Road, Clapham Park, S.W.
Nelson, T. H., J.P., M.Sc.; Seafield, Redcar, Yorks.
Newman, T. H.; Newlands, Harrowdene Road, Wembley, Middlesex.
Nichols, J. B.; Parliament Mansions, Victoria Street, S.W.
Nicholson, F.; The Knoll, Windermere.

Nicoll, Michael J.; Valhalla House, Zoological Gardens, Giza, Egypt.

Ogilvie, Fergus Menteith; The Shrubbery, 72 Woodstock Road, Oxford.

Ogilvie-Grant, W. R.; British Museum (Natural History), Cromwell Road, S.W.

Oldham, Chas.; The Bollin, Shrublands Road, Berkhamsted, Herts.

Parkin, Thomas; Fairseat, High Wickham, Hastings.

Patterson, William H.; 25 Queen's Gate Gardens, S.W.

Pearse, Theed; 119 Pender Street West, Vancouver, B.C.

Pearson, Charles Edward; Hillcrest, Lowdham, Nottingham.

Penrose, Francis G., M.D.; Athenæum Club, Pall Mall, S.W.

Pershouse, Captain S.; 12 Chatsworth Square, Carlisle.

Pigott, Sir Thomas Digby, K.C.B.; The Lodge, Lower Sheringham.

Player, W. J. P.; The Quarr, Clydach, R.S.O., Glamorganshire.

Popham, Hugh Leyborne, M.A.; Hunstrete House, Pensford, near Bristol.

Price, A. E.; 4 Mincing Lane, E.C.

Proctor, Major F. W.; Downfield, Maidenhead.

Pycraft, W. P.; British Museum (Natural History), Cromwell Road, S.W.

Ratcliff, F. R.; 29 Connaught Square, W.

Rawson, Herbert Evelyn; Comyn Hill, Ilfracombe.

Read, Robert H.; Camelot, South Parade, Bedford Park, W.

Renaut, W. E.; 29 Elsham Road, Kensington, W.

Richmond, H. W., F.R.S.; King's College, Cambridge.

Rickett, C. B.; 27 Kendrick Road, Reading, Berks.

Rippon, Colonel G.; United Service Club, Pall Mall, S.W.

Rivière, B. B., F.R.C.S.; St. Giles' Plain, Norwich.

Robinson, H. C.; State Museum, Kuala Lumpur, F. M. States.

Rothschild, The Lord, Ph.D., F.R.S. (*Chairman*); The Museum, Tring, Herts.

Rothschild, Hon. N. Charles; Arundel House, Kensington Palace Gardens, W.

Russell, Conrad; 2 Audley Square, W.

St. Quintin, W. H.; Scampston Hall, Rillington, Yorkshire.

Sapsworth, Arnold Duer; 30 Sussex Place, Regent's Park, N.W.

Sargeaunt, Arthur St. George; Exbury, Padstow, Cornwall.

Sargent, James; 76 Jermyn Street, St. James's, S.W.

Sclater, William Lutley, M.A. (*Vice-Chairman*); 10 Sloane Court, S.W.

Selous, Frederick Courtenay; Heatherside, Worplesdon, Surrey.
Seth-Smith, David; 34 Elsworthy Road, South Hampstead, N.W.
Seth-Smith, Leslie Moffat, B.A.; Alleyne, Caterham Valley, Surrey.
Seton, M. C. C.; 13 Clarendon Road, Holland Park, W.
Sharman, Frederic; 47 Goldington Road, Bedford.
Smalley, Frederic W.; Challan Hall, Silverdale, nr. Carnforth.
Sparrow, Lt.-Col. R.; Rookwoods, Sible Hedingham, Essex.
Stanford, E. Fraser; 9 Cumberland House, Kensington Court, W.
Staples-Browne, R. C.; Bampton, Oxon.
Stares, J. W. C.; Portchester, Hants.
Stenhouse, J. H., M.B., R.N.; Craigievar, Keptie Road, Arbroath.
Studdy, Colonel Robert Wright; Waddeton Court, Brixham, Devon.
Styan, F. W.; Ben Craig, Bayham Road, Sevenoaks.
Swann, Geoffrey; 11 Onslow Crescent, S.W.
Swann, Harold; 45 Brompton Square, S.W.
Swinhoe, Colonel C.; 6 Gunterstone Road, W. Kensington, W.
Swynnerton, C. F. Massy; Gungunyana, Melsetter District, S. Rhodesia.
Talbot-Ponsonby, C. G.; 5 Crown Office Row, Temple, E.C.
Terry, Major Horace A.; Compton Grange, Compton, Guildford.
Thorburn, Archibald; High Leybourne, Hascombe, Godalming.
Ticehurst, Claud B., M.A., M.D.; Grove House, Lowestoft, Suffolk.
Ticehurst, N. F., F.R.C.S.; 35 Pevensey Road, St. Leonards-on-Sea.
Townsend, R. G.; Buckholt, Dean, Salisbury.
Trevor-Battye, Aubyn B. R.; Ashford Chace, Petersfield, Hants.
Tyrwhitt-Drake, Hugh G.; Cobtree, Sandling, Maidstone.
Upcher, Henry Morris; Sheringham Hall, Sheringham, R.S.O.
Vaughan, Matthew; Sunnylands, Milton, Pewsey, Wilts.
Vaughan, Commdr. Robert E.; Royal Naval Barracks, Chatham.
Wallis, H. M.; Ashton Lodge, Christchurch Road, Reading.
Walton, Major H. J., I.M.S.; c/o Messrs. King & Co., P.O. Box 110, Bombay, India.
Wardlaw-Ramsay, Colonel R. G. (*President B. O. U.*); Whitehill, Rosewell, Midlothian.
Whitaker, Joseph I. S.; Malfitano, Palermo, Sicily.
White, S. J.; Merok, Chiltern Road, Chesham Bois, Bucks.
Whitehead, Major C. H. T.; Deighton Grove, York.
Whymper, Samuel Leigh; Oriental Club, Hanover Square, W.

Wild, Oliver H.; 29 Viewforth, Edinburgh.
Wilkinson, Johnson; Vermont, Huddersfield, Yorkshire.
Wilson, Charles Joseph; 34 York Terrace, Regent's Park, N.W.
Wilson, Scott B.; Heather Bank, Weybridge Heath, Surrey.
Witherby, Harry F.; 326 High Holborn, W.C.
Witherington, G.; 19 Sumner Place, S. Kensington, S.W.
Wollaston, A. F. R.; 15 Montpelier Square, S.W.
Woodhouse, Cecil, M.D.; Chetnole House, Sherborne, Dorset.
Workman, William Hughes; Lismore, Windsor, Belfast.
Wynne, R. O.; Foulis Court, Fair Oak, Hants.

[Members are requested to keep the Secretary informed of any changes in their addresses.]

ERRATA.

Page 7, line 35, *for* **Erythriorchis** *read* **Erythrotriorchis.**

„ 17, „ 3, *for* **Trichalopterum erathrolæma woodi** *read* **Trochalopterum erythrolæma woodi.**

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CC.

The hundred and ninety-seventh Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 14th of October, 1914.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker, D. A. Bannerman, B.A. (*Editor*), H. G. Barclay, E. Bidwell, C. D. Borrer, P. F. Bunyard, C. Chubb, H. J. Elwes, F.R.S., F. W. Frohawk, P. Gosse, M.R.C.S., E. Gibson, C. H. B. Grant, E. Hartert, Ph.D., Rev. J. R. Hale, M.A., C. Ingram, Rev. F. C. R. Jourdain, M.A., G. C. Lambert, P. R. Lowe, M.B. (*Sec. & Treas.*), G. M. Mathews, E. G. B. Meade-Waldo, H. Munt, C. Oldham, C. E. Pearson, R. H. Read, C. B. Rickett, W. L. Sclater, M.A., D. Seth-Smith, J. Stewart, C. G. Talbot-Ponsonby, C. B. Ticehurst, M.B., A. Trevor-Battye, S. L. Whymper, H. F. Witherby.

Visitors:—D. S. Barclay, H. S. L. Fry, M.A., D. C. Lyell.

The Chairman remarked that since the last session several changes had taken place amongst the Officers of the Club. He greatly regretted to announce that the Editor (Mr. W.

R. Ogilvie-Grant) and the Hon. Secretary and Treasurer (Mr. H. F. Witherby) had both found it necessary, through stress of other business, to resign their office.

The Chairman announced that at the Meeting of the Committee held on the 23rd of July the following Officers and Committee had been elected :—

The Hon. Walter Rothschild, Ph.D., F.R.S., *Chairman.*
David A. Bannerman, *Editor of the 'Bulletin.'*
Percy R. Lowe, *Secretary and Treasurer.*
E. G. B. Meade-Waldo, *Vice-Chairman.*
W. L. Sclater, *Editor of 'The Ibis,'* *Vice-Chairman.*
C. B. Rickett.
E. Bidwell (in place of N. F. Ticehurst, retiring by seniority).
} *Members of the Committee.*

The Chairman asked the Members of the B. O. C. to join with him in passing a very hearty vote of thanks to the retiring Editor and Secretary, both of whom had done so much to further the interests of the Club. He said that the excellence of the 'Bulletin' was owing to the untiring efforts of Mr. Ogilvie-Grant, and that the duties of Hon. Secretary and Treasurer had been most ably carried out by Mr. Witherby. He was sure that the Members of the Club would like to express their appreciation of the services rendered by these two gentlemen.

The retiring Secretary and Treasurer read a statement of the accounts which had been duly audited by Mr. Seth-Smith.

The Chairman gave the following Address :—

"Brother Members of the B. O. C.,—

"In my Address delivered last November, owing to there having been no Address in the previous session, I had the results of two years ornithological activity to draw upon.

This year I am not so fortunate, and I trust therefore you will excuse the brevity and poverty of my effort.

"As I began last year with Africa, I will do so again. Dr. Hartert and I paid our sixth visit to Algeria and the 'Territoires du Sud' and were again able to collect much interesting material; the collection of eggs which we procured was very extensive, and we obtained also a good series of skins. The most important results of our trip were the rediscovery, in its type locality, after 57 years, of the true *Garrulus minor* and also of *Alauda cristata randoni*.

"The Rev. F. C. R. Jourdain also made a very successful oological expedition to Algeria.

"Herr Spatz, this time accompanied by Herr Geyer von Schweppenburg, continued his exploration of the vast regions of the Western Sahara. He reached Ideles, at the foot of the great Hoggar Mountains, and brought home four or five most interesting new birds. The insects collected on this trip go far to show that the Hoggar Mountains are the southern boundary of the Western Palæarctic Region, several of the species represented being purely tropical forms.

"A very successful expedition to the Egyptian Soudan was carried out by Captain Lynes, R.N., Mr. Abel Chapman, and Mr. Willoughby P. Lowe; several new species were obtained.

"In South Africa there is continued activity amongst our colleagues, and their Journal contains much of interest both in new species and biological notes.

"Major Kelsall's paper on his fine collection of birds from Sierra Leone, which appeared in 'The Ibis,' advances our knowledge considerably.

"As regards Great Britain, Miss E. V. Baxter, Miss Rintoul, and Mr. Eagle Clarke have continued their valuable migration and faunistic studies on the islands and the mainland of Scotland, and the eighth Migration Report published by the B. O. C. records a mass of information concerning the movements of birds in Spring and Autumn throughout England.

"The 'British Bird Book,' edited by Mr. Kirkman, has been completed.

"The new 'B. O. U. List of British Birds' is about to appear.

"The marking and ringing of birds has been actively carried on.

"Mr. Witherby's magazine 'British Birds' contains much of interest.

"Mr. Gurney's book on the Gannet is a most useful monograph on this interesting species.

"On the Continent a good deal of activity has been shown. In France, 'La Revue Française d'Ornithologie' contains many articles of interest on the Ornis of the French Colonies and of other parts of the world; I trust I may be forgiven if I say that occasionally some of the articles might be more carefully censored.

"Professor Ménégaux has earned our gratitude by his reprints of Lesson's articles in the 'Echo du Monde Savant.'

"In Germany much is being done in local ornithology and several very useful lists have appeared, especially the one on the 'Birds of East Prussia.' Dr. Hellmayr's 'Avifauna of Timor' is a very important addition to our knowledge; as is Herr A. Laubmann's article on Professor Merzbacher's collection of Thian Shan birds.

"Herr Laubmann's paper on Corsican birds is also a useful contribution.

"Professor Reichenow's handbook 'Die Vögel' is a most serviceable epitome and provides a handy book of reference.

"Fräulein Snethlage's article on the distribution of birds in the Lower Amazons is a most important work, which adds considerably to our knowledge of this region.

"Both at Rossitten and on Heligoland the observations on migration, the marking and ringing of birds and other general observations have been actively carried on.

"In Holland, the Netherlands Ornithological Society continues to publish much of interest in its various issues.

"My collector, A. S. Meek, has been steadily at work, and fine collections, containing a considerable number of novelties,

have been sent from the Admiralty Islands, Dampier and Vulcan Islands.

"Major Harington has been hard at work on the Indian Timeliidæ, and Captain Bailey has sent fine collections from the Mishmi-Abor Hills.

"The exploration of the high mountains of Sumatra by Messrs. Robinson and Kloss has yielded fine results.

"Mr. Mathews has continued his work in the Australian region, and both his book and his collections have made great progress. He has also published a new List of the Birds of Australia.

"Mr. Walter Goodfellow has been exploring the interior of Ecuador, etc., and is bringing back very fine collections of living birds and skins of many rare species.

"In America our friends in the United States continue with unflagging industry to explore the ornithological fauna of their own country, as well as that of South America and the rest of the world. Mr. Phillips has explored the Eastern Soudan and described a new Goat-sucker, while in the Santa Marta, Venezuela, and other South American localities vigorous work is being carried on by American collectors.

"Mr. Beebe is now bringing his book on the Pheasants to a successful completion—the results of his great expedition to the East (India, China, Malacca, etc.).

"The Russians have been very prolific in their writings, but unfortunately these writings are quite inaccessible to the rest of the ornithological world.

"I think, in conclusion, I may say that undiminished activity continues in our favourite science."

The Hon. Walter Rothschild, Ph.D., F.R.S., described a new subspecies of Cassowary from Jobi Island, and made the following remarks on Westerman's Cassowary :—

"In 1871 the Zoological Society purchased from the Amsterdam Gardens a young Cassowary said to have been caught in 1869 at Munsinam. It was identified and figured

by Dr. Sclater as *Casuarius kaupi* in the 'Proceedings' of the Zoological Society for 1872. In 1874 Dr. Sclater discovered that the name '*kaupi*' was founded on the young of *Casuarius unappendiculatus*; he therefore proposed the name *C. westermanni* for the bird then living in London. Count Salvadori and many others, myself included, have considered *C. westermanni* to be a synonym of *Casuarius papuanus*. There is, however, now living in the Zoological Gardens of London a Cassowary of the *papuanus* type, brought by Mr. Goodfellow from the Island of Jobi: this bird shows great differences both from *C. p. papuanus* and *C. p. edwardsi*.

"The late Professor Oustalet described two Cassowaries which had been brought home by Laglaize from Jobi as *C. laglaizei* and *C. occipitalis*, but these both have the distinct neck-wattle of the *C. unappendiculatus* group. It therefore remains to prove whether the name *C. westermanni* refers to the Jobi Island Mooruk or not. Living Cassowaries come into the hands of European dealers in so many round-about ways, that unless they are brought over by a competent ornithologist like Mr. Goodfellow, the alleged localities may be ignored. It therefore behoves us to consider the birds themselves.

"At first sight the most striking difference between *C. p. papuanus* and Mr. Goodfellow's bird is that, instead of the entire occiput being white as well as the sides of the head, the occiput is black and only the sides of the head behind the eye are white. Again, the frontal half of the lower sides of the neck is dark purplish-violet, not pale reddish-mauve; lastly, beneath the ear there is a large purple patch as in *C. claudei*.

"On looking at the drawing of *C. westermanni* one is at once struck by the black occiput, but the sides of the head are whiter than in the Jobi bird, and on close inspection the occiput proves to be covered with feathers. As no drawing is extant of the type of *C. westermanni* when adult, it is impossible to say if it really had a black occiput. The drawing of the young bird, however, shows no trace

of either the purple patch below the ear, or of the violet on the lower neck. *C. westermanni* was said to have come from the mainland of New Guinea, and as no pictorial or even written record exists of the colours of the naked parts of the head and neck, when the bird, as stated, was completely adult in 1874, I consider that the name can only be considered as a doubtful synonym of *C. p. papuanus*. I have therefore much pleasure in naming the Jobi Island Mooruk

"Casuarius papuanus goodfellowi, subsp. n."

Messrs. Rothschild and Hartert described a new species of Goshawk from New Guinea, and made the following remarks :—

"In 1875 Count Salvadori and D'Albertis described a new genus and species of Goshawk from British New Guinea which they named *Megatriorchis doriæ*. In 1886 Sharpe placed the very remarkable *Megatriorchis doriæ* in the genus *Erythrotriorchis*, on the strength of a bird which he wrongly believed to be an adult *M. doriæ*. The bird which led him to this erroneous conclusion was a specimen collected by Goldie in the Astrolabe Mountains. It is certainly quite distinct from *M. doriæ*, having a very differently shaped wing, in which the distance from the end of the secondaries to the tip of the wing is much greater than the length of the tarsus (about 95 mm.), while in *M. doriæ* it is considerably less (30–45 mm); moreover, the type and other specimens in the Tring and British Museums of *M. doriæ* are not young but adult. The specimen of the new Hawk collected by Goldie, and erroneously figured by Sharpe (Gould's 'Birds of New Guinea,' i. pl. 2) as the adult *M. doriæ*, and one which we bought from Mr. H. C. Pratt, who collected it at an elevation of 3000 feet in the Babooni district in the interior of British New Guinea, in September 1903, are undoubtedly adult birds; they cannot either be included in the genus *Erythriorchis*, which is characterised by having much longer wings, but are, in our opinion, true

members of the genus *Astur* in a restricted sense, which we unite with *Accipiter*. We therefore name the new bird

"Accipiter (Astur) eudiabolus, sp. n.

"*Adult male.* Upperside black, with a slaty tinge ; upper wing-coverts widely margined with chestnut-rufous ; some obsolete rufous margins to the scapulars and to some of the feathers of the rump ; bases to the feathers brownish-grey, pure white on the nape, which is not crested ; primaries black, barred with smoky-brown, the bars becoming white at the base. Underside white, broadly streaked with black, cross-barred on the flanks; thighs and under tail-coverts barred with black and chestnut-rufous.

"*Hab.* Mountains of British New Guinea.

"Type in the Tring Museum : ♂ ad. Babooni, British New Guinea, September 1903. H. C. Pratt coll.

"*Obs.* One specimen in the British Museum is like ours, except that the whole underside is somewhat suffused and spotted with rusty-chestnut. A second specimen in the British Museum is exactly similar to ours. The chief measurements are as follows :—

"Two adults (apparently males) : wing 295 and 295 mm. ; tail 215 and 212.

"One adult (apparently female) : wing 325 mm. ; tail 250."

Messrs. Rothschild and Hartert also communicated the following note :—

We have in the Tring Museum another undescribed Goshawk, a young female shot by John Waterstradt on Halmahera in September 1902. The colour of the upper-side is brownish-black, each feather margined with rufous, these margins being wider on the head and neck, so that these parts look much more rufous. The underside is bright tawny-ochraceous, each feather with a black shaft-stripe. Wing-quills barred as in *A. eudiabolus*. Tail black, with whitish-buff tip and fine brownish-grey bars. Wing 299 mm., tail 225. There is no known species to which this bird could be referred, but we think it is better to await

the discovery of the adult bird before giving a name to it. The specimen now in the Tring Museum looks much like a very deeply coloured and small example of a young European Goshawk.

Dr. Ernst Hartert gave a short account of his journey from Touggourt to Ghardaïa, his sojourn in the Mzab-country, and visit to Djelfa and the "Hauts Plateaux" of Central Algeria. He exhibited series of eggs of the various Alaudidæ breeding in these districts, and made the following remarks:—

"**Eremophila alpestris bilopha.** The Desert Horned Lark.

"The chief breeding-season is undoubtedly the second half of April. The nest is usually placed under small desert-bushes, nearly always on the east or south-east side, exceptionally by the side of a stone. The clutches consist of two or three eggs. These are remarkable for their elongate shape, one end being more pointed than the other. The colour is variable, but eggs which are finely spotted all over are the rule; stone-grey ones occur, while in some a slight greenish tinge is sometimes apparent. The shell is rather harder than that of eggs of *Ammomanes*. The eggs are thus distinguished from those of *Ammomanes deserti algeriensis* by their smaller size, more elongated shape, and more frequent fine spotting. The thicker shell results in heavier weight in comparison, so that an egg of the Horned Lark of smaller dimensions will weigh as much as a larger egg of *Ammomanes d. algeriensis*. Single eggs and even single clutches are, however, not always separable with absolute certainty.

"**Ammomanes deserti algeriensis.** The Algerian Desert-Lark.

"Eggs may be found from the end of March to the middle of May, but chiefly in April. The nests are similarly placed and similar to those of *Eremophila*, being in most cases surrounded by small stones. The eggs are, as a rule, much

thicker than those of the *Eremophila,* and the ground-colour is either pale buff with a reddish hue, slightly brownish, or white; the markings are often large, and a ring round the thick end is frequent; finely spotted eggs are also not rare, and may have a white ground-colour.

"Ammomanes phœnicurus arenicolor. The North-African Bar-tailed Desert-Lark.

"The middle of April is obviously the best season in which to find clutches, though some birds nest much earlier, as we have found young birds flying about at that time. The clutches consist of two or three eggs. These are nearly always pure white and have fine spots and dots; larger markings are rare, and eggs with a buff ground-colour and more rufescent patches are uncommon; in fact, I should have doubted the identity of the few specimens of that description which we collected, if I had not on several occasions seen the parent-bird building and sitting on the nest; moreover, one egg in each clutch was white. The eggs are of the same shape as those of *A. d. algeriensis*, but considerably smaller and nearly always white. Large eggs of *A. p. arenicolor* and small ones of *A. d. algeriensis* might be mistaken if the latter are of the white variety, but generally the two are easily distinguishable.

"Calandrella brachydactyla rubiginosa. The Desert Short-toed Lark.

"This species is generally rare in the Western Sahara during the breeding-season, but on the plateau between the Oued Nça and Guerrara a good many pairs are to be found nesting. The eggs are easily distinguished from those of the two Algerian *Ammomanes,* but exceptionally elongated specimens may sometimes be mistaken for small eggs of *Eremophila bilopha*; as a rule, however, the latter are larger, more elongated, and very seldom have a greenish tinge, which is not rare in the eggs of *Calandrella.* The nests do not seem ever to have a ring of stones around them. The principal breeding-season in Algeria seems to be the latter part of April and the early part of May."

Among the other eggs exhibited, special attention may be called to the following :—

Chersophilus duponti.

The eggs are larger than any of even *Ammomanes deserti algeriensis*, and closely resemble certain eggs of *Alauda arvensis*. The clutch taken on the 13th of May was fresh, but at the same time young birds of the year were already flying about.

Œnanthe lugens halophila.

The eggs are smaller than those of *Œ. leucura syenitica*, but would probably not be distinguishable from exceptionally small clutches of the latter.

Rhamphocorys clot-bey.

A number of eggs were taken during the second half of April; all were nearly fresh, so that it is not possible to say whether every clutch had its full complement of eggs or not. Dr. Hartert believed that those containing three and four eggs respectively, were full clutches, while those of two were not so. Great variation in the number of eggs laid by other desert birds was remarked, notably in the case of *Passer simplex*.

Sylvia nana deserti.

Nests with four and five eggs were found east of Guerrara on the 18th of April. These were placed in the high bunches of the "Drin" (*Aristida pungens*). Clutches of four and one of five eggs were obtained.

Mr. W. R. Ogilvie-Grant sent descriptions of three new subspecies of Parrots, obtained during the expedition of Mr. Wollaston and Mr. Kloss to the Snow Mountains of Dutch New Guinea. He proposed to describe them as follows :—

Oreopsittacus arfaki major, subsp. n.

Adult male. Similar to the male of *O. arfaki*, but larger; the scarlet crown extending further back behind the eye

nearly to the occiput; and the middle pair of tail-feathers tipped with scarlet instead of pink, as in *O. arfaki*.

Adult female. Similar to the female of *O. arfaki*, but larger, and with the middle pair of tail-feathers tipped with scarlet instead of pink.

The comparative measurements are as follows :—

O. arfaki.	*O. a. major*.
Males : wing 73–76 mm.	Males : wing 85–87 mm.
Female : wing 73 mm.	Females : wing 80–83 mm.

Hab. Utakwa River.

Types in the British Museum : ♂ ♀. Camp 11, 8000 ft., 7–9. ii. 13. C. B. Kloss.

Neopsittacus muschenbrocki alpinus, subsp. n.

Adult male and female. Similar to *N. muschenbrocki* but much smaller, and with a conspicuously smaller bill. They are also distinguished by having the crown of the head and nape dark green like the rest of the upperparts, with scarcely a trace of lighter green or yellowish shaft-streaks ; the throat and sides of the body dark green instead of yellowish-green ; the chest and upper breast orange-red, the lower breast and belly scarlet, while in *N. muschenbrocki* all these parts are uniform scarlet ; the tail-feathers dark green to the tip, the outer pairs with the greater part of the inner web red, instead of being widely tipped with orange-yellow; the under surface of the tail dark olive-green instead of yellow or orange-yellow. Upper mandible blood-red, tip yellow ; lower mandible yellow ; feet black.

Male. Total length 190 mm. ; wing 105 ; tail 89 (in moult).

Female. Total length 188 mm. ; wing 103 ; tail 84 (in moult).

Hab. Utakwa River.

Types in the British Museum : ♂ ♀. Camp 11, 8000 ft., ii. 13. C. B. Kloss.

Obs. This is an alpine representative of *N. muschenbrocki*.

Mr. Ogilvie-Grant sent for comparison a specimen of *N. m. pullicauda* Hartert which inhabits the highlands of British New Guinea at a corresponding elevation of about 8000 feet. The typical form of *N. muschenbrocki* is found from the Mimika River eastwards to British New Guinea, but is confined to lower elevations not exceeding about 5500 feet.

Psittacella modesta collaris, subsp. n.

Adult male. Differs from the male of *P. modesta* (Schleg.), in having a pale yellow nuchal collar dividing the brown feathers of the head, which have dull orange middles, from the green back. In *P. modesta* the head and hind neck are brown washed with yellowish-olive on the occiput and nape. Upper mandible plumbeous, edge whitish, lower mandible brown, tip whitish; feet plumbeous black. Wing 94 mm.

Adult female. Very similar to the female of *P. modesta*, but with the head and nape coloured almost as in the male, though the yellow collar is less defined. Bill horny-brown, tip yellow; feet black. Wing 95 mm.

Hab. Utakwa River.

Type ♂. Camp 6ᶜ, 5500 ft., 19. ii. 13. C. B. Kloss.

Mr. W. R. Ogilvie-Grant also described two new subspecies of Kingfishers from the Solomon Islands, which he proposed to name

Alcyone richardsi aolæ, subsp. n.

Adult. Differs from *A. richardsi* Tristram, from Rendova Island, Solomons, in its larger size; the blue on the sides of the breast is not extended to form a pectoral band, and the under tail-coverts are white tipped with blue, instead of being blue with a little white at the base. Wing (in moult) 59 mm. as compared with 52 mm. in *A. richardsi*.

Hab. Guadalcanar, Solomon Islands.

Type in the British Museum: Adult. Aola, 6. xii. 88. C. M. Woodford coll.

Alcyone richardsi bougainvillei, subsp. n.

Adult male. Differs from *A. richardsi* Tristram, in having the pectoral band more or less interrupted in the middle

and all the white feathers of the upper breast edged with purplish-blue, giving the plumage of these parts a scaled appearance. As in *A. r. aolæ*, the under tail-coverts are white tipped with blue. Wing 55, tail 23 mm. Iris brown; bill black; feet smoky-brown.

Hab. Bougainville and Kulambangra, Solomon Islands.

Type in the British Museum.

Dr. Ernst Hartert described two Herons as follows:—

"In the 'Catalogue of Birds' (vol. xxvi. 1898, p. 116), under *Lepterodius gularis*, Sharpe included some specimens from Madagascar; of this same form the Tring Museum possesses quite a series from Madagascar and Aldabra. These birds have a superficial resemblance to *Lepterodius gularis*, but are quite different. They do not even belong to the same genus and cannot, in my opinion, be satisfactorily separated from *Egretta* (*Herodias* auct.). The name of *Lepterodius* (originally spelt *Lepterodas*) cannot be accepted at all for the African Reef-Herons, as it was proposed as a new name for the Grey Heron, *Ardea cinerea* being expressly mentioned as the type; Sharpe's "*Lepterodius*" is, in my opinion, best united with *Demigretta*, as has been done by Blanford, Sharpe in 1886, Hume, Oates, and others.

"From the various species of *Demigretta*, the Madagascar Heron, which I propose to call

Egretta dimorpha, sp. n.,

differs in the more slender and more pointed beak, the two mandibles of which meet for their whole length; by having longer and more slender tarsi and by having two long tape-like plumes at the occiput, at least in the breeding-season; the dorsal "train" of ornamental feathers is well developed and in adult males reaches beyond the tail. The colour is slate-black, darker than in most of the other species of *Demigretta*, the primary coverts are, for the most part, partially or entirely white, and there is usually more or less white on the throat. Other specimens are entirely white, others again are intermediate between the two

extremes, being slate-coloured with a lot of white in various parts of their plumage. Iris yellow (or white according to some labels), bill and tarsi black, toes more or less yellow. Culmen (from the feathering on the forehead) 94–103 mm., wings 281–309, tail 105–118, tarsus 100–117, middle toe with claw 67–74; the females are smaller than the males.

"*Hab.* Madagascar and Aldabra.

"Type in the Tring Museum : ♀. West Madagascar.

"In the 'Catalogue of Birds,' vol. xxvi. pp. 155, 156, Sharpe correctly separated two Night-Herons, one generally darker, especially so on the sides of the face, neck, and entire under-surface ; the other paler, though much darker and greyer than *N. n. nycticoraæ* and *N. nævius*. Sharpe's nomenclature, however, is wrong, and in my opinion also the distribution which he ascribed to the two forms. The darker form Sharpe called correctly *N. cyanocephalus*, and the paler one *N. tayazu-guira* ; this is not correct. Vieillot's *Ardea tayazu-guira* was taken from Azara, who described the bird from Paraguay. The bird from Paraguay is inseparable from that spread over the whole of North and northern South America to the Argentine; moreover, Azara and Vieillot specially mention the white underside, which could only apply to the northern bird. Azara's name, therefore, could not apply to a bird with a grey underside which is not found in Paraguay.

"Further, I cannot agree to the distribution accepted by Sharpe. In spite of great individual variation, and although single specimens can hardly be distinguished from the Falkland Islands form, I consider that all the dark Night-Herons from Southern Peru and Chile to the Straits of Magellan, belong to the same race, and that only the paler form from the Falkland Islands should be separated. As it has no name I propose to call it

"**Nycticorax cyanocephalus falklandicus, subsp. n.**

"*Hab.* Falkland Islands.

"Type in the Tring Museum, ex Rowland Ward.

"*Obs.* The wing of *N. c. cganocephalus* measures 330–340 mm., that of *N. c. falklandicus* 317–326 mm."

The Rev. F. C. R. Jourdain exhibited a series of clutches of eggs of forty species taken by himself in Algeria during the spring of 1913 and 1914. Altogether about fifty species were found breeding. Possibly the most interesting was *Pterocles senegallus*, of which a single egg was exhibited. Although common in some districts of North Africa, Mr. Jourdain believed that this was the first occasion on which a nest of this Sandgrouse had been found in Africa, though a few eggs had been obtained in Syria, Mesopotamia, and Sind—perhaps ten or twelve in all.

Mr. Jourdain also obtained a fine series of 37 eggs (of the rare white type) of *Diplootocus moussieri*, and made some remarks on the breeding-habits of *Œnanthe lugens halophila* and *Œ. leucurus syenitica* as observed by him. *Pica p. mauritanica* was found breeding in tolerable numbers in *Ilex* scrub in the Lambèse district in both seasons. All the eggs shown were obtained in Eastern Algeria between Philippeville and Bône in the north and Biskra and Bordj Saada in the south.

Dr. Hartert noted that all the nests of the Magpie (*Pica p. mauritanica*) which he had seen were placed in bushes, so that one could reach them from the ground.

Referring to Mr. Jourdain's interesting exhibit the Chairman remarked that during his visits to the Sahara he had found *Œnanthe lugens* to be remarkably tame. A clutch of eggs of this species was found in a mud-bank and while digging it out the female sat close by.

The Chairman further remarked that he had found only two clutches of *Diplootocus moussieri* ; the first nest was discovered in a small bush and the second was placed under some boulders.

Mr. Jourdain stated that out of the 27 nests of *D. moussieri* examined by him, most were built in juniper bushes from one to three feet from the ground ; some were actually on the ground, while one was placed in a hole of some old matting which sheltered a row of beehives.

Mr. E. C. Stuart Baker described the following new birds from the north-east frontier of India :—

Trichalopterum erathrolæma woodi, subsp. n.

This form of Laughing Thrush is most nearly allied to *T. e. godwini* from Manipur, recently described by Major Harington. It differs principally in having the upper back unmarked with black ; in having the chin and the sides of the throat blackish instead of rufous, and in having the ear-coverts grey. It differs from *T. e. erythrolæma* in having the ear-coverts and a broad supercilium grey and a black chin. From *T. e. chrysopterum* it differs in having the breast feathers centred with black instead of being edged with rufous-brown. Moreover, the upperparts are rufous-brown rather than olive-brown, as in the other subspecies.

Obs. This new subspecies is described from a bird procured by Mr. Wood at Loi Sing, Northern Shan States, on the 7th of January, and named at the request of Major Harington after the discoverer.

The following is a key to the subspecies of *T. erythrolæma* :—

A. No grey supercilium ..... *erythrolæma.*
B. A broad grey supercilium.
  a. Ear-coverts rufous ..... *godwini.*
  b. Ear-coverts grey.
    a'. Breast feathers heavily centred with black .... *woodi.*
    b'. Breast feathers edged with darker, but no black centres ..... *chrysopterum.*

Ixulus flavicollis baileyi, subsp. n.

Adult. General plumage paler than in *I. f. flavicollis* and the white shaft-lines extending over the whole of the upperparts instead of being confined to the scapulars and upper back ; the ear-coverts pale grey instead of pale bronze-brown as in *I. f. flavicollis* and the brown of the crown and crest much paler and duller, with pronounced pale shafts to the feathers.

Hab. Mishmi Hills.

Type in the Collection of Captain F. M. Bailey.

Obs. The bird was obtained by Capt. F. M. Bailey in the Mishmi Hills at an elevation of 7000 ft., 10.x.13, and I propose to name this subspecies in his honour.

Ithagenes tibetanus, sp. n.

Adult male. Differs from *I. cruentus* in having the lores and supercilium crimson instead of black and in having no black line under the eye; the posterior ear-coverts are grey and white rather than black and white. The crimson on the breast is far greater in extent and the flanks and lower breast are almost entirely grey, the green only showing in narrow stripes; the green on the wings also is less developed.

The feathers of the throat, if carefully examined, will be found to be crimson practically throughout, whereas in *I. cruentus* they are black on their basal halves.

From *I. kuseri* it differs in being much paler below, the crimson being confined to the breast instead of reaching to the throat and foreneck. The lores are crimson instead of black and the supercilium is pure crimson instead of black and crimson; finally, the broad black gorget, which in *I. kuseri* extends from the top of the ear-coverts and round the throat, shows only to the extent of a few dark grey markings on the latter. In size the bird agrees with both *I. cruentus* and *I. kuseri*.

Hab. Sela Range, above Tavanz, 13,000 ft., Tibet.

Type in the Museum of the Bombay Natural History Society.

Obs. The bird was obtained by Capt. Molesworth, who reports that a large number were seen.

Tragopan blythi molesworthi, subsp. n.

Adult male. Differs from *T. b. blythi* in having the whole upper parts much darker in general tint, the rufous spots much browner, and the buff vermiculations narrower and less distinct; the white spots are smaller though equally numerous. Below, the red of the breast is confined to a comparatively narrow gorget, descending only a short way below the neck on to the breast, and the whole of the rest

of the lower parts are much paler than in *T. b. blythi*, the pale centres scarcely showing at all in contrast to the surrounding parts of the feather. Both legs show powerful but short blunt spurs about 4 inches in length.

Total length about 21 inches; bill, from front ·75; wing 10; tail 7·7; tarsus 3; middle toe and claws 3.

Hab. Tibet.

Type in the Museum of the Bombay Natural History Society. ♂. Dengan La, 8000 ft., Tibet, 30. iii. 14. Capt. Molesworth coll.

Obs. I have named this bird in honour of the collector, Captain Molesworth.

Mr. Claude Grant exhibited and described three new subspecies from Africa which he proposed to name :—

Pterocles quadricinctus lowei, subsp. n.

Adult male. Differs from *Pterocles q. quadricinctus* in its larger size, generally darker and broader markings of the upper surface and by having, on an average, a richer tone of colouring throughout. On the crown of the head the streaks are more clearly defined, and the white markings on the forehead are perhaps slightly broader.

Culmen 14 mm.; wing 201; tail 90; tarsus 28.

Type in the British Museum: ♂ ad. Renk, White Nile, 12. v. 01. R. M. Hawker coll.

The above subspecies is named in honour of Mr. Willoughby P. Lowe.

Streptopelia senegalensis sokotræ, subsp. n.

Adult male. Differs from *Streptopelia s. senegalensis* in being smaller in size and somewhat paler in colour.

Culmen 13 mm.; wing 129; tail 110; tarsus 19·5.

Type in the British Museum: ♂ ad. Hadibu Plain, N. Sokotra, 12. xii. 98. W. R. Ogilvie-Grant and H. O. Forbes coll.

Poicephalus meyeri neavei, subsp. n.

Adult female. Most nearly allied to *P. m. saturatus* Sharpe, but generally darker throughout. It differs from that race

in having the rump blue, as in *P. m. damarensis* Neum. The feathers on the breast and belly are, on the average, bluer than in *P. m. saturatus*.

Culmen from cere 19 mm.; wing 155; tail 57; tarsus 12.

Type in the British Museum: ♀ ad. Kaluli Valley, Belgian Congo, 27. iv. 07. S. A. Neave coll.

This race is named in honour of the collector.

Lord Brabourne and Mr. C. Chubb exhibited and described the following two new species from South America:—

Buarremon matucanensis, sp. n.

Adult female. Entire back and upper wing-coverts dark slate-grey; bastard-wing, primary-coverts, and quills blackish, the outer edges of the latter narrowly edged with slate-grey; tail-feathers similar; forehead and lores black with minute hair-like points to the feathers; hinder crown and occiput dark chestnut-brown; a few white or white-tipped feathers, on the sides of the hinder crown and hinder portion of the face; throat white, tinged with buff; fore part of cheeks and a V-shaped mark on the chin black; hinder cheeks and ear-coverts dark slate-colour; breast and sides of the body slate-grey, paler than the back; abdomen and under tail-coverts pale rust-colour; under wing-coverts and inner margins of the quills below whitish. Bill very dark horn-colour; feet dark slaty-black; iris brown.

Total length 175 mm.; culmen 16; wing 81; tail 78; tarsus 31.

Hab. Matucana, Peru.

Type in the British Museum: Adult. Matucana, Peru, 15. vi. 14. Lord Brabourne coll.

Obs. There is no near ally of this species in the collection at the British Museum, nor have we been able to trace one in any literature.

Upucerthia juninensis, sp. n.

Adult. Entire back, scapulars, and inner lesser upper wing-coverts dark earth-brown with slightly paler edges giving

a scalloped appearance, slightly paler and more uniform on the upper tail-coverts ; outer lesser upper wing-coverts blackish, with pale brown margins ; median, greater coverts, and tertials similar but fringed with rufous ; bastard-wing and primary-coverts dark brown fringed with dull rufous on the outer webs ; two outer primary quills blackish, the second quill rufous at the base, remainder of quills bright rufous with black tips, the third, fourth, and fifth having black along the outer webs, decreasing on the secondaries where there is only a dark patch at the tips ; tail bright rufous with twin dark spots at the tip of the penultimate feathers, the dark pattern increasing in extent towards the middle feathers which are, for the most part, dark brown ; head like the back with dark centres to the feathers ; lores and superciliary streak buffy-white like the sides of the face, becoming mixed with earth-brown on the ear-coverts ; chin white ; fore-neck buff, the feathers margined with pale brown ; breast, abdomen, and under tail-coverts sandy-buff ; axillaries and under wing-coverts bright rufous. Bill horn-colour ; feet black ; iris brown.

Total length 180 mm. ; culmen 28 ; wing 110 ; tail 61 ; tarsus 23.

Hab. Junin, Peru.

Type in the British Museum : Adult. Junin, Peru, 20. ii. 14. Lord Brabourne coll.

Obs. There is no near ally in the collection at the British Museum, and the only one that we have found in literature to approach it, is *U. pallida* Taczanowski, but that species is described as having a uniform back, and the measurements are altogether different, *i. e.* culmen 34 mm. ; wing 92 ; tail 75 ; tarsus 27.

Mr. D. A. Bannerman asked that members sending communications to the *Editor* should do so to his private address :—6 More's Garden, Cheyne Walk, Chelsea, S.W.

The Editor urgently requests Members who have MSS. for publication to place it in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 11th of November, 1914, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor, also to supply him with a *written* account of anything intended for publication.]

(Signed)

W. Rothschild,	D. A. Bannerman,	P. R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCI.

The hundred and ninety-eighth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 11th of November, 1914.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members present:—H. G. Alexander, E. C. Stuart Baker, D. A. Bannerman, B.A. (*Editor*), E. Bidwell, S. Boorman, C. D. Borrer, P. F. Bunyard, Col. S. R. Clarke, E. Gibson, E. Hartert, Ph.D., C. Ingram, Rev. F. C. R. Jourdain, M.A., P. R. Lowe, M.B. (*Sec. & Treas.*), G. M. Mathews, M. Murray, T. H. Newman, W. R. Ogilvie-Grant, C. Oldham, C. E. Pearson, F. R. Ratcliff, C. B. Rickett, D. Seth-Smith, C. G. Talbot-Ponsonby, H. M. Wallis, H. F. Witherby.

Visitor:—J. L. Alexander.

The Hon. Walter Rothschild and Dr. Ernst Hartert described a new form of Kingfisher, and made the following remarks:—

"In 1901 (Nov. Zool. viii. p. 145) we called attention to the large size of a specimen of *Ceyx solitaria* from New Hanover, but considered that it would be unwise to

bestow a name on this apparently larger subspecies on the evidence of a single example. We have now found two more specimens in a bottle of spirits, which confirm our former supposition.

"*Ceyx solitaria* was described by Temminck from a specimen obtained at Lobo in New Guinea. In more than thirty specimens from New Guinea the wing measures from 51·5 to 56 mm., the latter measurement being rarely attained. On the other hand, the wings of birds from New Hanover measure 60, 60·5, and 61 mm. respectively, and their bills are much more robust. The back seems to have a lighter line along the middle, but this is uncertain, as our examples have been in spirits; we have, however, a skin made from a spirit-specimen from Triton Bay, New Guinea, which does not show this lighter colour on the back. We propose to name the New Hanover Kingfisher

"**Ceyx solitaria mulcata**, subsp. n.

"Type in the Tring Museum: Ad. New Hanover, 18. ii. 97. C. Webster coll.

"In 1901 we also called attention to a very large female from Salwatti collected by Dr. Powell, with the wing 59 mm. in length. We are convinced that a slightly larger form also inhabits the Western Papuan Islands, but it is necessary to compare a larger series before bestowing a name on this race. We possess four skins from Waigiu having wing-measurements of 58, 57·5, 55, 56·2 mm. respectively. One example from Misol has the wing 54·5 mm., while Stresemann mentions specimens from the same island with wings of 53·5 and 55 mm."

The Rev. F. C. R. Jourdain exhibited clutches of three and two eggs of *Gorsachius goisagi* (Temm.), taken near Fuji, Hondo, Japan, by Mr. A. Owston's collectors in June. In appearance these eggs are white, almost devoid of gloss, obtuse-oval in shape, and average 47·8 × 37·9 mm. in size. The largest eggs of a series of seven measure 49·7 × 39·2

and 49·2 × 39·9 mm., and the smallest 46·3 × 37·3 and 47·4 × 36·5 mm. Eggs of this species are not represented in the collection of the British Museum nor in that of Herr Nehrkorn. The allied *G. melanolophus* lays very similar, but rather narrower eggs, of which the British Museum possesses three sent by John Whitehead from the Philippines.

Mr. D. A. Bannerman exhibited a number of rare birds from islands in the Gulf of Guinea, and made the following remarks:—

"I have recently been engaged in working upon the valuable collection of birds formed by the late Mr. Boyd Alexander during his last expedition to Africa, which unhappily ended so disastrously.

"On that expedition Alexander paid special attention to three of the islands in the Gulf of Guinea—namely, Prince's Island, St. Thomas, and Annobon, and sent large collections to the Natural History Museum from each.

"The most remarkable feature of the Ornis of these three islands is the number of indigenous forms which each island possesses, in proportion to the number of residents. The geological age of these volcanic islands must be very great, and it will be noticed that the depth of the ocean between them and the African Continent is considerably over 1000 fathoms. It generally follows that islands separated from the mainland by a great depth of water are rich in peculiar species, and the three islands with which we are dealing are unusually striking in this respect.

"Prince's Island, which is distant about 120 miles from the African coast, has a bird-population, exclusive of sea-birds and chance migrants, numbering twenty-six species, of which eleven are peculiar to the island. These are:—

1. *Lamprocolius ignitus.*
2. *Dicrurus modestus.*
3. *Hyphantornis princeps.*
4. *Linurgus rufobrunneus.*
5. *Cinnyris hartlaubi.*
6. *Zosterops ficedulina.*
7. *Speirops leucophæa.*
8. *Cuphopterus dohrni.*
9. *Turdus xanthorhynchus.*
10. *Haplopelia principalis.*
11. *Psittacus erithacus princeps.*

"In the island of St. Thomas, which lies 150 miles from the mainland, this feature is even more pronounced. Exclusive of marine forms, we have a resident bird-population of forty-six species, of which twenty-two species (representing twenty-two different genera) are almost certainly restricted to that island :—

1. *Onycognathus fulgidus.*
2. *Oriolus crassirostris.*
3. *Hyphantornis grandis.*
4. *Heterhyphantes sancti-thomæ.*
5. *Lagonosticta perreini thomensis.*
6. *Neospiza concolor.*
7. *Linurgus rufobrunneus thomensis.*
8. *Cinnyris newtoni.*
9. *Elæocerthia thomensis.*
10. *Speirops lugubris.*
11. *Zosterops ficedulina feæ.*
12. *Lanius newtoni.*
13. *Prinia molleri.*
14. *Turdus olivaceofuscus.*
15. *Amawocichla bocagei.*
16. *Terpsiphone newtoni.*
17. *Chætura thomensis.*
18. *Corythornis thomensis.*
19. *Flammea flammea thomensis.*
20. *Vinago sancti-thomæ.*
21. *Columba arquatrix thomensis.*
22. *Haplopelia simplex.*

"Lastly, there is the little island of Annobon, very much smaller in extent than either St. Thomas or Prince's Island, and situated about 187 miles from Cape Lopez. Annobon possesses only eight resident land-birds, and out of that very small number four—*Terpsiphone newtoni, Zosterops griseovirescens, Otus capensis feæ,* and *Haplopelia hypoleuca* —are peculiar to that island.

"In addition to the species already mentioned, *Estrilda astrild sousæ* is restricted to St. Thomas and Prince's Island; while *Turturœna malherbei* is found on Prince's Island, St. Thomas, and Annobon.

"The physical features of islands which hold such treasures are worthy of particular notice, and I should like therefore to draw your attention to Boyd Alexander's excellent descriptive accounts of these three islands, which form the introductions to my papers in 'The Ibis' (*vide* Oct. 1914, *et seq.*).

"The birds found on these islands belong, of course, to strictly tropical African forms, the Gulf of Guinea lying practically in the middle of the Ethiopian Region."

Mr. D. A. Bannerman also exhibited an example of *Lampribis olivacea* Du Bus, from Prince's Island, Gulf of Guinea, and made the following remarks:—

"In my paper on the Birds of Prince's Island ('Ibis,' 1914, pp. 622–626) I paid particular attention to the history of this species, concerning which much confusion had existed.

"Dr. Gestro, of the Genoa Museum, has very kindly lent me an example of this rare Ibis, which was obtained by Leonardo Fea in Prince's Island in 1901. It will be seen that the plate of *Ibis olivacea* in the 'Esquisses Ornithologiques' accurately represents the specimen exhibited.

"The type-locality of *Lampribis olivacea* is given by Du Bus as 'la côte de Guinée,' and the type specimen is preserved in the Brussels Museum.

"In 1903 Mr. G. L. Bates obtained in Cameroon an immature example of this rare Ibis, which is now in the British Museum. The adult bird from Prince's Island which I exhibit to-night is, as far as I know, the only other specimen in existence."

Mr. Claude Grant sent the description of a new subspecies of *Scopus*, which he proposed to call

Scopus umbretta bannermani, subsp. n.,

and characterised as follows:—

Adult. Considerably larger than *S. u. umbretta*, and often somewhat more ashy below. Culmen 77 mm., wing 328, tail 176, tarsus 65.

As apparently first pointed out by Major Kelsall and Mr. Bannerman ('Ibis,' 1914, p. 225), the true *Scopus umbretta* Gmelin (Syst. Nat. i. pt. 2, 1789, p. 618: Africa=Senegal, *cf.* Buff. Pl. Enl. n. 796) is quite a small bird, having the wing-measurement of 248–256 mm. as compared with 300–330 mm. in examples from other parts of Africa. The larger bird therefore requires a new name.

Cepphus scopus of Wagler (Syst. Av. 1827, p. 146) is a

synonym of *Scopus u. umbretta*, while *Ardea fusca* Forst. (Descr. Anim. 1844, p. 47: Cape of Good Hope) is preoccupied by *Ardea fusca* of Latham (Ind. Orn. ii. 1790, p. 700: Cayenne).

Hab. Apparently the whole of Africa: also western Arabia and Madagascar, except from Senegal to Nigeria.

Type in the British Museum: ♀ ad. Mt. Leganisho, 6600 ft., British East Africa, 31. x. 12. Willoughby P. Lowe coll.

Obs. This bird is named in honour of Mr. David A. Bannerman.

Mr. Claude Grant also sent for exhibition two new Kingfishers from Africa, which he proposed to name

Halcyon leucocephala ogilviei, subsp. n.

Adult female. Differs from *H. l. leucocephala* in having the wings and tail almost pure violet as in *H. l. swainsoni*, and differs from *H. l. swainsoni* in having the belly and under wing-coverts deep chestnut, almost as dark as in *H. l. leucocephala*.

Culmen 39 mm., wing 101, tail 55, tarsus 12.

Hab. Nyasaland.

Type in the British Museum: ♀ ad. South Angoniland, x. 00. General Sir William Manning coll.

Obs. This bird is named in honour of Mr. W. R. Ogilvie-Grant.

Halcyon senegalensis superflua, subsp. n.

Adult male. Allied to both *H. s. senegalensis* and *H. s. cyanoleuca*, but differs from both in being somewhat paler and in having the blue of the back extending over the head in all ages. Superciliaries white, black round the eye extending backwards over the ear-coverts.

Culmen 40 mm., wing 111, tail 64, tarsus 13.

Hab. Transvaal.

Type in the British Museum: ♂ ad. Limpopo River, 14. xi. 73. T. E. Buckley coll.

The Hon. Walter Rothschild exhibited an interesting photograph of the head of the extinct Mauritius Pigeon (*Alectrœnas nitidissima*). The single specimens preserved in Edinburgh, Paris, and Mauritius are the only three examples in existence.

The Editor urgently requests Members who have MSS. for publication to place it in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 9th of December, 1914, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 6 More's Garden, Cheyne Walk, Chelsea, S.W.]

(Signed)

W. Rothschild, *Chairman.* D. A. Bannerman, *Editor.* P. R. Lowe, *Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCII.

The hundred and ninety-ninth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 9th of December, 1914.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker, D. A. Bannerman, B.A. (*Editor*), G. K. Baynes, E. Bidwell, P. F. Bunyard, C. Chubb, E. Gibson, C. H. B. Grant, E. Hartert, Ph.D., Rev. F. C. R. Jourdain, M.A., P. R. Lowe, M.B. (*Sec. & Treas.*), G. M. Mathews, E. G. B. Meade-Waldo, H. Munt, W. R. Ogilvie-Grant, C. Oldham, C. E. Pearson, F. R. Ratcliff, R. H. Read, C. B. Rickett, W. L. Sclater, M.A., D. Seth-Smith, H. M. Wallis, H. F. Witherby.

Visitors:—Dr. G. Falkiner, H. W. Robinson.

The Chairman announced that, at the meeting of the Committee which had just been held, it had been proposed by Mr. Bannerman and seconded by himself that discussions on suitable topics of general ornithological interest should take place on at least three meetings during the Session, after the usual business of the Club had been concluded.

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The proposal was unanimously accepted by the Committee subject to the following restrictions :—

1. That the various subjects to be discussed should be selected by the Committee, who would invite Members of the Club to make suggestions.
2. That the Discussions which it was proposed to hold should not unduly interfere with the systematic work of the Club.
3. That the proposal should be submitted for final decision to the Members present at the Meeting of the Club held on the 9th of December.

The proposal was then put to the Members present and carried unanimously.

The Chairman announced that a Committee Meeting would be held on the 23rd of December for the purpose of drawing up the necessary regulations to govern the Discussions.

The Hon. Walter Rothschild and Dr. Ernst Hartert exhibited a new form of *Dicæum*, which they described as follows :—

Dicæum geelvinkianum rosseli, subsp. n.

Adult male. Most nearly allied to *D. g. nitidum* Tristr. from Sudest Island, with which it had been erroneously united (*cf.* Nov. Zool. 1899, p. 80, id. 1903, p. 215), although certain differences in size had been noticed. *D. g. rosseli* differs from *D. g. nitidum* in being larger and paler, with the back more greenish and less washed with metallic-blue, the forehead not so dark and of a duller red ; while the red of the upper tail-coverts is lighter, and the underside altogether paler. The wing measures 57–60·5 mm. as compared with 55–58 mm. in *D. g. nitidum*.

Hab. Rossel Island, Louisiade Group.

Type in the Tring Museum: ♂ ad., no. 1362. Rossel Island, 3. ii. 98. A. S. Meek coll.

The Hon. Walter Rothschild and Dr. E. Hartert also exhibited three Kingfishers from New Guinea,

Halcyon nigrocyanea nigrocyanea, ♂ ad., ♀ ad. et juv.,
Halcyon nigrocyanea quadricolor, ♂ ad.,
Halcyon nigrocyanea stictolæma, ♂ ad.,

and made the following remarks on their distribution:—

"In the 'Novitates Zoologicæ,' 1901, p. 154, we noted that *H. quadricolor*, 'if really different,' would have to rank as a subspecies of *H. nigrocyanea*. We came to this conclusion on account of the apparent similarity between the females of the two forms, and of the adult male of *H. n. quadricolor* with the young of *H. n. nigrocyanea*. We had not then seen *H. n. quadricolor*, but we now possess the two fine males which we now exhibit, one having been received in exchange from Count Berlepsch, who, in the 'Journal für Ornithologie,' 1897, p. 90, gave a description of both sexes. The females appear to be indistinguishable; the male of *H. n. quadricolor* has the abdomen bright rufous, while that of *H. n. nigrocyanea* is blue—otherwise there is no essential difference. The young of *H. n. nigrocyanea* has the abdomen dull rufous, thus showing affinity with *H. n. quadricolor*, the young of which we have not examined.

"*H. n. nigrocyanea* inhabits Western Papua, from Salwatti, Batanta, Arfak, to the Etna Bay (Tring Museum) and the Mimika River of Dutch New Guinea (British Museum).

"*H. n. quadricolor* is only known from the North Coast of New Guinea east of Geelvink Bay, and from Konstantinhafen. The only specimens recorded are the type in the Paris Museum, a pair in Count Berlepsch's collection, and two males in the Tring Museum.

"*H. n. stictolæma* is only known to inhabit the Fly River and Mt. Cameron in British New Guinea. The female and young, according to Count Salvadori's descriptions, are very similar to those of *H. n. nigrocyanea*."

Dr. Ernst Hartert described a new form of Blue Nuthatch from the Malay Peninsula, which he proposed to name :—

Callisitta azurea expectata, subsp. n.

Adult male. Differs from the Javan species *C. azurea azurea* in having the back of a considerably darker blue. The bill is apparently generally longer.

Hab. Malay Peninsula (Pahang, Selangor, Perak).

Type in the Tring Museum : ♂ ad. Bukit Fraser, above the Semangko Pass, Pahang, 4000 feet, 10. x. 09. Ex coll. Selangor Museum.

Obs. Sitta azurea was described by Lesson [Traité d'Ornith. p. 316 (1830)] without any indication of the locality. The species was redescribed in 1838 by Swainson as "*Dendrophila frontalis*," with the locality "India," where it does not occur.

I designate Java as the type-locality of *C. a. azurea*, from which island the type-specimen was most likely obtained.

Mr. W. R. Ogilvie-Grant exhibited and described examples of a new species and two new subspecies of Esculent Swifts, obtained during the expedition made by Mr. Wollaston and Mr. Kloss to the Snow Mountains of Dutch New Guinea. He described them as follows :—

Collocalia hirundinacea excelsa, subsp. n.

Adult male and female. Similar to *C. hirundinacea* Stresemann, and with the same silvery-grey underparts, but much larger, and with the quills of the wings and tail much wider, the middle pair of rectrices measuring about 13½ mm. in width, instead of 11 mm. as in *C. hirundinacea*.

Male. Wing 127 mm., tail 56.

Female. Wing 131 mm., tail 63.

Types in the British Museum : ♂ ♀ ad. Camp 11, Utakwa River, 8000 ft., 8. ii. 13. C. B. Kloss coll.

Obs. Mr. Stresemann, in describing *C. hirundinacea* [Verh. Orn. Ges. Bayern, xii. p. 7 (1914)], states that the

feet are unfeathered, but this is not the case in all the series in the Tring Museum, and the feathering is clearly present on most of our series of nine specimens.

Collocalia esculenta maxima, subsp. n.

Adult female. Similar to *C. esculenta* (Linn.), but larger: wing 115 mm., tail 51. The four outer pairs of tail-feathers have an oval white spot on the inner web, largest on the third pair and nearly obsolete on the outer pair.

Type in the British Museum: ♂ ad. Camp 11, Utakwa River, 8000 ft., 8. ii. 13. C. B. Kloss coll.

Obs. This is a large long-winged mountain-form of *C. esculenta*, in which the wing-measurement rarely attains 100 mm., though in one example it reaches 101 mm.; the tail measures about 40 mm.

Collocalia nitens, sp. n.

Adult male. Most nearly allied to *C. linchi* Horsf. & Moore, from Java, but with the upperparts purplish-blue, the crown and mantle being as bright as the rest of the upperparts. In this respect it is unlike any subspecies of the *C. linchi* group, and resembles *C. esculenta* (Linn.), especially examples from North Queensland, which seem to have the white spots on the inner webs of the tail-feathers much reduced in size. In the present species these marks are entirely absent. It may be further characterised by having the middle of the breast and belly uniform white, and by its small size: wing 92 mm., tail 37.

Type in the British Museum: ♂ ad. Camp 6(*a*), Utakwa River, 2900 ft., 8. i. 13. C. B. Kloss coll.

Obs. It will thus be seen that the present species forms an intermediate link between *C. linchi* and *C. esculenta*, having metallic upperparts like the latter, and an unspotted tail like the former.

Mr. G. M. Mathews exhibited specimens of *Aphelocephala pectoralis* (Gould) and *A. nigricincta* (North). The first-named was described in 1871 from Port Augusta, South

Australia, and had never since been found in that locality. The specimens exhibited were collected by Captain S. A. White and Mr. J. P. Rogers at Wantna Pilla Swamp, about 100 miles west of Oodnadatta, South Central Australia, and are the only examples of Gould's species in existence. The series collected prove that Gould's specimen was immature and that the adult bird was the form which was named *Xerophila nigricincta* by North. This is a most important discovery, as hitherto the determination of the missing specimen has been the last stumbling-block among Gould's species. Gould's name, of course, had long priority and must supersede North's, and I propose to designate Wantna Pilla Swamp as the type-locality of *A. pectoralis*. There could be little doubt that the original locality "Port Augusta" is incorrect and that the birds had been procured near Wantna Pilla Swamp by one of the exploring expeditions.

Mr. Gregory M. Mathews also exhibited three new Frigate-Birds, and made the following remarks :—

"An examination of the birds known as *Fregata aquila* for my 'Birds of Australia' has shown that three distinct species have been confused under that name.

"*Pelecanus aquilus* Linné, Syst. Nat. 10th ed. p. 133 (1758), is based upon a specimen procured by Osbeck at Ascension Island, which has generally been accepted as the type-locality. It has been overlooked, however, that the bird found on Ascension Island is a very different species from that commonly known by the name of *Fregata aquila*. In the Ascension Island species the male and female are both black, and the immature bird, from the downy nestling onwards, has a white head and neck. This species appears to be restricted to Ascension Island.

"The adult male of the common widespread species is black throughout, but the adult female has the lower breast and sides of the belly white ; the rest of the plumage resembles that of the male, but is duller. The downy nestling has the entire head and neck rusty-red. This disappears later, and in the next phase the bird assumes a white head and entirely

white underparts, in which stage the birds sometimes is said to breed. The first name certainly applicable to this bird is *Pelecanus minor* Gmelin (Syst. Nat. p. 572, 1789). In the 'Austral Avian Record,' vol. ii. no. 6, various forms of *Fregata* are described. Many subspecies are easily recognisable, and these will be fully elaborated in my 'Birds of Australia.'

Mr. C. E. Pearson exhibited four clutches of the eggs of *Hydrochelidon nigra*, and made the following remarks :— "The eggs were taken on the 28th of May, 1914, on one of the numerous 'etangs' in the Indre Department of France. The eggs were laid, with only the pretence of a nest composed of two or three scraps of dead reed, upon a line of 'drift' which had been blown by the wind across the lake and held up by a few scattered growing reeds. The site was of the most risky description, as the slightest wind, blowing from the reverse direction, would have scattered the bits of dead stalk and flags and allowed the eggs to fall into the water. Three of the clutches consisted of three eggs and one clutch of four eggs."

A discussion took place, in which the Rev. F. C. R. Jourdain said that it was most exceptional for the Black Tern to lay four eggs in the clutch, and was of opinion that the clutch in question was probably the product of two birds, inasmuch as two of the eggs were identically marked, the third egg somewhat resembled these two, but the fourth egg was of a different type and lacked the distinctive markings of the other three.

Mr. P. F. Bunyard said the clutch of four eggs exhibited by Mr. Pearson was obviously the product of two birds. The similarity of the eggs in the clutches of this species is constant, characteristic, and very pronounced in a large series.

Dr. Hartert remarked that he had taken a number of eggs of the Black Tern in East Prussia, and noted that the nests were always placed on swampy ground, but never drifting. He had never seen a nest on dry ground.

Mr. F. R. Ratcliff added that he had discovered near Twltcha, Roumania, on the 5th of January, several single eggs of *H. nigra* placed on the leaves of water-lilies without any nest at all.

Mr. H. F. Witherby said that he had seen a case in the Buda Pesth Museum in which the eggs of Black Terns are placed on the leaves of water-lilies.

Mr. E. C. Stuart Baker exhibited a clutch of eggs of *Merops apiaster* which were believed to be unique, having distinct shell-markings of both underlying and surface spots.

Mr. Baker also exhibited an adult female and a nest containing the eggs of *Batrachostomus moniliger* collected by Mr. J. Stewart in Travancore. These specimens had been presented by Mr. Stewart to the British Museum.

The Editor urgently requests Members who have MSS. for publication to place it in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 13th of January, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 6 More's Garden, Cheyne Walk, Chelsea, S.W.]

(Signed)

W. Rothschild,	D. A. Bannerman,	P. R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCIII.

The two-hundredth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 13th of January, 1915.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members present :—E. C. Stuart Baker, G. K. Baynes, E. Bidwell, S. Boorman, C. D. Borrer, P. F. Bunyard, Col. S. R. Clarke, H. J. Elwes, F.R.S., E. Gibson, E. Hartert, Ph.D., Rev. F. C. R. Jourdain, M.A., A. C. Lyell, G. M. Mathews, H. Munt, T. H. Newman, W. R. Ogilvie-Grant, C. E. Pearson, F. R. Ratcliff, C. B. Rickett, W. L. Sclater, M.A., D. Seth-Smith, C. G. Talbot-Ponsonby, H. M. Wallis, S. L. Whymper, H. F. Witherby.

Visitors :—Capt. F. M. Bailey, J. P. S. Clarke, H. S. Fry, Sir Henry Johnson, D. C. Lyell.

The Chairman read the following notice :—

The Editor will be obliged if Members wishing to exhibit Lantern-slides at the Meeting in March will inform him as

soon as possible, so that the necessary arrangements may be made. It is proposed that the slides shown should not be limited to photographs of birds and nests, but that Members who are in possession of good photographs depicting zoo-geographical zones should be invited to exhibit them, and give a short *résumé* of the birds inhabiting the countries shown.

Photographs of islands and places of particular interest from the ornithologist's point of view would be especially welcome.

The Chairman announced that the following addition to Rule VI. of the British Ornithologists' Club had been made by the Committee :—

> "That descriptions of new species may be added to the last page of the 'Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at the discretion of the Editor and so long as the publication of the 'Bulletin' is not unduly delayed thereby.
>
> "Any person speaking at a Meeting of the Club shall be allowed subsequently to amplify his remarks in the 'Bulletin'; but no fresh matter shall be incorporated with such remarks."

The following new rule—to be known as Rule VIII.—had also been passed by the Committee :—

> "*Rule VIII.* Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted must communicate in writing with the Chairman, who will call a Committee Meeting to deal with the matter."

The Chairman read the following rules which had been drawn up by the Committee to govern the Discussions which it was proposed to hold :—

1. That discussions on suitable topics of general ornithological interest shall take place at not more than three Meetings in any one Session of the B. O. C.
2. That one or two Members shall be officially appointed by the Committee to open a discussion.
3. That the Member or Members officially appointed to open a discussion shall be respectively limited to twenty minutes in which to address the Meeting; and that all subsequent speakers shall be restricted to a time-limit of ten minutes, subject to the discretion of the Chairman.
4. That any Member of the Club may propose a subject for discussion; but the Committee shall decide whether the subject proposed is a suitable one and at which Meeting it shall be discussed.
5. That a shorthand writer shall be engaged for the evenings on which discussions take place, and that he shall be paid at the rate of not more than £1 for each night.
6. That the discussions shall not be allowed to interfere unduly with the usual systematic business of the Club.

(Signed) Walter Rothschild, *Chairman.*
David A. Bannerman, *Editor.*
Percy R. Lowe, *Hon. Sec.*

The Hon. Walter Rothschild, F.R.S., read the following notes on the genus *Sula*:—

In the 'Novitates Zoologicæ,' vol. vi. p. 178 (1899), Dr. Hartert and I applied the name *Sula variegata* Tschudi to the "Masked Gannet" of the Galapagos Islands, and although I corrected this error in the 'Bulletin of the British Ornithologists' Club,' vol. xiii. p. 7 (1902–1903), the correction appears to have been completely overlooked. Mr. E. W. Gifford, Proc. Calif. Acad. ser. 4, vol. ii. p. 89 (1913), has again called the Galapagos "Masked Gannet"

(*Sula variegata*) "The Peruvian Gannet." Since the publication of my correction in 1902 the Tring Museum has received a most interesting series of adult and young examples of the true *Sula variegata* Tschudi, collected by Dr. H. O. Forbes on the Peruvian Guano Islands, and this has enabled me to form a definite opinion as to the true status of the Galapagos species. In connection with this question, I have gone into the synonymy and specific and racial position of the birds hitherto placed under the name *Sula cyanops* Sund., the Masked Gannet. I was considerably hampered in this work owing to the want of specimens from the two all-important regions:—the Atlantic Ocean and the Western Indian Ocean. The Tring Museum possesses large series from Laysan, Australia, the Islands in the Pacific, and California, but only a solitary bird from the Atlantic and none from the Red Sea or Indian Ocean. The British Museum series is extremely poor in specimens of so-called *Sula cyanops* Sund. from all localities, but fortunately contains one adult bird from the Atlantic (Ascension Island) and one adult and three young from the Indian Ocean (Assumption Island).

Mr. Ogilvie-Grant, in the 'Catalogue of Birds,' united all the "Masked Gannets," inclusive of *S. abbotti* Ridgw., under *S. cyanops*, while he considered the adult and three-year old bird of the Galapagos "Masked Gannet" to be the adult and three-year old stages of *Sula variegata*.

Mr. Grant, unlike Mr. Hume ('Stray Feathers,' vol. v. pp. 307–312), did not put much reliance on the coloration of the soft parts in the *S. cyanops* group; but in the light of recent collections and of the fact, now being realized, that sea-birds are much more restricted in their areas than was formerly supposed, the soft parts seem after all to form one of a series of good racial distinctions.

Before going into the details of the *cyanops* group I must clear up a vexed question of synonymy. Most authors when writing on the "Masked Gannets" employ the name *S. cyanops* Sund. and quote *S. dactylatra* Less. with a

query (?). Mr. Grant goes so far as to say that "the description of *S. dactylatra* given by Lesson is unrecognizable." This is, however, not the case, for although the description of the plumage, "pure white, wings and tail black," would apply approximately to three species occurring on or around Ascension Island (the type-locality of *S. dactylatra*), the possession of a "semicircular naked throat patch" excludes *S. capensis*, which narrows it down to two. The statement that the beak is horn-colour at once eliminates the red-billed *Sula piscatrix*, called by Lesson, on the same page, *S. erythrorhyncha*. Therefore the oldest name for the "Masked Gannet" of the Atlantic Ocean is *Sula dactylatra* Less., and this name must be used in the place of *S. cyanops* Sund.

Now, on going into the question of local races, I have been able to distinguish the following five forms, including a new subspecies :—

1. Sula dactylatra dactylatra Less.

Bill horny blue-grey, very slender ; feet and legs yellow.

Range. Ascension Island and S. Atlantic Coasts.

2. Sula dactylatra melanops Hartl.

Bill greenish-yellow, slender ; feet and legs slaty-blue to dull black.

Range. Western Indian Ocean (Red Sea and Islands north of Madagascar).

3. Sula dactylatra personata Gould.

Bill yellow, very stout and large ; feet and legs greenish blue.

Range. Western Pacific.

4. **Sula dactylatra californica**, subsp. n.

Bill bright yellow, very thick ; feet and legs orange.

Range. Coasts of California and Central America.

Type in the Tring Museum : ♀ ad. San Benedicto Island, 7. xii. 01.

Obs. In addition to the colour of the soft parts this race

differs from *S. d. dactylatra* in having a much larger and stouter bill.

5. Sula dactylatra granti Rothsch.

Bill red; feet bluish green.

Range. Galapagos Islands.

Type in the Tring Museum. Culpepper Island, Galapagos Group.

There is absolutely no other difference between the adult of *Sula dactylatra granti* and *S. dactylatra californica,* except that in *S. d. granti* the bill is red and the feet and legs bluish-green, while in *S. d. californica* the bill is yellow and the feet and legs orange.

The young birds of the first and second year are much alike in plumage in the four races of *S. dactylatra* in which they are known, but the young of *S. d. dactylatra* is not represented in collections.

The first plumage of *S. d. melanops* differs from that of the other subspecies in having the head, neck, and wings blackish-brown; in *S. d. personata* and *S. d. californica* the head, neck, and wings are paler umber-brown; and the young of *S. d. granti* is distinguished by the dull purplish-pink bill.

The true *Sula variegata* has never occurred on the Galapagos Islands, its breeding-grounds being exclusively the islands off the Peruvian coast.

The adult *S. variegata* has the head, neck, front half of the interscapulars, and under-surface pure white, the back, rump, and wings being grey-brown, the feathers edged with white.

The young bird has the head and neck yellowish-grey, the under-surface mottled-grey and whitish, and the rest of the plumage grey-brown, not so uniformly edged with white. The wing of *S. variegata* is also three inches shorter than that of the Galapagos "Masked Gannet."

The young of the Blue-footed Booby, *Sula nebouxi,* has occasionally been mixed up with that of *S. variegata* and

the *S. dactylatra* forms, but the brown-black head and neck and the lancet-shaped feathers on these parts render it easily distinguishable.

Sula abbotti is quite a distinct species with the entire wings deep black, the naked throat bright green, and the feet leaden grey.

The Hon. Walter Rothschild also exhibited 17 varieties of the Common Partridge (*Perdix perdix*). Six of these were examples of a type of colour-variation common in Russia, having a pale sandy suffusion in place of the brown-grey. One example was of a silver-grey colour, owing to the almost complete elimination of brown pigment.

Two birds killed in Devonshire in 1860 exhibited a similar phase in the Partridge to that of "*Synoicus lodoisiæ*" found in the Quail and of Sabine's Snipe among the Common Snipe (which were exhibited for comparison, as well as *Gallinago huegeli* the representative phase in *G. aucklandica*).

Two examples were suffused with a sooty-black colour; these two specimens, from Tring, were examples of a strain of Partridge, now extinct, which had been killed in numbers on two farms near Tring for 10 years in succession.

Six skins represented specimens of the red phase in the so-called Mountain Partridge (*P. perdix* ab. *montana*). One was a complete, and two were almost complete examples of *P. montana*, while the other three were intermediate between *P. montana* and typical *P. perdix*.

Mr. W. R. Ogilvie-Grant exhibited some remarkable examples of the Red-legged and Common Partridges, showing strange variations in the colour of their plumage, and made the following remarks :—

"The exhibition of this series of abnormally coloured Partridges was suggested by the recent capture in Kent of a very remarkable Red-leg. It is a second example of the most extraordinary colour-variation known to occur in this species. The first example was killed near Braintree,

Essex, on the 20th of October, 1908, by Mr. A. W. Ruggles-Brise, and was presented by him to the Natural History Museum. It was described and figured by me in the 'British Game-Birds and Wild-Fowl' ("Gun at Home and Abroad Series"), p. 149, pl. xxi. fig. 2 (1912). Mr. G. E. Lodge's beautiful drawing gives a good idea of the remarkable appearance of this bird, which has the fore-part of the head, eyebrow-stripe, cheeks, and throat black, the rest of the plumage dull vinous-red, a little browner on the belly and under tail-coverts, and a patch of white feathers on the middle of the breast, forming an irregular horse-shoe-shaped mark. The second specimen, killed at Higham, Kent, on the 20th of October, 1914, by Mr. H. M. Cobb, is almost identical in appearance with that described above, but some of the feathers of the fore-neck are edged with black, producing a striped appearance, as in the normally-coloured bird. The distance between Higham, in North Kent, and Braintree, in Essex, is about 30 miles as the Crow flies, and it is a remarkable coincidence that this second specimen was killed exactly six years after the first. The bird was sent by Mr. Cobb to the 'Field' office, and a reference to it will found in the 'Field' of October 19th, 1914, under "Answers to Correspondents—H. M. C." Subsequently, Messrs. Rowland Ward converted it into a good cabinet-specimen, though the tail had unfortunately been pulled out by the dog that picked it up. Dr. H. Hammond Smith, into whose possession the bird passed, very kindly presented it to the Natural History Museum, and I am therefore able to exhibit both specimens. A third variety was believed to have been killed at Hull's Bridge, near Rayleigh, Essex (*cf.* 'Field,' 31st October, 1914, "Answers to Correspondents —W. P. G."): "Your description suggests a variety of the Red-legged Partridge. We recently received one with a black head from Kent; but we cannot express an opinion without seeing your bird if it has been preserved." This bird proved to be unquestionably a male of the Common Francolin (*Francolinus francolinus*), which had either been 'turned-down' or had escaped from captivity."

For comparison, Mr. Ogilvie-Grant also exhibited examples of :—

Caccabis rufa.

a. Adult male in normal plumage.

b. Grey variation with no rufous on any part of the plumage.

c. Pied variation, with most of the back white.

d. Light variation, nearly white, but with the crown and nape mostly vinaceous, the mantle washed with that colour, and the flanks streaked with pale chestnut; all black pigment being absent from the plumage except a narrow band at the base of the bill and extending to the ear-coverts.

Of the Common Partridge the following variations in colour were exhibited:—

Perdix perdix.

a. Adult male. Grey form.

b. Immature male. Grey form, with very pale chestnut horse-shoe.

c. Immature. A pale whitish form with spots on the wings and back, bars on the flank-feathers, and horse-shoe on the breast bright chestnut colour.

d. Female. White with very pale greyish markings.

Perdix perdix, var. montana.

e–g. Three adult examples, typical forms: two from France and one from Shrewsbury.

h. Immature female. A very dark form inclining to black on the feathers of the upperparts; still in partial nestling plumage on the head, neck, middle of the breast and flanks.

This remarkable chestnut variation was first described as *P. montana* by Brisson in 1760 from the Mountains of Lorraine. In 1823 Latham described it as the "Cheshire Partridge." Since then it has occurred from time to time in almost every county in England and in parts of Scotland. It appears comparable among Common Partridges to the

vinaceous-red form of the Red-leg described above, but variations in colour among the latter species are very much rarer.

Mr. W. L. Sclater made the following remarks on the type of the genus *Sula* :—

"Recently, when engaged in preparing the new edition of the B. O. U. List of British Birds, I had occasion to look into the question of the type of the genus *Sula* ; and as I find I am not in agreement with what may be called the recognized authorities, I have put together the results of my researches in the following note.

"The genus *Sula* was first proposed by Brisson (Orn. vi. 1760, p. 494), and the type is without doubt [*Sula*] *sula* Brisson. This bird is, to my mind, the Brown Booby of tropical seas which is generally known as *Sula sula* Linn., and is so described by Ogilvie-Grant (Cat. Birds B. M. xxvi. 1898, p. 436).

"The further question arises as to what is the correct name for the Brown Booby.

"In the 10th Edition of Linnæus, apart from the Solan Goose, only one Booby is mentioned. This is *Pelecanus piscator* (p. 134). The diagnosis is very imperfect, and might do for either the Brown or the Red-footed Booby, which is named in the Catalogue '*S. piscator*.'

"The first reference, on which this species is founded or partially founded, is to Osbeck's 'Travels in China.' On referring to this work (p. 85 of the original Swedish edition, 1757 ; p. 127 of the English translation), it will be found that Osbeck came across both species—the Brown and the Red-footed—in July 1751 when off the south coast of Java, and that he believed that these were male and female respectively of the same species. Linnæus' *Pelecanus piscator* was founded on this conglomeration of two forms.

"In the 12th Edition of Linnæus two Boobies are named—*Pelecanus piscator* and *P. sula*. The first of these names is now obviously restricted to the Red-footed Booby. The plumage is described as white, and the first reference is to

the so-called female in Osbeck's description and to Brisson's *Sula candida*, which is also undoubtedly the same species.

"With regard to Linnæus' *Pelecanus sula*, it does not seem possible to identify it with the Brown Booby, as the face and legs are described as red. And although there is a reference to Brisson's '*Sula sula*,' one must go by the diagnosis and not by the reference, and this name must be regarded as a doubtful synonym of *Sula piscator*.

"The next available name for the Brown Booby appears to be Boddaert's *Pelecanus leucogaster* (Pl. Enl. 1783, p. 57, no. 973), as was first pointed out by Nelson (Proc. Biol. Soc. Washington, xviii. 1905, p. 121). This name is founded on Buffon's Petit Fou (Hist. Nat. Ois. viii. 1781, p. 374), and is figured as the 'Fou de Cayenne' in the 'Planches enluminées.'

"The type, therefore, of the genus *Sula* is *Sula leucogastra* (Bodd.)."

Mr. W. L. Sclater exhibited engravings of the following celebrated naturalists which had been the property of his father :—

Charles Lucien Jules Laurent Bonaparte, Prince of Canino and Musignano, was born in Paris in 1803. He was the eldest son of Lucien Bonaparte, a younger brother of Napoleon Bonaparte. Lucien, except for a visit to the United States, lived the greater part of his life in Italy, where he was created Prince of Canino. He was never a reigning sovereign like most of his brothers, owing to his democratic views and disagreements with his brother. Charles Lucien married at Brussels, in 1822, his cousin Zenaide, daughter of Joseph Bonaparte, and shortly afterwards emigrated to America, where his father-in-law was living in exile. He settled near Philadelphia and devoted himself to ornithology. He published here his edition of Wilson's 'American Ornithology.' About 1840, after his father's death and his succession to the title, he returned to Europe and settled in Paris, where he lived the rest of his life.

My father must have met Bonaparte early in the fifties, as he was probably in Paris at that time working at the Museum and comparing notes with Verreaux and other French naturalists. He used, as was the custom then, to breakfast with him at his house in the Rue de Lille. I have several letters in my possession from him to my father; the earliest of these, dated July 1856, is a letter of introduction to various American naturalists, which was doubtless most useful to my father when he first went to America in 1856, and which contains the names of Lyman and Agassiz of Boston, Cooper and Lawrence of New York, and Cassin and Baird of Philadelpaia.

Bonaparte died in 1857. He was the author of innumerable books and pamphlets, and of the names of many new genera and species.

John Gould was the son of a working gardener, and was born at Lyme Regis in Dorsetshire in 1804. In his early life he passed several years at Windsor, where his father was employed at Windsor Castle, and he himself was a gardener for a short time at Ripley Castle in Yorkshire.

He took a great interest in birds and became a skilful taxidermist, and in that capacity he entered the service of the Zoological Society in 1827 when Mr. N. A. Vigors was Secretary, and while the Society maintained a Museum as well as the Zoological Gardens.

His first work which brought him fame was 'A Century of Birds from the Himalaya Mountains,' published in 1832. His wife, a very clever and artistic woman, drew the most remarkable of the species on stone, and it was to her talent that the success of Gould's early works was chiefly due.

In all, he published 41 folio volumes, illustrated by 2999 plates, during his lifetime, and, moreover, was able to acquire by this means a comfortable fortune.

In 1838 he and his wife went to Australia to obtain material for the 'Birds of Australia,' and in 1841 Mrs. Gould died, and subsequently he had to employ

artists to do the work previously so efficiently carried out by her. My father met him soon after his return at Strickland's rooms at Oxford, and was always on terms of friendship with him till he died.

After his return from Australia, John Gould settled in Charlotte Street, Bedford Square, and I remember very well being taken by my father—when a boy, I suppose, at Winchester—to see the great collection of Humming-birds, which was arranged in two rows along a back room, and which, still in their original cases, are to be seen in the Natural History Museum. Gould died in 1881, and was never a member of the Union.

Gould's Australian birds went to the Academy of Sciences in Philadelphia, and are now well looked after by Mr. Stone, the editor of the 'Auk.' They were purchased by Edward Wilson, the grandfather of E. A. Wilson the Antarctic hero, for his brother, Thomas B. Wilson, who presented them subsequently to the Academy.

Hugh Edwin Strickland was born at Righton, Yorks, March 2, 1811. He matriculated at Oriel College, Oxford, in 1828 and took his degree in 1832. He was in those days chiefly interested in geology, and was a pupil of the celebrated Dean Buckland, then professor at Oxford. He travelled extensively in Europe and Western Asia, making observations on geology and natural history.

In 1841 he drew up the celebrated "Code of Rules for Zoological Nomenclature," and these were discussed at a meeting of the British Association held at Plymouth the same year. A committee was formed, consisting of himself, Darwin, Westwood, Yarrell, Owen, and others, to consider the matter, and in the following year the Rules were adopted by the Association.

After his marriage with a daughter of Sir William Jardine in 1845, he took up ornithology more particularly, and he settled in Oxford, and it was at this time that he wrote his great work on the 'Dodo and its Kindred.' It was about the year 1848 or 1849, when, after Buckland's resignation

and he was acting as Deputy Reader of Geology at Oxford, that my father first met him, when still a Scholar of Corpus.

In 1853, when examining a railway-cutting on a newly-made railway near Retford, Strickland was run over and killed by a passing train.

His collection of bird-skins, about 6000 in number, were presented by his widow in 1867 to the University of Cambridge, and a Catalogue of them was prepared and published in 1882 by Osbert Salvin ; they are now under the charge of Hans Gadow.

Sir William Jardine, 7th Bart., was born in Edinburgh in 1803 and was a son of the 6th Bart. He was educated at Edinburgh University, and devoted the earlier part of his life to ornithology.

His chief works were the 'Illustrations of Ornithology,' published with Selby, and many volumes of the Naturalist's Library. He founded the Annals & Mag. N. H. in 1837 under the title of the 'Magazine of Zoology and Botany.' He also founded and edited a journal called 'Contributions to Ornithology,' and compiled a memoir of his son-in-law, Strickland. Though never a member of the Union, he maintained his interest in ornithology until his death in 1874, and amassed a considerable collection of bird-skins. There are several allusions to visits paid to Jardine Hall in Dumfries-shire in my father's journal.

His collection of birds was sold by auction in 1886, twelve years after his death, and was dispersed.

Mr. D. A. Bannerman forwarded a short review of the genus *Poliolais*. He sent for exhibition and description a new species from Cameroon Mountain and the young of *P. helenoræ*, from Fernando Po, which had not previously been described.

The genus *Poliolais* was created by Alexander for a new species which he obtained in 1902 in the mountain-forests of Fernando Po, and named *Poliolais helenoræ*. The genus is placed between *Camaroptera* and *Sylviella*, and is charac-

terised by having the outstretched feet extending considerably beyond the tail and by having the outer pairs of tail-feathers pure white [*vide* Bull. B. O. C. xiii. 1903, p. 36]. *Poliolais helenoræ*, the type of the genus, has remained till the present time the only species assigned to it.

Whilst engaged at the British Museum in working out Mr. Boyd Alexander's fine collection from Cameroon Mountain, I have discovered another species of *Poliolais*, which I exhibit and propose to name in honour of the collector:—

Poliolais alexanderi, sp. n.

Adult male. Crown dark grey, fading into olive on the mantle; rest of the upper-parts dark olive-green, paler on the rump; wings dark brown, outer margins of secondaries tipped with olive; under wing-coverts white, yellowish towards the bend of the wing. Two central pairs of tail-feathers dark brown, the second pair having the shaft white, outer tail-feathers white. Sides of the head, chin, and throat slate-grey, fading into olive on the sides of the neck; rest of under-parts pale olive-green, becoming ashy towards the middle of the breast and belly and faintly washed with rufous on the flanks; thighs rufous-brown; under tail-coverts buff. Bill black, legs and feet dark.

Culmen (exposed) 13 mm.; wing 55; tail 35; tarsus 23.

Hab. Cameroon.

Type in the British Museum: ♂ ad. (No. 1). Cameroon Mt., 6. v. 09. Boyd Alexander coll.

When Boyd Alexander described the adult male and female of *Poliolais helenoræ* in the 'Bulletin of the British Ornithologists' Club,' xiii. 1903, p. 36, he had not seen any immature examples of this species. Two years after the discovery of the type Mr. E. Seimund secured three more examples from the same island—an adult female and two immature birds (male and female). As the young have never before been obtained, and as they differ very materially from the adult, I append the following description:—

Poliolais helenoræ Alexander.

Immature male and female. Differ from the adult in having the upper-parts more olive; forehead, crown, and back of the neck a deeper rufous-brown; the pale chestnut on the sides of head and lores only faintly indicated. General colour of the under-parts brownish-olive, chin and throat yellowish becoming brownish-olive on the breast, belly pale greenish-yellow, feathers of the flanks tipped with rufous-brown.

Bill: upper mandible dark horn, lower yellowish; iris grey; feet dark brown (*E. Seimund*).

Mr. D. A. Bannerman also sent the description of a new form of *Zosterops* from Fernando Po which he proposed to name:—

Zosterops stenocricota poensis, subsp. n.

Adult male and female. Most nearly allied to *Z. stenocricota* Reichw., from which it is distinguished as follows:—

Brighter, more golden and less olive, upper-parts. Forehead and cheeks of a deeper, less canary, yellow, which colour extends further back towards the crown. Lores less distinctly black; under-parts deeper yellow throughout and strongly washed with olive-green, less distinctly on the belly.

Size (on an average) larger, wing 54–59 mm.; bill distinctly larger, culmen (exposed) 10–11 mm.; tail 37; tarsus 16·5.

Hab. Fernando Po.

Type in the British Museum: ♂ ad. Banterbari, Fernando Po, 7. iii. 04. E. Seimund coll.

Mr. Claude H. B. Grant sent the description of the following new subspecies:—

Centropus superciliosus loandæ, subsp. n.

Adult male. Generally much darker than *C. s. superciliosus*; top of head, ear-coverts, and nape of the neck

almost black, the white streaks on the nape thus appearing much more distinct; mantle and inner secondaries chestnut-brown, the latter washed with olive.

Culmen 30 mm.; wing 160; tail 206; tarsus 39.

Hab. Angola to mouth of Congo River, eastward to east Belgian Congo and north-eastern Rhodesia.

Type in British Museum: ♂ ad. Near Dalla Tando, North Angola, 21. viii. 08. Dr. W. J. Ansorge coll.

Centropus superciliosus sokotræ, subsp. n.

Adult male. Nape, sides of neck, and entire underparts much paler than in *C. s. superciliosus*; almost lacking the strong buff coloration of the typical form, which thus gives it a very grey appearance.

Culmen 32 mm.; wing 157; tail 194; tarsus 36.

Hab. Sokotra.

Type in the British Museum: ♂ ad. Adho Dimellus, Sokotra, 5. ii. 99. W. R. Ogilvie-Grant and H. O. Forbes colls.

Melittophagus variegatus bangweoloensis, subsp. n.

Adult female. Size as in *M. v. variegatus*, but differs from that race in having the blue band across the lower neck much *narrower* and of a somewhat deeper and darker tint; below this band there is only a *narrow margin* of saffron, and the rest of the underparts, including the throat, are rather paler.

Culmen 25 mm.; wing 85; tail 63; tarsus 9.

Hab. Lake Bangweolo District, N.E. Rhodesia.

Type in the British Museum: ♀ ad. Luena District, N.E. Rhodesia (within 10 miles of eastern shores of Lake Bangweolo, 17. vi. 08. S. A. Neave coll.

Mr. S. L. Whymper exhibited a number of rare eggs from the higher Himalayas, taken by himself, and made the following remarks:—

"I have ventured to show these few eggs from the higher Himalayas as they are mostly of species occurring in the Palæarctic list, and should be therefore of more than merely

local interest. They were nearly all taken in the mountains lying between the head-waters of the Sutlej and the Ganges, from 9000 to 17,000 ft.

"It is a part of the world fairly prolific in bird-life and would well repay further exploiting, but it is a tedious journey there, and the climate, once the monsoon sets in, is abominably rainy.

"A good many of these eggs were novelties when I took them first and some may still be so; others I am aware have since been taken by other collectors.

"The most interesting of these eggs are probably those of the Grandala (*G. cœlicolor*), as possibly throwing some light on the affinities of this little-known bird.

"Other interesting eggs are those of the Snow Partridge, the *Ibidorhynchus*, and an Alpine Accentor that may turn out to be a new species or subspecies.

"The clutch of eggs of *Merula maxima* is perhaps worthy of notice, being remarkably large, and as some writers have refused to recognise even a racial difference in this bird, I may mention that the male bird shot over this nest was 12 inches long, with a wing of 6·25 inches, measurements far exceeding those of *Merula vulgaris*.

"The eggs of *Oreocincla dixoni* are also interesting: this bird having been lately re-named *O. whiteheadii*, from specimens from Ka-ghan in N.W. India, where I believe its eggs have not yet been taken."

Eggs of the following species were exhibited, all from the higher Himalayas :—

Lerwa nivicola.
Ibidorhynchus struthersi.
Chelidorhynx hypoxantha.
Chimarrhornis leucocephalus.
Ruticilla frontalis.
Calliope pectoralis.
Adelura cœruleicephala.
Grandala cœlicolor.
Merula maxima.
Oreocincla dixoni.
Accentor nepalensis.
Trochalopterum variegatum.
Hodgsonius phœnicuroides.
Cephalopyrus flammiceps.
Tribura thoracica.
„ *mandellii.*
Phylloscopus affinis.
„ *proregulus.*
„ *humii.*
Acanthopneuste viridanus.
„ *plumbeitarsus.*
„ *magnirostris.*
„ *lugubris.*
„ *trochiloides.*

Neornis flavo-olivaceus.
Horornis pallidus.
Lanius tephronotus.
Ægithaliscus niveigularis.
Lophophanes rufinuchalis.
Anthus rosaceus.
„ *maculatus.*
Æthopyga ignicauda.
Pycnoramphus carneipes.
Pyrrhula erythrocephala.
Propasser thura.
„ *pulcherrimus.*
„ *ambiguus.*
„ *rhodochrous.*
„ *rhodopeplus.*
Procarduelis nepalensis.

The Editor urgently requests Members who have MSS. for publication to place them in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 10th of February, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 6 More's Garden, Cheyne Walk, Chelsea, S.W.]

(Signed)

W. Rothschild, *Chairman.* D. A. Bannerman, *Editor.* P. R. Lowe, *Sec. & Treas.*

Smithsonian Institution
MAR 17 1915
National Museum

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCIV.

The two-hundred-and-first Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 10th of February, 1915.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker, D. A. Bannerman, B.A. (*Editor*), G. K. Baynes, E. Bidwell, C. D. Borrer, C. Chubb, Col. S. R. Clarke, W. Eagle Clarke, E. Earle, E. Gibson, C. H. B. Grant, E. Hartert, Ph.D., H. Eliot Howard, C. Ingram, T. Iredale, Rev. F. C. R. Jourdain, M.A., G. C. Lambert, G. E. Lodge, P. R. Lowe, M.B. (*Sec. & Treas.*), G. M. Mathews, E. G. B. Meade-Waldo, H. Munt, T. H. Newman, W. R. Ogilvie-Grant, C. Oldham, C. E. Pearson, A. E. Price, W. P. Pycraft, R. H. Read, C. B. Rickett, W. L. Sclater, M.A., D. Seth-Smith, C. F. M. Swynnerton, G. C. Talbot-Ponsonby, C. B. Ticehurst, M.B., H. M. Wallis, H. F. Witherby.

Visitor:—C. E. Roberts, M.A.

Dr. C. B. Ticehurst exhibited a male specimen of the very rare Wagtail, *Motacilla flava leucocephala* (Przew.), obtained by Mr. Hugh Whistler on the 2nd of May, 1913,

at Jhelum in the Punjab, and made the following remarks :—

"This race, which is remarkable for the head, cheeks, ear-coverts, and chin being pure white, was described in 1887 by Przewalski (Zapiski Imper. Akad. Nauk. St. Petersburg, lv. 1887, p. 85, and noticed in 'The Ibis' for 1887, p. 409) from specimens obtained during the spring migration on the River Irtisch and in the southern Altai, Dzungaria. Apparently no other specimens have been obtained until this single bird was procured over 1000 miles south-west of the type-locality. The breeding-quarters and winter-quarters of *M. f. leucocephala* are unknown. The bird secured was probably only a straggler to the Punjab, as Mr. Whistler, who has always kept a sharp look out for Wagtails, tells me it was the only one of its kind seen, and was on migration in company with many *M. f. beema* Sykes. The breeding-quarters are doubtless further north than the Altai Range, and are perhaps in the valleys at the source of the River Yenesei. I have not been able to compare this bird with the type, but Dr. Hartert, who has kindly examined the specimen, tells me it corresponds exactly with the plate given in 'Aves Przewalskiana,' i. pl. x. figs. 3 & 4. Since only a few specimens are known, the question naturally arises whether this is not an aberration? I think it is not: firstly, Przewalski apparently obtained more than one specimen in the same district, and, secondly, the white of the head does not look to me like albinism, as it shades off into the grey of the neck. I exhibit for comparison males in similar plumage of *Motacilla f. flava, M. f. beema, M. f. raii, M. f. thunbergi,* and *M. f. melanogriseus.*"

Mr. E. C. Stuart Baker exhibited specimens of a new subspecies of *Laïscopus* obtained in Garhwal by Mr. S. L. Whymper in 1910, and made the following comments :—

"This new subspecies is most nearly allied to *Laïscopus collaris nepalensis,* but can be distinguished at a glance from that bird by the general tone of its plumage being more rufous.

"Above it is darker than *L. c. nepalensis* and has a strong wash of rufous from the head to the neck, this colour being most conspicuous on the nape. The ear-coverts are rufous instead of grey, and the whole of the underparts are rufous, merely washed with grey on the breast and middle of the abdomen, with the usual white markings on the chin and throat.

"It is also a smaller bird than *L. c. nepalensis*, the wings of the three specimens exhibited varying between 85 and 92 mm., as against 92 and 102 mm. in the true *L. c. nepalensis*.

"The three birds were all captured on their nests, containing 3, 3, and 2 eggs respectively, hard set, on the 27th of June and 4th of July, 1910.

"It appears to be a local resident form of Accentor, inhabiting the higher ranges of Garhwal, where there is a comparatively heavy rainfall. It was found breeding at an elevation of about 15,000 feet.

"I name the bird after the collector—Mr. S. L. Whymper :—

"**Laiscopus collaris whymperi**, subsp. n.

"The type, an adult female (specimen no. 000, Garhwal, 4. vii. 10), is in the collection of the Bombay Natural History Society."

The remainder of the evening was devoted to a Discussion on

"**Coloration as a Factor in Family and Generic Differentiation.**"

Dr. Percy R. Lowe *, who had been nominated by the Committee to open the Discussion, said he was not there to try to upset the established characters and methods employed in generic classification, or to substitute for these some brand-new scheme based on colour-characters. All he wished to emphasise was this, that colour-pattern seemed to

* [Dr. Lowe's remarks, of which a condensed account is here given, will appear in full in 'The Ibis' for April 1915.—Ed.]

be a very important factor in generic differentiation which had been unnecessarily looked down upon and ignored. He believed not only that colour-pattern in the nestling or immature bird furnished in many instances an important clue to the phylogenetic relationships of various groups of species, but that, properly applied, it would in the adult enable us to get a practical and working idea of the *limits* of genera. It would act in the way of a *control experiment* by which we could substantiate or correct previous estimates of generic groups which had been based on characters ordinarily employed. Applied in a systematic way to all genera throughout the whole class of Birds, he could not help thinking that a great number of these genera would be found either to include too many species or too few.

* * * * * *

Dr. Lowe said that the first few headings under which he proposed to consider the subject would be of a general nature, and the first point which he would like to lay stress on was—

(1) The distinction which must be made between colour-pattern and mere coloration.

Colour-pattern implied something of a deeper import than mere shades and tones of colour—something which from its constancy, its persistency, its independence of mere environmental or climatic influences, and its co-relation with faunal or geographic areas, appeared to undoubtedly suggest the influence of the germ-plasm. If that were so, it obviously followed that the factor of colour-pattern must be of "genetic" importance. It ought to be, as he believed in many cases it was, a useful phylogenetic guide or clue.

Mere coloration, on the other hand, or mere shades and tones of colour, were of no genetic value. They were too often purely adaptive or procryptic. They were exogenous or autogenetic; whereas colour-pattern was endogenous or phylogenetic. As an example, Dr. Lowe quoted the case of the European Goldfinch, which had been introduced into the Bermudas only some fifty years ago, and yet had under-

gone such superficial changes in the direction of darker tones and shades of colour that Mr. Kennedy had not hesitated to differentiate it as a distinct subspecies.

In contradistinction to this superficial change, Dr. Lowe then dwelt upon the very constant type of colour-pattern characteristic of the Ringed Plover association (*Ægialitis*). In any one species of this group you had a thoroughly stereotyped reproduction of the colour-pattern of any other species, no matter how isolated those species might be, whether they were exposed to differing environments or whether thousands of miles of ocean separated one from another; and what he wished to emphasise was this—Could anyone seriously imagine for one moment that that particular and constantly occurring colour-pattern was absolutely indispensable for the continued existence of that particular race of Plovers or ever had been?

On the contrary—might we not surmise that that particular colour-complex or colour-tendency was originally impressed on those Ringed Plovers through the agency of some purely fortuitous "shuffling" of the chromosomes in the germ-cells of some remote ancestor? It was a colour-pattern which had *persisted,* not because it owed its origin to any formal plan for the protective concealment of these Plovers; *but* because the germ-cell, once started on a certain line, could not help repeating itself in that direction, *and because*, since the colour-tendency was not harmful to the race, there was no excuse for any eliminating factor to suppress either it or the race. Hence the germ-cell, or the jugglery which took place within it, had gone on repeating itself—*and would go on repeating itself*—until some sudden mutation or re-shuffling of the chromosomes in the germ-cells of any particular species started a new line of evolution in colour-pattern. In such a case then as the colour-pattern typical of the cosmopolitan Ringed Plovers he submitted that we had a colour-complex which was endogenous or "genetic" in origin. It was congenital. It could be used as a generic test or character. Again there was

(2) The question of concealing coloration and vice versa, viz. brilliancy of coloration.

There were all sorts of pretty theories in this connection; but it seemed to him that, if concealing coloration was really the universal phenomenon it was made out to be, we ought to find that, as a general rule, there was a far greater, a more universal, and a more intimate commingling of every kind of procryptic colour, *irrespective of well-differentiated groups of birds*. Instead of this, we found that certain distinctive colour-schemes were characteristic and proper to certain families or genera of birds, quite irrespective of the fact that such groups of birds were exposed to *precisely similar environments*. Briefly stated, one got the impression in trying to analyse the colour-factors characteristic of families or genera that in such groups the ancestral germ-cells had, so to speak, two or three colour-factors to "play with" and make the best of. All the germ-cell, or the chromosomes, could do was to produce variations with the particular colour-factors originally allotted to them. If these variations were not flagrantly out of harmony with the environment, all was well and good.

Dr. Lowe then illustrated his remarks by an excellent diagram which represented the two dividing branches of the family Drepanididæ of the Sandwich Islands. He assumed that *Oreomystis bairdi*, in which the bill was the least specialised and the colour, both in male and female, a complex of neutral shades of olive-brown or olive-grey, was the most ancestral living representative of this family. It was the most generalised and adaptive of all the species. Granting this, we might suppose that in the germ-cells of this species or its ancestors *there were resident three potential colour-factors*—red, yellow, and black. Out of these colour-factors the colour-scheme characteristic of every genus of the family could be constructed by various combinations of these primary colour-factors, the factor of black being presumed to be independently distributed.

In connection with the subject of particular groups of

birds having particular colours characteristic of them, Dr. Witmer Stone had recently called attention in America to the absence of red among the Jays or of green among the Thrushes. He had also called attention to certain conspicuous colour-patterns difficult to reconcile with any plan for concealment or with any scheme of a ruptive nature. Such were the metallic blue and green specula in the Ducks or the blue and black wing-patch in the Jays.

Dr. Lowe said he was not in these remarks trying to belittle the patent and manifest facts of concealing coloration. He was not quarrelling with Thayer's *theory of counter-shading* as far as it went; nor was he saying that certain colour-patterns did not serve a useful ruptive purpose. What he did think was, that the protective-coloration idea was in danger of being ridden to death. It was only one phase of the whole question of coloration, and, taking the class of birds as a whole, it had probably always been, so to speak, a more or less lucky chance, if colour-pattern born of genetic influence happened to coincide with such a desirable end as invisibility or concealment.

The idea in the past was that colour-patterns had been invariably and directly impressed on the birds' plumage through the agency of environmental stresses, aided by natural selection, and hence systematists had naturally fought shy of using such a character in classification. But there was the other side of the picture.

Another aspect of the case was

(3) **The constancy and persistence of colour-pattern.**

To illustrate this Dr. Lowe again quoted the case of the Ringed Plover group (*Ægialitis*), and drew the attention of members to an enlarged drawing representing three genera of East Indian Cuckoos—*Dryococcyx*, *Rhinococcyx*, and *Urococcyx* (taken from Dr. Witmer Stone's paper),—in which the colour-pattern was seen to be constant, in spite of conspicuous structural generic and geographic differentiation. He also exhibited five genera of the larger Caciques or Oropendolas of the family Icteridæ, in which the colour-

pattern had also remained constant, while the distinctive generic features were very conspicuous.

From these general considerations, Dr. Lowe then passed to the more practical side of the question of colour-pattern as a factor in generic differentiation ; and the next point discussed was :—

(4) **The co-relation of colour-pattern with other generic characters.**

He did not say that colour-pattern was invariably so co-related, but, whether it was used as a factor in generic differentiation or whether it was not so used, it was, as a fact, co-related in such a very great number of instances that one could not help being impressed.

Dr. Lowe then described his experience of applying the test of colour-pattern to various genera among the Babblers, e.g., *Minla*, *Schœniparus*, *Pseudominla* (*Psittiparus*), *Liocparus*, *Yuhina*, *Ixulus*, *Alcippe*, etc. ; and the long and short of it was that, as regards Indian birds, his genera were, as regards species, very nearly identical with Oates's ('Birds of India'). On the other hand, as regards the 'Catalogue of Birds' (British Museum), he found himself constantly in disagreement. He found, for instance, that a good many species which he would have considered worthy of generic distinction from the point of view of colour-pattern were not so considered in the Catalogue, but were included with various genera which had a quite distinctive colour-pattern. "To make a long story short," he said, "if Oates had not made new genera, which included these distinctively coloured species, someone else had. That he thought was a considerable point for colour-pattern."

Another point which he would like to make there was—Why fight shy of the very constant colour-patterns so conspicuously characteristic of such genera, for example, as *Tringa*, *Erolia*, or *Geospiza*, and swallow the many and variable structural variations in the form of the bill, which have been impressed on such genera through purely *functional* stress? Which was the most ancient, the most

constant, and the most fundamental character? Which was the most reliable character for the purposes of classification —one which had a direct relation with function or one which had not? Surely it was the "*least useful*" character.

He would now pass on to consider

(5) **Colour-pattern as a phylogenetic or generic clue.**

To illustrate this he would take some nestling examples from the group of Waders. Dr. Lowe then exhibited a fine series of the downy nestlings of the Dunlin association, the subfamily formerly known as the *Tringinæ*, but for which he proposed the term *Eroliinæ*, since the term *Tringinæ* had, in his opinion, by the principle of Linnean tautonomy, been ruled out of court.

He thought that the colour-pattern common to all these nestling species served as an excellent control experiment, whereby they might judge of the exact limits of the Eroliine subfamily. The colour-pattern was absolutely diagnostic, and tested thus the Eroliine subfamily was found to be a very definitely differentiated group.

The same remarks applied to the series of downy nestlings of the Redshank group—the *Tringinæ*—which he had there; but in it there was apparent a marked distinction of colour-pattern. In the first case you had a spangled colour-pattern, in the second a very distinctly striped one.

Dr. Lowe then exhibited other examples of nestling Waders, the colour-pattern of which was characteristic of various Limicoline groups. These were only a selection out of many examples of nestlings which he had had kindly placed at his disposal from various collections.

Continuing, Dr. Lowe said that it might be asked of what practical use were all the facts which he had just brought forward. There were various examples he could demonstrate in relation to this point. One of them was the nestling of *Elseyornis melanops* of Australia. In almost all works this form was always included at the end of the list of species belonging to the Ringed Plover group (*Ægialitis*). The nestling specimen exhibited undoubtedly

proved, once and for all, that if *melanops* was indeed a Ringed Plover, it was a very aberrant form and one which fully deserved the generic distinction that had been bestowed upon it.

Dr. Lowe then exhibited specimens of nestling Ducks. Among these were nestling examples of *Glaucion* and *Nyroca*, which were given as examples proving the generic distinction of these two forms.

Passing on to Passerine examples, Dr. Lowe pointed out that *Pœcilodryas* was a genus included with the Flycatchers; but the young of *P. capito*, with its striking colour-pattern and aberrant feathering, was not in the least reminiscent of the young of this group. It recalled the fluffy-backed Babblers—*Corythocichla*. The young of *P. albifacies* presented almost similar resemblances, and we might well pause to ask ourselves, Was *Pœcilodryas* a Timeline genus or a Flycatcher genus?

[Several other striking examples were given, which, owing to lack of space, have been eliminated.—Ed.]

He would now pass on, however, to the consideration of another point, viz.:—

(6) **The relation of colour-pattern to the question of "genera-splitting" or "genera-lumping."**

The remarks he would make on this subject were in reality a plea, following upon that recently made in America by Dr. Witmer Stone, for some method by which we could combine rather than disintegrate genera, with the result that we should be able to recognise larger natural or phylogenetically allied groups, genetic phyla, or supergenera—let them use what term they liked, so long as they did not make use of that completely inadequate and futile method of classification represented by Section 1, 2, or 3 or by α, β, γ. If this method of integration was carried out, "genera-splitting" would be robbed of much of its terrors.

Dr. Lowe then dwelt on the artificial, arbitrary, and non-natural nature of genera, which in most cases had been constructed as a matter of convenience.

They had been constructed in order to simplify and codify our general conception of any particular family. Unfortunately, there was a danger that in the multiplication of genera now going on, our conception would be, not simplified, but complicated. They had only to imagine the process carried a few steps further, and all genera would become *monotypic*. When this happened, the excuse for genera would have ceased to exist, and we should have arrived by a very laborious and painstaking process at the exact position from which we originally set forth. That might appear to be an exaggerated conception of the position, but he believed that colour-pattern was the only factor that would save the situation, so fine were the distinctions now drawn between trivial variations in the structure of the bill and other organs.

These distinctions need not, after all, be so very fine, for take the case of the Redshank association. In that group almost every species could conceivably be made the type of a distinct genus, and the same was true of the Dunlin association. Colour-pattern saved the situation.

Take, again, the famous Ground-Finches of the Galapagos Islands—famous for their association with Darwin's original conception of the origin of species. Mr. Rothschild, in conjunction with Dr. Hartert, had integrated these into one genus, *Geospiza*, sinking the three other genera—*Cactornis*, *Camarhynchus*, and *Platyspiza*—on account of the complete series of intergradations in the form of the bill alleged to exist. Dr. Lowe had recently spent a considerable time over the study of this group, and his conclusion was that not only was there but one genus, as Mr. Rothschild and Dr. Hartert held, but that there were only three or four species instead of some 34 or 35, *and that these species were polymorphic*. He had notes to justify this conclusion, but time prevented him dwelling further on this point.

He had instanced the case of *Geospiza*, because of the complete series of intergradations in the form of the bill, which justified us in "lumping." But in the case of the two Icterine genera *Trupialis* and *Leistes*, there was in the

adults a *break* in the continuity of the intergradations in the form of the bill, and because of this break the rule was to consider these two forms as generically distinct; but, if we examined the form and shape of the bill in young or immature specimens of these two genera, they were found to be identical, *with no break* in the matter of intergradation. The logical conclusion was, therefore, that these two genera were phylogenetically related, and that we ought to have some method of classification which would represent or emphasise the fact.

It might be said that subfamily divisions already did this; but, if we took the five or six genera of the larger Caciques or Oropendolas of the same family, we found these to be a very distinct group, strongly differentiated in various ways from the rest of the Icteridæ; yet it had been held by recent systematists, of whom Mr. Ridgway was one, that it was impossible to subdivide this family into subfamilies. A more complete and extended study of immature forms of the whole class of birds would apparently furnish the only means of arriving at a true conception of the relationships and limits of these larger phylogenetically allied groups or supergenera. That any real progress in this direction was rendered well-nigh hopeless was due to the fact that at present it was only quite sporadically that nestling or immature examples of species were represented in our collections. This was a matter to be earnestly deplored.

[Dr. Lowe would have gone on to consider the *co-relation of colour-pattern with geographical or faunal areas*, and also the *question of colour-pattern in regard to sex*, but it was found impossible to do this owing to the limited time at his disposal.]

Mr. W. P. Pycraft: I am down on the Agenda to-night as opposing Dr. Lowe: I should just like to say that that is not quite an exact statement of my attitude. I am not opposing him; on the contrary, in the main I agree with him. With that premise I would like to say that, so far as I am concerned, I have been much too busy lately to

give the subject of the discussion this evening the attention which I had hoped. I have, however, certain ideas on the subject which may help to furnish material for debate.

I certainly agree that coloration is an extremely important factor in classification, and one that has been far too much neglected. But I think we are in danger of making too much of it. There are other things to be considered besides coloration. So far we have been rather inclined to regard a bird as a creature with two legs, a beak, and some feathers; but lately other facts—*i. e.* the structural characters—have been given the weight to which they are entitled. Colour alone ought not to be taken as the factor for the determination of generic characters. We ought to begin with the deeper-seated characters. It is very patent that colour is a factor which can change much more easily than the deeper-seated structures.

Numbers of birds, judged by this colour-standard, in the course of a lifetime present changes more marked than many which are regarded as of generic value. The summer and winter plumage and differences between male and female afford cases in point. Such cases I mention merely to show how superficial a character is colour, as compared with the deeper-seated structures. Attention should be paid not merely to the skeleton but to all sorts of other characters that anatomy furnishes, as well as colour, if we are to evolve any scheme of classification worth having.

The classification of birds depends on the point of view we take or what ideas we want to express. If classification is merely to be a matter of convenience to facilitate the task of identifying birds, then the matter of their interrelationship may be ignored. If, on the other hand, our classification is to express the genetic relationship between different groups, then we have to follow sometimes colour, sometimes some other character. Colour itself can no more be regarded as a safe and universal guide to classification than the shape of the beak or the "scaling" of the legs and toes. One has to take all sorts of characters into consideration. And for this reason, birds, like all other

animals, are plastic creatures and their evolutionary standard is not solely to be determined by external features. On the contrary, every single organ has its own tendency to develop along definite lines, and once started it will go on developing until, and unless, checked by natural selection. Hence in one group you will have a tendency to increase this or that external feature, and in another the development of peculiarities of colour. What we may call a physiological "diathesis" will in one group favour the development of the blood-pigments, and in another of the lipochrome or fat-pigments, and so on; hence we get red, yellow, or green types. Not merely colour, but pattern varies in the same way. Thus it is that in some groups you will find coloration will be no sort of guide whatever.

An illustration of the pitfalls to which the use of coloration alone will lead, is furnished by the Ducks, which on this factor are divided into a number of genera, obviously furnished on the characters of the males. If, instead, the females had been used, the number of genera would have been very materially reduced.

A little time ago I had occasion to write part of a book on British birds, and I had to write hurriedly. As a consequence, in the concluding chapters, wherein I summed up my remarks on classification, I find I did not express myself at sufficient length to carry exactly the meaning I had intended to convey. I stated there that it was impossible, without juggling with facts, to recognise the genus *Ægialitis*, which should be included in the genus *Charadrius*, and, further, that colour was a factor which must be ignored when forming *genera*, if classification was to be framed on sound, scientific, lines. I began forming my genera on the more deep-seated characters and not on coloration, which, for the purpose, I found to be useless. Turning recently to the 'List of British Birds' by Dr. Hartert and Mr. Witherby, I found that the genus *Ægialitis* had been disallowed by them; and turning again to the Finches, and to quite a number of other groups,

I found that they had merged a whole crowd of genera into one genus. I do not altogether like some of the names, but I agree with the principle. The authors have evidently, also, come to the conclusion that coloration, in itself, is not a character on which one can, as a rule, rely for the purpose of classification. There are heaps of groups one might take by way of illustrating that, but I think the Ducks will afford as good an illustration as it is possible to find.

More interest must be taken in the deeper characters—first of all must come the skeleton, as being perhaps the most tangible part you can get. The characters furnished by this should form the basis of the larger groups and families, and the generic groups should rest on the same basis. Colour-pattern should be used for specific characters, as a rule, and as the link between groups of species. There are instances where the same type of coloration runs through whole genera. But structure, rather than colour, should be, to my mind, the basis for the formation of genera.

I do not quite follow some of Dr. Lowe's remarks with regard to endogenous and exogenous coloration. I do not see how this distinction can be drawn, because all the various pigmentations, of whatever character they may be, must be of germinal origin, and it is obvious that that is so. After all, the colours which seem to Dr. Lowe to be independent of the environment are not necessarily so. Coloration is not impressed from without—it is inherent. Sometimes Dr. Lowe seems to take the coloration of the nestling as the standard, and sometimes that of the adult. Perhaps in the formation of genera he would keep to the adult rather than to the nestling. A striped coloration occurs in nestlings of such very different types that it obviously cannot be regarded as an indication of affinity.

Such are the principal points, I think, I wanted to make, but I would insist, once more, on the value of the deeper structures, which have been neglected, as indications of affinity. Take, for instance, birds like the Norfolk Plover. Judging by external appearance only, it is extremely difficult

to say where this belongs. All the earlier naturalists placed the Owls with the birds of prey. But an investigation into their anatomy has shown that the Owls have nothing whatever to do with the birds of prey. These birds afford one instance of the reformation in our system of classification, which has brought about the study of the deeper-seated characters. Coloration is undoubtedly an extremely valuable guide, but our efforts must be to make our schemes of classification express descent as much as possible. This we should be able to do if, instead of making genera of certain groups of species, we made them into "sections" of genera.

I hope more attention will be paid to this aspect of classification, and that we may endeavour, at some future meeting, to devise some scheme of terminology which will group birds according to their colour-patterns, instead of splitting them up into a number of genera.

The Chairman: I must ask you to excuse me for rising first to make a remark on the very interesting introduction to this discussion which has been made by Dr. Lowe and Mr. Pycraft. Personally I am not entirely in sympathy with either of them. I find it very difficult to express my dissent from the two gentlemen who have opened the discussion, because Dr. Lowe started off by saying that colour in itself did not enter into his discussion at all, but only colour-*pattern*. A very large number of writers on ornithology—I need only mention one, our good friend Count Salvadori—have taken colour as a reason for separating birds generically.

It is much more difficult to answer an authority who takes the colour-pattern; but, for all that, as Dr. Lowe in one of his diagrams has taken a certain group of the Drepanididæ as an example, and as I had brought up these birds to illustrate what I was going to say, I will only point out where I differ from him. The family Drepanididæ, which is confined to the Sandwich Islands, has been classified by all writers entirely—or almost entirely—on

the structure of the beak. The group which originally was included under the genus *Himatione* consists of two very large sections, one with a curved beak more like the original Drepanine bill and a series of birds with a perfectly straight bill. These were originally separated into two genera, *Himatione* and *Oreomyza*. It has since been proved that *Oreomyza* cannot be used, as it was employed for something else, and therefore the name *Oreomystes* has been coined for these straight-billed birds. In both *Himatione*, the curved-billed group, and *Oreomystes*, the straight-billed group, each includes one red species and a number of green species—the difference is this : in the the curved-billed group the red species has developed quite a different type of feathering on the throat and on the head and neck, while the straight-billed red bird has developed no difference except that of colour.

In this case I quite agree with Mr. Perkins, the explorer of the Sandwich Islands, in separating the curved-billed green birds from the curved-billed red birds under the name of *Chlorodrepanis*; but I do not agree with those who wish to separate the straight-billed red bird from *Oreomystes*, because I cannot find any other character besides that of the scarlet colour by which to separate it. However, if I may be permitted to say so, I cannot agree that the question of genera is of such importance from the point of view of ornithology as many of us would make out. I quite admit that Species as we see them to-day are the work of evolution and of Nature, but the idea of Genera is a purely human invention, like that of nomenclature generally, to facilitate the study of birds and the communication of our ideas about them with our fellow-students.

The classification ought to be carried out as far as possible on phylogenetic and evolutionary lines, as suggested by Mr. Pycraft, but I think genera ought to be subordinated to usefulness, as they were originally intended to be, and therefore multiplication of genera on characters of very small value should be very highly deprecated—in fact, I think what the late Dr. P. L. Sclater said is

very true, that we ought to strongly deprecate "furor genericus."

Mr. Ogilvie-Grant: I am afraid I cannot add very much to what has already been said. Genera, as we all know, are purely arbitrary divisions which we use in grouping together allied species and subspecies, so that we may be able to deal with them more conveniently in classification. There are those who, in my opinion, recognise too few genera, and, on the other hand, there are people who place nearly every species in a separate genus. Personally, I should never dream of uniting in one genus such groups as the Linnets and Goldfinches, the Sparrow-Hawks and Goshawks, or the Pochards and Golden-eyes—but that is a matter of opinion. Linnets and Goldfinches appear to me to be clearly-defined and natural genera; Sparrow-Hawks and Goshawks differ entirely in the structure and proportions of their feet, and Pochards and Golden-eyes in their colour-pattern, even in the ducklings.

I think the obviously correct way of dealing with this difficult matter is to follow a middle course: the more experience we have in dealing with the class Aves generally, the better we shall be able to decide instinctively what constitutes a genus. Genera do not exist in Nature, and it is therefore impossible to lay down any hard-and-fast rules as to what constitutes them. What are generic characters in one group of birds may be specific in another, and in grouping species one must be guided by experience and a proper sense of proportion. The deep-seated characters should be reserved for the differentiation of families and sub-families, not genera, and should be used to link up and associate the latter in a natural manner: in this respect, I think Mr. Pycraft has somewhat confused the issue.

As regards the splitting of genera into sections: as an instance of this I have brought with me examples of a large genus of Flycatchers—*Monarcha*—to illustrate my views on this subject. Dr. Hartert, I think, agrees with me in considering that all the species included should be kept together in one genus, the structure and colour-pattern being

much alike in all, though the colour in the different species included varies greatly. It would be easy to divide this group into five or six sections on colour alone, but I do not think any advantage would be gained by doing so. Colour, in my opinion, is of no importance generally, but colour-pattern is, and I therefore keep the whole of these species together in one genus—*Monarcha*. There is no reason why a genus should not include a hundred species or more, provided they constitute a well-defined group. By splitting up groups of species into endless unnecessary genera, we are only overburdening our memories with useless names and rendering classification more difficult, thus retarding what we are trying to advance—the study of ornithology.

Mr. W. L. Sclater: I have got very little to add to the discussion. My views are almost entirely those of Mr. Ogilvie-Grant. I think genera are a matter of convenience more than anything else, and a genus is entirely a human conception, and does not exist in Nature at all—it is purely artificial. We can probably define a species and a subspecies, but a genus is merely a number of species put together for our own convenience.

As regards Dr. Lowe's views that generic characters should be based on colour-pattern, I must say I agree with him. I think colour-pattern is often a very ancient and deep-seated character, and obviously colour-pattern must be a much more primitive character than the relative lengths of the tarsus and the middle toe or the relative width and length of the bill. These characters are easily modified by external circumstances, and you cannot regard these characters as more deep-seated than colour-pattern.

Mr. Pycraft's views about the necessity of studying the anatomical characters, the skeleton and the anatomy of the soft parts of the birds, are absolutely true, but I do not think they are, as a rule, of use in generic separation. These characters are surely those which are of importance for family distinction. You must always recollect Birds are a group in which evolution has worked its will to a great extent. We have an enormous number of slightly varying

forms with very few fundamental distinctions between them. In the case of Reptiles or many other groups that is not the case: evolution has not acted so strongly, and we have not the large number of small variations, and no doubt the generic characters in other groups are not of the same value as those used by ornithologists.

It may be illogical, but it seems to me a genus should be a matter of convenience, as Capt. Shelley used to insist and Mr. Ogilvie-Grant has just said. It is a matter of convenience how wide we make our genus. It is necessary to take the best characters, the most fundamental characters, and the characters that show the true relation of the birds, and the colour-pattern is one of these, and I think it is much more valuable than many of the characters that have been used, for instance, in the 'Catalogue of Birds' for generic separation.

Dr. Ernst Hartert: I did not intend to take part in this discussion, but it interests me so much that I cannot help saying a few words. I am very glad, and must express my great satisfaction, that the general trend seems to my own view, *i. e.* that genera are artificially made by ornithologists, and that Nature does not classify its species into genera. Nature made species and subspecies—genera are made by man for convenience.

I agree, on the whole, with Mr. Pycraft, that the more "deep-seated" characters should be taken to distinguish genera. Of course, as a rule, we have the bird-skins only, and therefore we cannot always consult the internal anatomy when we deal with our genera, but certainly a differently constructed bill or foot is generally a much more deep-seated character than colour-pattern or mere colour.

I do not think, as Dr. Lowe said, that colour-pattern has been neglected. On the contrary, much too much has been made of it. Take, for instance, the writings of Bonaparte, Boie, and others, who shifted species and genera about like the men on a chess-board, and made hundreds of single species the types of genera, merely because of their different colour-pattern or outward appearance. I think far too many

genera have been separated on that account, and that its importance has been a great deal overrated. I do not mean to say that colour-pattern should be neglected; it is often a valuable sign-post and guide indicating to which genus a bird should be assigned, but it can never be a test and a final proof of whether it ought to belong here or there. Let me give you a few examples:—

Look at *Oriolus forsteni* and *Philemon subcorniculatus* on Ceram, and at *Oriolus bouruensis* and *Philemon moluccensis* on Buru. In each case the Oriole and Honey-eater are absolutely indistinguishable in colour, almost to the minutest detail, only the bill and foot, and the anatomy too, of course, being different, because these similarly coloured birds belong to different families. These two cases are, as is well known, the classical instances of mimicry among birds, since they were so cleverly expounded by Wallace; as a fact, they are not mimetic, but the results of independent gradual development, and I believe they would have had the same coloration if on each island only the Oriole or the Philemon had been found (see 'Novitates Zoologicæ,' xxi. pp. 395–400). I may also remind you of the similarity in coloration of the American *Pachysylvia* and Palæarctic *Phylloscopus*, of various white-coloured Arctic birds, which are very distantly related to each other, of various species of the genera *Accipiter* and *Astur*, as generally accepted, in the islands of the Eastern Archipelago, which are of the same coloration and yet very different. The weakness of colour-pattern as a generic character is also shown by the different coloration of adult and young in ever so many instances, where we have the young birds quite differently marked from the adults—for instance, among *Accipitres*, where many species are barred when adult, and striped when young, or among Robins, Redstarts, Nightingales, Flycatchers, and Thrushes, where only the young are spotted. Think also of the species of *Œnanthe* (*Saxicola*), where the young of some species are spotted, others not, and yet they are united into one genus, and I trust they will not be torn asunder on account of these juvenile propensities.

A fast and binding rule can, however, not be drawn for the separation and limitation of genera, and in some cases colour-pattern is of unusual interest. This is beautifully illustrated by the Cuckoos of the genus *Phœnicophaes*, which Mr. Lowe brought to our notice. Here we have at least a dozen forms of birds which are practically alike, but differ in the shape of the nostrils! Because this is a "structural" character they were separated into 4 or 5 "genera." To this I do, of course, not agree, but it is not quite fair to say that they belong to the same genus because they have the same colour, as they agree in the structure of all parts of their body *; common-sense must be used, and a slightly different shaped nostril alone must not be taken as a "generic character," unless accompanied by other peculiarities.

It is always dangerous and not always advisable to use *one* character to distinguish genera. On this account I have rejected the various genera of Fringillidæ, about which there is so much diversity of opinion—I mean *Carduelis*, *Spinus*, and *Acanthis*. These are, indeed, grouped by colour alone in the new 'List of British Birds,' but wrongly, in my opinion. If we go by the shape of the bill we must accept the genera *Carduelis* (including *Spinus*), maybe *Acanthis*, and certainly *Cannabina*; if by colour *Carduelis*, *Spinus*, *Acanthis* (including *Cannabina*!). I cannot agree to either. In view of the curious "*Chrysomitris ambigua*" Oustalet (Bull. Mus. Hist. Nat. Paris, 1896, p. 186), which has the bill of a Siskin and the wings coloured exactly like a Greenfinch, and which appears to merge into *Chloris sinica*, one might even unite *Chloris* and *Spinus*, or, as I call it, *Carduelis*!

I shall always agree to separate genera on account of a longer and shorter beak, if there are *any* additional peculiarities, and if the gulf is unbridged; but I shall unite them without hesitation, if they are connected by intermediate forms.

* This case has been discussed in 'Novitates Zoologicæ,' 1895, pp. 70–73.

The Chairman: Before calling upon Mr. Mathews I should like to say one thing and that is, the great trouble has always been the inconsistency of the various authors in dealing with the various groups; and when people find fault with the "lumping" in one place and the "splitting" in another, it is generally because in the one case the author has arbitrarily used colour or colour-pattern, while in another he has arbitrarily used structure of a kind which was evidently not of generic value. I now call upon Mr. Mathews.

Mr. G. M. Mathews: I am compelled to side with those who maintain that colour must be utilised in the differentiation of generic groups and am confident that this view will latterly prevail universally. I say this with confidence as I was first influenced by the view of the professed adherents to the so-called "structural" school, and my first 'List of the Birds of Australia' was prepared with that view as my basis. During its preparation I was being continually impressed with the inadequacy of the structure of a bird as a clue to its generic affinity, and later a monographic study of the Petrels compelled the rejection of that fallacy, as I soon realised that even in the mind of those who counselled the usage of structural characters *alone*, colour was often the chief factor consulted.

Study of colour evolution from the nestling to the adult, and the recognition of colour-genera, would certainly obviate many anomalies in the Australian avifauna—as is to be found, for instance, in the genus *Pachycephala* of authors,—if it did not altogether prevent them. The latter result would be achieved, if careful study of the birds was undertaken, and attempts to group them by means of colour were made at the time of the introduction into the genus of each new form. It should always be remembered that the available "structural" parts of a bird-skin are, comparatively speaking, trivial and unreliable, as these are more liable to variation by wear and tear than is the colour-pattern of the feathering of a bird.

To me the great charm of Salvadori's work is that he was a "splitter" on coloration, and it is very easy to follow his work in the 'Catalogue of Birds' and in his

'Birds of New Guinea.' I think that is the reason he has earned such a name for being a careful worker. To me colour-pattern must stand out as a *guide,* and I think, from what I have heard to-night, that we are all agreed on that point.

Mr. C. Chubb : It appears to me, if we take the families of birds as they are divided at present, we shall find in the majority of cases that each family possesses a colour, or combination of colours, which is peculiar to itself and does not occur in any other family with any great persistence. If we treat genera on the same lines, we find also that the colour of the species in each genus is, as a rule, quite different from those of the other genera in the same family, and this is very often supported by the young. We may take as an instance the family of the Rheidæ, which includes two well-marked genera, *Rhea* and *Pterocnemia* ; the young of each show the structural characters, and in addition to these have quite a different coloration. When working at the Tinamous a short time ago, we noticed one case where the individuals of one species stood out quite conspicuously from all the others of the same genus by the difference of coloration ; we found on examination that there were structural differences, and consequently made it into a new genus. I am of opinion, therefore, that wherever there is diverse coloration, structural or comparative differences will most probably be found to support it.

Mr. T. Iredale disagreed with all the previous speakers who had concluded that genera were merely matters of convenience, and declared that they were as natural as species or subspecies—which view had been strenuously denied. The fact that colour cannot be ignored, and is not, by the opponents of colour-values is seen in the recent acceptance of the genus *Histrionicus,* which was based solely on the remarkable colour-pattern of the single species. By such workers the Herons have been classed according to colour, all the white Herons being placed in one genus, and separated from the coloured species, though the former show greater structural differences *inter se* than they differ as a

whole or individually from the latter. The reasonable course is either the separation of the Herons into many genera or else the usage of only one genus, *Ardea*—the latter course being rejected by every worker.

Dr. Hartert: I should like to say a few words in answer to Mr. Iredale. I quite agree with Mr. Iredale that his genera are perfectly natural, because they could not be anything else, when he makes them so small—often monotypic! In my opinion, however, it would be an unsupportable burden if we made so many genera as Mr. Iredale wishes to make. With regard to the genera of the Herons I do not separate them by colour alone, and this will be seen when the continuation of my book on the Palæarctic birds appears, and many ornithologists will take my view. The Herons are one of those groups in which widely different types are connected by links in such a way, as Mr. Iredale correctly said, that one might almost call the whole assemblage *Ardea*. It is very difficult to work unless one takes this view, or else one makes every good species into another genus; the latter would be perfectly "natural," but it is not the best way to dispose of the question, and in such a case a medium and compromissory course should be taken.

Dr. C. B. Ticehurst: I am afraid, after all the learned remarks we have heard this evening, what I have to say will be very elementary. I see on the agenda "Coloration as a Factor in Family and Generic Differentiation." We have heard much as regards the bearing of colour on generic characters, but not much about colour and family characters; personally I cannot see that the vast majority of families show any uniformity in colour at all. One has only to look at the Turdidæ to see the different colorations and patterns which you find in that one family alone.

Of genera in which the same colour-patterns or colours run throughout, examples will occur to everybody, such as *Gallinago*, *Dryobates*, etc.; also in many other genera which are composed of few species, as in *Caccabis*, *Sturnus*, etc., but this is perhaps what one would expect. In other genera colour and colour-pattern seem to go for absolutely nothing: take, for instance, two species like

Trocholapteron simile and *lineatum*, both absolutely similar structurally, absolutely different in colour and pattern, the same occurs again in our Spotted and Pied Flycatchers and in the genus *Parus* and many others. Of course, the whole question turns on what constitutes a genus, as several have already remarked. Those who favour colour as a generic factor would no doubt separate the Yellow Wagtails from the Pied Wagtails, those who do not would unite them as *Motacilla*, but I certainly think that they have hit on a very fortunate example for colour-factor in the *Ægialitis* group, in which there is much more to be said for colour-pattern and coloration than in a great many.

Mr. Grant, I think, mentioned that we should look to anatomy for family differentiation: this is, I think, true, provided we look at the subject widely and with common-sense, and do not go on peculiarities of one system; though if studied carefully the latter, I think, might possibly help us in generic differentiation.

The Chairman: I think we ought to be very grateful to Dr. Lowe for the amount of trouble he has taken to get up this subject, which is of very great interest. As he referred so pointedly to the questions of the Galapagos Finches, I should like to say that Dr. Hartert and I tried to come to a similar conclusion at one time as to the much smaller number of species existing than were supposed to exist. We were, however, unable to definitely state this as a fact, and I do not think anyone looking at it from our point of view could possibly "lump" these Finches into only a few species. At the present state of evolution the series on the different islands is very differently constituted, on one island one link has disappeared, while on the next island probably a different link in the series is lost, so that, even from the large material which we have been able to gather together at Tring and in the British Museum, it is impossible to say definitely that one or more of these forms constitute a subspecies of any given species. The only thing we were able to do was to take the size and shape of a bill as nearly as possible equivalent, on each island where

such a form occurred, and say in our opinion this is a sub-species of such-and-such a bird on that island, but in many cases it was impossible to say even this, as the series is not complete from all the islands.

Mr. W. P. Pycraft: I think in using "colour-pattern" females and young should be regarded as indicative of phylogeny rather than the males, which indicate the present-day standard of evolution. That, I think, Dr. Lowe has brought out. By Dr. Lowe's system the Jack-Snipe, both in the nestling and adult coloration, would have to be included in one and the same genus with the Common Snipe. If, however, structural characters be taken, like the syrinx and sternum, it will be found that the Jack-Snipe is markedly different from the Common Snipe. The question here then is, which factors are you going to adopt? Are you going to take the deeper-seated and morphological characters, or the nestling-down and the adult coloration? Of course, one would find many such cases where it would be difficult to decide, unless it is agreed that the deeper-seated and morphological characters are the older and safer guides.

The next Meeting of the Club, which will be held on Wednesday, the 10th of March, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W., will be devoted to a show of Lantern-slides; the Dinner at 6.45 p.m. Members of the Club intending to dine are particularly requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

The Annual General Meeting of the British Ornithologists' Union will be held on the same day (10th of March), and the Annual Dinner of the B. O. U. will take place conjointly with that of the B. O. C.

(Signed)

W. Rothschild,	D. A. Bannerman,	P. R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Institution
APR 19 1915
National Museum

No. CCV.

The two-hundred-and-second Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 10th of March, 1915.

Chairman: Hon. Walter Rothschild, Ph.D., F.R.S.

Members of the B. O. C. present :—E. C. Stuart Baker, D. A. Bannerman, B.A. (*Editor*), G. K. Baynes, E. Bidwell, S. Boorman, H. B. Booth, C. Borrer, C. M. Buckley, P. F. Bunyard, R. W. Chase, C. Chubb, Col. Stephenson R. Clarke, C.B., W. Eagle Clarke, K. J. A. Davis, F.R.C.S., Rev. Allan Ellison, H. J. Elwes, F.R.S., H. O. Forbes, LL.D., F. W. Frohawk, E. Gibson, F. H. C. Gould, Rev. J. R. Hale, M.A., E. Hartert, Ph.D., Capt. C. Ingram, Rev. F. C. R. Jourdain, M.A., G. C. Lambert, P. R. Lowe, B.A., M.B. (*Hon. Sec. & Treas.*), G. M. Mathews, E. G. B. Meade-Waldo, H. Munt, T. H. Newman, W. R. Ogilvie-Grant, C. Oldham, C. E. Pearson, H. L. Popham, M.A., W. P. Pycraft, F. R. Ratcliff, R. H. Read, C. B. Rickett, Col. G. Rippon, A. D. Sapsworth, W. L. Sclater, M.A., D. Seth-Smith, M. C. Seton,

F. W. Smalley, G. Swann, H. Swann, C. G. Talbot-Ponsonby, C. B. Ticehurst, M.A., M.D., A. Trevor-Battye, H. M. Wallis, Col. R. G. Wardlaw-Ramsay (*President of the B. O. U.*), S. L. Whymper, J. Wilkinson, H. F. Witherby, G. Witherington.

Members of the B. O. U. who are not Members of the B. O. C.:—J. A. S. Bucknill, K.C., M.A., A. H. Cocks, M.A., Capt. H. L. Cochrane, R.N., H. S. Gladstone, M.A., B. B. Osmaston, J. Wall-Row.

Guest of the Club:—Miss M. D. Haviland.

Hon. Lady Members of the B. O. U.:—Miss Dorothy M. A. Bate, Miss Annie C. Jackson, Miss E. L. Turner.

Visitors:—F. W. Andrews, A. H. Borrer, G. R. Buckley, J. P. S. Clarke, H. N. Coltart, C. E. G. Crocker, E. A. B. Dewar, C. J. Evans, George Evans, C. E. Fagan, I.S.O., H. Fagan, M.D., P. Harrower, Sir Henry H. Howorth, K.C.I.E., F.R.S., V. Warren Low, F.R.C.S., H. N. Matthews, M.D., G. Meade-Waldo, Rev. G. J. S. Warren, T. Wells, B. Whitehead, R. Muzio Williams, M.D.

The Secretary had received a letter from Mr. H. M. Upcher, who had been a member of the Union since 1864, regretting his inability through illness to attend the Meeting.

Colonel R. G. Wardlaw-Ramsay, the President of the British Ornithologists' Union, occupied the Chair at the conjoint dinner of the B. O. U. and B. O. C. At the conclusion of the dinner, and after having proposed the health of His Majesty the King and that of "Absent Ibises," Colonel Wardlaw-Ramsay vacated the Chair in favour of the Hon. Walter Rothschild, the President of the British Ornithologists' Club, who conducted the business during the remainder of the evening.

Dr. Ernst Hartert invited the Committee, who had recently drawn up the 2nd Edition of the 'B. O. U. List of British Birds,' to discuss with him at some future meeting of the Club their reasons for considering as distinct species *Saxicola stapazina* Linn. and *Saxicola aurita* Temm. He expressed his opinion that the decision at which the Committee had arrived was erroneous.

Dr. Hartert said that he considered *Œnanthe stapazina* and *Œnanthe aurita* to be one and the same species, which should be known as *Œnanthe h. hispanica*—a name given by Linnæus * to both a black-throated and a white-throated bird, in the belief that they were male and female of the same species.

Dr. Hartert believed so-called *O. stapazina* and *O. aurita* to be dimorphic for the following reasons :—

(1) They had the same area of distribution in the breeding-season.
(2) They migrated together.
(3) The females of each supposed race were indistinguishable.
(4) The song, call-note, nest, and eggs were similar.
(5) They had the same subspecies in the East, which should be known as *Œnanthe hispanica xanthomelæna* Hempr. & Ehr.

The remainder of the evening was devoted to an exhibition of lantern-slides, at which many exceptionally beautiful pictures were shown.

Miss E. L. Turner, H.L.M.B.O.U., exhibited slides of the following species of birds :—

Cormorant (*Phalacrocorax carbo*). A series showing the birds nesting in an old Heron's nest in Norfolk, taken in July 1914. Cormorants have not bred on the east coast, south of Flamborough Head, since 1827 (*vide* 'British Birds,' vol. viii. 1914, p. 133).

Hooded Crow (*Corvus cornix*).

Nightingale (*Luscinia megarhyncha*).

* Linnæus, Syst. Nat. ed. x. 1, p. 186, 1758—"Hispania."

The next series of photographs shown depicted Waders at the mouth of the River Tay, feeding and bathing. These studies were taken by hiding in a tent which had been placed in some likely spot, and "snapping" anything which came along. Several very successful photographs were secured in this way, particularly that of the Oystercatchers courting.

This series included :—

Sandpipers, ? species.

Redshank (*Totanus totanus*) feeding.

Lapwing (*Vanellus vanellus*).

Ringed Plover (*Ægialitis hiaticula*).

Oystercatchers (*Hæmatopus ostralegus*) courting.

Black-headed Gulls (*Larus ridibundus*) bathing and courting.

Other slides shown by Miss Turner represented :—

A family of Coots (*Fulica atra*).

Two Herons (*Ardea cinerea*) wading.

Canada Geese (*Branta canadensis*) flying at dawn.

A Moorhen (*Gallinula chloropus*) feeding.

Flocks of Dunlins (*Tringa alpina*) on Holy Island.

Tree-Pipits (*Anthus trivialis*), etc., etc.

The Chairman of the B.O.C. exhibited 55 excellent Lantern-slides illustrating the three Regions of Algeria, viz., the Tell, the Hauts Plateaux, and the Desert, which he described as follows :—

He said that the three Regions, as well as being topographically very distinct, were also faunistically different.

THE TELL REGION.

This comprises the coastal region and the northern chain of the Atlas. It is essentially Mediterranean in its character, and the number of Warblers and Nightingales at once strikes the observer. In the Atlas Mountains, Jays, Woodpeckers, and Vultures are characteristic. In and around the Gorge at Constantine, Jackdaws, Storks, Egyptian Vultures, and

Alpine Swifts are very noticeable, while two species of Kestrel and Rock-Doves occur in numbers. On the various large and small lakes of the Tell Region many species of Waterfowl, Reed-Warblers, and various members of the Heron tribe abound.

To illustrate the Tell Region the following views were then thrown on the screen, a series of each being shown :—

1. Forest near Hammam R'hira.
2. Forest in Gorge de Chiffa, Ruisseau des Singes.
3. Forest of Blue Cedar (*Cedrus atlantica glauca*) above Blida.
4. Dwarf Palm of the Tell Region (*Chamærops humilis*).
5. Gorge of Constantine.
6. Views of Country round Hammam Meskoutine, the Cascade and limestone deposits.
7. Prickly Pear (*Opuntia*), which has been introduced and has spread all over the Tell Region and Hauts Plateaux.

THE HAUTS PLATEAUX.

These consist of the extensive upland plains between the northern and southern ranges of the Atlas which average 1000 metres in height, while mountains of 2000 metres and more occur. There is also a portion of the desert south of Laghouat which has a somewhat mixed character.

The birds of the Hauts Plateaux already show signs of a desert character, while, owing to some mountains being well wooded, birds of the Tell Region still occur. Species which are already conspicuous are the Crested Larks, Black Chats, Thick-knees, Bustards, Dodson's Shrike, the Dwarf Jay, and *Chersophilus duponti*.

The following views of the Hauts Plateaux were then shown :—

1. Country round Guelt-es-Stel.
2. Tuft of Halfa Grass.
3. Dayat of Terebinth Trees at Tilghemt—*in early Spring*.
4. „ „ „ „ —*in late Spring*.

5. Old Terebinth Tree.
6. Young Terebinth Trees.
7. Country near Ain-Sefra.
8. Sand-dune, Ain-Sefra.
9. Ruins of Timgad.
10. Gorge de Tilatou.
11. Four views of Country round El-Kantara, opening on to the Desert.

THE SAHARAN DESERT.

South of the Atlas at Biskra, Laghouat, etc., begins the real Saharan Desert, with a much reduced, though very interesting, avifauna. The most striking forms to be met with are the Sand-Grouse, the Desert-Larks, the lovely Desert-Warbler (*Sylvia nana deserti*), the Bush-Babbler, the little *Scotocerca*, the Persian Bee-eater, the Cream-coloured Courser, and further south the rare Desert-Sparrow (*Passer simplex*).

A number of fine photographs were then exhibited depicting various scenes in the DESERT, as follows :—

1. Stony Desert near Col de Sfa, Biskra.
2. Views in the Oases of Biskra and Sidi-Okba.
3. Arab Falconer with female *Falco biarmicus erlangeri*.
4. Views in Desert Mountains near Droh.
5. Camels feeding in the Salt Desert, south of Biskra.
6. Our party south of Mraier.
7. Sand-dunes and Bordj of Ferjan near El-Oued.
8. Nomads resting and vegetation near El-Oued.
9. Palm-gardens near El-Oued.
10. Oases of El-Golea and Old Berber Fort.
11. Desert near In-Salah and Gara on Plateau of Tademait.
12. Palms near In-Salah.
13. Views of river-bed of Oued Mya, south of El-Golea.
14. Mzabite town of Ghardaia.

Miss Maud D. Haviland, who was the Guest of the Club at the invitation of the Committee, gave a most interesting account of her visit last year to Northern Siberia. Many beautiful photographs were thrown on the screen, illustrative of her journey and of the bird-life which she encountered, and these were greatly appreciated by the large audience. The most interesting discovery made was that of the nest, eggs, and young of the Curlew-Sandpiper (*Tringa ferruginea*), photographs of which were exhibited.

Miss Haviland is to be congratulated on the excellence of all the photographs shown and on the clear manner in which she delivered her lecture.

She gave the following brief account* of her experiences:—

"I left Yeneseisk, on the Yenesei River, on June 10th, 1914, as one of the party of Miss Czaplicka of Oxford. We proceeded down the river, arriving at Turukhausk in the Arctic Circle on June 16th. Owing to the short stops of the steamer, it was not possible to do any bird-photography on the way down the river, and even collecting-excursions ashore were brief and much interrupted.

"On June 17th we passed the mouth of the Kureika River, where Seebohm spent six weeks in the steamer of Captain Wiggins, and on reaching Dudinka, at the beginning of the great estuary, the forest was left behind and the marshy tundra was reached.

"On June 28th we reached Golchika, the most northerly village of the Yenesei, and stayed ashore there for two months. The country partly consisted of river-marsh and partly of tundra, photographs of which are shown. The most interesting nest found was that of the Curlew-Sandpiper (*Tringa ferruginea*) †, that being the first time that it was found so far south.

* Miss Haviland has recently published a book entitled "A Summer on the Yenesei," describing in detail her experiences which are touched upon here.

† The Editor is responsible for the nomenclature employed in this paper; the 'B.O.U. List of British Birds' (2nd edit. 1915) has been followed where possible.

"The Little Stint (*Tringa minuta*) was fairly common, and photographs of the nest and a fair series of the old bird at and on the nest were taken, and in addition one showing the female in a characteristic attitude shamming injury.

"The Temminck's Stint (*Tringa temmincki*) was also photographed at the nest, although not so easily as *Tringa minuta*, owing to its greater wariness.

"The Grey Phalarope (*Phalaropus fulicarius*) was also frequent at Golchika, and five nests were found, the only previous record for the place being in 1895, when Mr. H. L. Popham took a nest. The female was photographed in the marshes and the male was taken in different attitudes at the nest, attention being drawn to the harmonization of the colour of the mantle and form of the feathers with the surrounding grass.

"One nest of the Grey Plover (*Squatarola squatarola*) was found, the species being scarce at Golchika.

"The only Gull met with was the Siberian Gull (*Larus fuscus antelius*), of which two slides are shown. The Lapland Bunting (*Calcarius lapponicus*) was the commonest of the small birds, and the series include two studies of this bird in juvenile plumage.

"The Dotterel (*Eudromias morinellus*) was common, and bred not only in the dry hilly sites it affects in this country, but also on marshy ground. Photographs of the bird nesting in both spots are shown.

"The Willow-Grouse (*Lagopus lagopus*) was frequent, and nest, young, and the adult hen bird were photographed.

"Six slides showing the adult Asiatic Golden Plover (*Charadrius dominicus fulvus*) at and near the nest are shown, also two of the eggs and downy young, which differ slightly from those of *Charadrius apricarius*.

"I left the Yenesei on the 19th of September with one of my companions and travelled home *viâ* the Kara Sea in one of the steamers belonging to the Siberian Steamship Co. After being delayed three days in the ice, we reached Hammerfest on October 1st, and thence crossed to Newcastle, arriving in England on the 10th of October."

The following slides were exhibited to illustrate the preceding remarks :—

1. Yeneseisk.
2. View of the Siberian forest.
3. The Kureika village.
4. Lukovoi Protok, where Mr. H. L. Popham obtained the eggs of the Red-breasted Goose (*Branta ruficollis*).
5. The delta of Golchika.
6. Nesting-place of the Curlew-Sandpiper (*Tringa ferruginea*).
7. Nest and eggs of the Curlew-Sandpiper.
8. Little Stint (*Tringa minuta*) feeding in the snow.
9. Nest and eggs of the Little Stint.
10. Little Stint (♀) near the nest.
11. Little Stint shamming injury near the nest.
12. Little Stint approaching nest and brooding.
13. Nest and eggs of Temminck's Stint (*Tringa temmincki*).
14. A series showing Temminck's Stint going on to the nest, brooding, and standing over the eggs.
15. Female Grey Phalarope (*Phalaropus fulicarius*).
16. Grey Phalarope (♀) swimming.
17. Nest and eggs of Grey Phalarope.
18. Grey Phalarope (♂) incubating.
19. Another picture showing harmonization of plumage with bird's surroundings.
20. Grey Phalarope adjusting eggs.
21. Nest of the Grey Plover (*Squatarola squatarola*).
22. Nest of the Long-tailed Duck (*Clangula hyemalis*).
23. Siberian Gull (*Larus fuscus antelius*) feeding.
24. Nest and eggs of the Lapland Bunting (*Calcarius lapponicus*).
25. Nest and young of the Lapland Bunting.
26. Young Lapland Bunting, showing the juvenile plumage.
27. Nest of the Dotterel (*Eudromias morinellus*).
28. Dotterel brooding in marshy ground.
29. Dotterel nesting in usual situation.

30. Eggs of the Willow-Grouse (*Lagopus lagopus*).

31. Young of the Willow-Grouse.

32. Willow-Grouse (♀).

33. Eggs of the Asiatic Golden Plover (*Charadrius dominicus fulvus*).

34. Asiatic Golden Plover near nest (typical surroundings). Four studies showing the bird in different attitudes.

35. Asiatic Golden Plover shamming injury.

36. Asiatic Golden Plover on the nest.

37. Young in down of the Asiatic Golden Plover.

38. White-fronted Goose (*Anser albifrons*) swimming.

39. Ship frozen in the ice during the return journey *viâ* the Kara Sea.

The Chairman congratulated Miss Haviland on her adventurous journey and on the valuable results which she had achieved.

Mr. H. L. Popham said that he would like to add a word to supplement Mr. Rothschild's remarks. Probably few of the Members present could realise what Miss Haviland had been through to get the fine series of photographs which she had exhibited, so well as he could. He had been to Golchika four times, so he had a good idea of the difficulties with which she had to contend. Miss Haviland and her companion, Miss Curtis, were almost certainly the only ladies who had ever made the round trip of going by land to the Yenesei and home *viâ* the Kara Sea; one Siberian lady had made the journey the other way. Mr. Popham said that one could not help admiring the pluck and energy displayed by Miss Haviland in undertaking such a journey in the interests of Ornithology.

Mr. K. J. A. Davis showed a series of exceptionally good photographs of each of the following species of birds:—

1. Great Skua (*Catharacta skua*).

2. Red-throated Diver (*Colymbus stellatus*).

3. Black Guillemot (*Uria grylle*).

4. Merlin (*Falco æsalon*).
5. Sparrow-Hawk (*Accipiter nisus*).
6. Curlew (*Numenius arquata*).
7. Lesser Black-backed Gull (*Larus fuscus affinis*).
8. Reed-Bunting (*Emberiza schœniclus*).
9. Fulmar Petrel (*Fulmarus glacialis*).

A remarkably successful photograph was that of the Fulmar Petrel flying from the face of the cliff, while the series showing the Black Guillemot at home were greatly appreciated.

Captain Collingwood Ingram gave a brief account of the island of Little Tobago, British West Indies, upon which his father, Sir William Ingram, had, in 1909, turned out forty-seven examples of the Greater Bird-of-Paradise (*Paradisea apoda*). He said that, as three young birds had recently been reported by the guardian, it was reasonable to suppose that the experiment had been successful.

He further remarked that the males had not, as yet, been seen in their beautiful and characteristic side-plumes. From this it would appear that the full nuptial plumage was not acquired before the seventh year, and that the birds bred before these were fully developed.

A photograph depicting typical forest-growth on Little Tobago was then thrown on the screen, which gave a good idea of the wealth of vegetation to be found in this gem of the Caribbean Sea.

Captain Ingram also exhibited a good slide of the West Indian Tropic-bird (*Phaëthon ætherius*) on the nest; this was placed on the ground amongst dense cactus, on the side of a hill shelving steeply to the sea.

Mr. H. L. Popham exhibited four good slides showing the nest and eggs of:—

1. Great Crested Grebe (*Podiceps cristatus*).
2. Eared Grebe (*Podiceps auritus*).
3. Little Gull (*Larus minutus*).
4. Jack Snipe (*Limnocryptes gallinula*).

Mr. C. B. Rickett announced that he had received from Mr. La Touche news of the discovery of a new species of Jay in Northern China. Owing to the disturbed conditions, it had been deemed unsafe to commit the type-specimen to the post.

Mr. La Touche had forwarded the following description of the new Jay which he proposed to name :—

Garrulus diaphorus *, sp. n.

Head and hind-neck rufous, washed with vinous. The feathers of the forehead and crown with broad black shaft-streaks, but less heavily marked than in *G. brandti*. Back and scapulars grey with a strong wash of vinous. Secondaries barred blue and black at their base, with a varying amount of pure white on the outer webs of the speculum thus formed. Primaries partly edged with whitish-grey, the edging on the second primary beginning about 6·5 to 7·5 mm. from its base, and from 17 to 25 mm. from the base of the third primary, the edging of the other primaries being much as in *G. sinensis*. The 10th primary is spotted with blue, as also the base of the 8th and 9th, and both in the type and in a second specimen there are blue marks on the inner edge of the innermost white primary edging. In one example, the speculum on the secondaries has a little white only towards the apical part. The innermost secondary is chestnut on the inner web and on part of the outer web. The underparts are much as in *G. sinensis*, but the throat is whitish as in *G. brandti*. Bill smaller than in either of the allied *G. brandti* and *G. sinensis*. Wing 176, 177, and 180 mm.

This bird is intermediate between *Garrulus brandti* and *G. sinensis*. The upper parts and head are like those of the northern bird, but with a strong tinge of vinous colour, while the wing bears a strong resemblance to that of the southern species.

* [It is probable that when an opportunity occurs of comparing the bird more closely, it will prove to be merely a subspecies.—Ed.]

Hab. North-east Chihli, China.

The type is in the collection of Mr. J. D. La Touche.

Obs. Three examples, in which the sex was not ascertained, were captured in January 1915.

Mr. Claude H. B. Grant sent the descriptions* of the following nine new subspecies of birds from Africa, which he proposed to name :—

Centropus grillii wahlbergi, subsp. n.

Female (*vix adult*). In size it is similar to *C. g. grillii*, but differs from that race in having the entire head, except for the ear-coverts, glossy blue-black, without the green sheen, but not of quite so deep a blue as is shown in the type of *C. g. cœruleiceps*; the blue head is sharply defined, not merging gradually into the colour of the back; the mantle is chestnut, rather darker than the wing-coverts, but altogether lacking the dark coloration of the Nyasaland bird.

Culmen 27 mm.; wing 173; tail 189; tarsus 38.

Hab. Natal, ranging to the Eastern Transvaal.

Type in the British Museum: ♀ ad. vix (No. 7388). Umslango, Port Natal, 28. xi. 40. Ex Wahlberg coll.

Indicator minor alexanderi, subsp. n.

Adult male. Similar in size to *I. m. minor*, from which it differs in having the top of the head and nape of a clearer grey, without the olive wash, the whole of the underparts clear grey, likewise without any olive tinge. The markings on the wings and back rather more clearly defined and brighter in colour.

Culmen 12 mm.; wing 95; tail 64; tarsus 11.

Hab. Gold Coast Colony.

Type in the British Museum: ♂ ad. Gambaga, Gold Coast Hinterland, 28. xii. 00. Boyd Alexander coll.

* [The following descriptions of new birds are inserted under the first paragraph of the addition to Rule VI. of the British Ornithologists' Club (*vide* Bull. B. O. C. xxxv. 1915 p. 40).—Ed.]

This new Honey-guide is named in honour of the late Mr. Boyd Alexander (Rifle Brigade).

Indicator exilis leona, subsp. n.

Adult male. Differs from *I. e. exilis* in its smaller size and in having the mantle more uniform olive, the markings being only faintly indicated; the top of the head is slightly darker, and the under-surface is of a deeper tone, especially on the chest. From *I. e. willcocksi* (which separates the geographical distribution of the new race from that of *I. e. exilis*) it differs in having a more uniform back and considerably darker underparts, which are not streaked.

Culmen 10 mm., wing 70, tail 43, tarsus 11·5.

Hab. Sierra Leone.

Type in the British Museum: ♂ ad. Sierra Leone, 7. iii. 11. W. P. Lowe coll.

Indicator exilis ansorgei, subsp. n.

Adult male. Differs from *I. e. exilis* in having the upper-parts less strongly marked, the head paler grey without the olive wash, and the whole under-surface greyer and paler. From *I. e. poensis*, to which it is very similar in colour, it is distinguished by its much larger size.

Culmen 10·5 mm.; wing 80; tail 48; tarsus 12·5.

Hab. Portuguese Guinea.

Type in the British Museum: ♂ ad. Gunnal, Portuguese Guinea, 4. vi. 09. W. J. Ansorge coll.

This new race is named in honour of the late Dr. W. J. Ansorge.

Pogoniulus chrysoconus rhodesiæ, subsp. n.

Adult male. Forehead-patch golden-yellow, similar in colour to *P. c. extoni*, but perhaps on the average rather larger; rest of upper-parts similar to *P. c. extoni*. Throat deeper whitish-green, breast and abdomen as in *P. c. extoni*, but distinctly washed with yellow, much warmer and richer in tone on comparison, but not in any way approaching the bright greenish-yellow under-parts of *P. c. centralis*.

Culmen 13 mm.; wing 61; tail 33; tarsus 14.

Hab. Northern British Nyasaland, westwards to North-eastern Rhodesia, East Belgian Congo, and North Angola, north to west of Lake Tanganyika.

Type in the British Museum: ♂ ad. Chambezi Valley, North-eastern Rhodesia, 6. v. 08. S. A. Neave coll.

Dendropicos fuscescens cosensi, subsp. n.

Adult male. Similar in size to *D. f. massaicus* or *D. f. hemprichii*, but differs from both in the general isabelline coloration of the dark markings, both above and below; the white barring of the mantle and wings is also tinged with isabelline. Basal half of the upper tail-coverts golden-isabelline, the apical half red.

Culmen 19 mm.; wing 81; tail 36; tarsus 15.

Hab. Senegal.

Type in the British Museum: ♂ ad. Senegal. R. B. Sharpe coll.

This new race is named in honour of Capt. G. P. Cosens.

Dendropicos lafresnayi loandæ, subsp. n.

Adult male. Differs from *D. l. lafresnayi* in having the green of the back very similar in colour to *D. a. hartlaubi*, and in having the mantle always barred, the barring being rather less indistinct than in either *D. l. lafresnayi* or *D. a. hartlaubi*; the rump is tinged with red; the abdomen is less streaked, and these markings are narrower, than in either *D. l. lafresnayi* or *D. a. hartlaubi*.

Culmen 19 mm.; wing 85; tail 43; tarsus 14.

Hab. Loanda District, Portuguese West Africa.

Type in the British Museum: ♂ ad. Loanda, Portuguese West Africa, v. 69. J. J. Monteiro coll.

Thripias namaquus intermedius, subsp. n.

Adult male. Differs from *T. n. namaquus* in having the auricular patch as in *T. n. schoensis*, and from this latter in having the chest as in the typical form.

Culmen 35 mm.; wing 137; tail 69; tarsus 22.

Hab. Northern German East Africa and Southern Uganda.

Type in the British Museum: ♂ ad. Ugogo, German East Africa. Ex Kirk coll.

Jynx ruficollis cosensi, subsp. n.

Adult male. Similar in coloration to the typical form, from which it differs in its larger size, wing 94–101 as against 90–95 mm. From *J. r. pulchricollis* it is distinguished by having the throat uniform reddish-brown like the neck.

Culmen 19 mm.; wing 97; tail 73; tarsus 21.

Hab. British East Africa and Uganda.

Type in the British Museum: ♂ ad. Amala River, 5400 ft., 18. x. 12. Willoughby P. Lowe coll.

This subspecies is named in honour of Capt. G. P. Cosens, the leader of the Expedition.

The Editor urgently requests Members who have MSS. for publication to place them in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 14th of April, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 31 Argyll Road, Kensington, W.]

(Signed)

W. Rothschild, *Chairman.* D. A. Bannerman, *Editor.* P. R. Lowe, *Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Institution
MAY 17 1915
National Museum

No. CCVI.

The two-hundred-and-third Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 14th of April, 1915.

Chairman: E. G. B. Meade-Waldo.

Members present :—E. C. Stuart Baker; D. A. Bannerman, B.A. (*Editor*); E. Bidwell; S. Boorman; C. Borrer; P. F. Bunyard; H. J. Elwes, F.R.S.; E. Gibson; E. Hartert, Ph.D.; Rev. F. C. R. Jourdain, M.A.; G. C. Lambert; P. R. Lowe (*Hon. Sec. & Treas.*); G. M. Mathews; H. Munt; T. H. Newman; C. E. Pearson; W. P. Pycraft; C. B. Rickett; W. L. Sclater, M.A.; D. Seth-Smith; C. F. M. Swynnerton; H. M. Wallis; H. F. Witherby.

The Chairman said that since the last Meeting of the Club we had to deplore the loss of one of our fellow-members of the British Ornithologists' Union—Lieutenant Lord Brabourne * (Grenadier Guards), who had fallen in France at the taking of Neuve Chapelle.

* An obituary notice of Lord Brabourne will appear in the next (July) number of 'The Ibis.'

Lord Brabourne was engaged in writing, in conjunction with Mr. C. Chubb, the 'Birds of South America,' and when war broke out was collecting in Peru. He was well known to many members of the Club, and his loss to ornithology would be very deeply felt.

The Chairman moved that a vote of condolence from the members of the British Ornithologists' Club should be sent to Lord Brabourne's family, and this proposal was carried unanimously.

Mr. D. A. Bannerman exhibited some rare birds from the Cameroon Mountains, including a new Puff-backed Shrike and the undescribed male of *Nesocharis shelleyi*, and made the following remarks :—

"The birds which I have brought for exhibition to-night were obtained by the late Mr. Boyd Alexander on the famous Cameroon Mountain, which reaches an elevation of over 13,000 feet. A full report on this fine collection will appear in the next number of 'The Ibis,' and I thought, therefore, that you might care to see some of the very rare species which Alexander obtained.

"Cameroon Mountain, like Ruwenzori and other great African mountains which attain to a great altitude, can be divided into various zones ; and, as Alexander commenced at the foot and collected right up to the peak, he secured a representative collection from every altitude.

"Unfortunately the elevation at which particular species were obtained is mentioned in one or two cases only, and it is therefore less easy to define the zoological zones with the same accuracy that it is possible to determine the zones of vegetation ; but this will be gone into as fully as possible in my paper."

Examples of the following species were then exhibited :—

Turdus crossleyi.—This Thrush has been obtained only once before—in 1871 by Crossley—on the Cameroon Mountains. Neither Sjösted, Sir Harry Johnston, Burton, nor Zenker met with it.

Turdus nigrilorum.—Another rare Thrush, confined to the Cameroon Highlands and closely allied to the Senegambian Thrush.

Cinnyris oritis.—A beautiful Sunbird, confined to the Cameroon Mountain, which Alexander notes is a rare species, found only in the forest.

Campothera tullbergi.—A very rare Woodpecker, discovered by Sjösted in the high forests; the two examples obtained by Alexander are the first to reach England.

Barbatula coryphæa.—A peculiar Barbet, discovered by Dr. Preuss. Also new to the National Collection.

Alseonax murinus obscurus.—A form of Flycatcher, known only from Cameroon Mountain. It is closely allied to the typical East African species.

Saxicola salax pallidigula.—A very fine Chat, inhabiting Cameroon Mountain and the Manenguba Mountains. The Manenguba Range lies about 80 miles north-east of the Cameroon Mountain, with which it is connected by a forested ridge, 4000 feet in height, and which probably accounts for this Chat, *Linurgus olivaceus,* and *Cinnyris preussi,* which were hitherto believed to be confined to Cameroon Mountain, being found in the Manenguba Mountains also.

There are many rare species in the collection, some of which have already been exhibited here and described in the 'Bulletin,' and there is another which I have to describe now. This is a Puff-backed Shrike, which is intermediate between *Dryoscopus angolensis* and *D. a. nandensis*, and which I propose to name

Dryoscopus angolensis cameroonensis, subsp. n.

Adult male. Differs from *D. angolensis* in having the blue of the head and nape extending on to the mantle, as in *D. a. nandensis*, and in not being cut off sharply from the mantle as in *D. angolensis.* The blue colour of the head and nape is not so intense in colour. The size is about the same.

From *D. a. nandensis*, to which it is most nearly allied, it is distinguished by having the general colour of the upper-parts (excepting the head) greyer, particularly on the mantle, wings, and tail. The head and nape are darker blue, and lack the grey wash of *D. a. nandensis*—moreover, this colour extends further on to the mantle. The sides of the body and flanks are strongly washed with French grey, of a more intense colour than even in *D. angolensis*. This character is practically absent in *D. a. nandensis*. In size *D. a. cameroonensis* is decidedly smaller than *D. a. nandensis*, the wing measuring 82 mm., as compared with 87–90 in the East African form. Culmen (exposed portion) 19 mm.; wing 82; tail 61 (from the base of the middle tail-feathers); tarsus 24.

Hab. Cameroon Highlands.

Type in the British Museum: ♂ ad. (No. 1). Cameroon Mountain, 11. v. 09. Boyd Alexander coll.

Alexander also obtained a male and female on Cameroon Mountain of a bird which has up till now been known from the type only—a female in the British Museum Collection. This is *Nesocharis shelleyi* Alexander, which was described in the 'Bulletin of the British Ornithologists' Club,' xiii. 1903, p. 48—Alexander having obtained it in Fernando Po. This bird, which will be figured in the next 'Ibis,' is most nearly allied to *Nesocharis ansorgei*, described from Toro by Dr. Hartert, and figured in the Report of the Ruwenzori Expedition.

As the male is very different from the female, I propose to describe it as follows :—

Nesocharis shelleyi Alexander.

Adult male. Entire head and upper part of the throat jet-black; a wide grey band on the nape dividing the black head from the rest of the upperparts, which are golden-olive becoming brighter on the rump. Upper tail-coverts, which extend over two-thirds of the tail, golden-yellow; tail black. Primaries very dark brown margined on the outer web with golden-olive; under wing-coverts white. Lower part of the

throat and breast golden-olive; belly, flanks, and under tail-coverts dark French grey, darker than in the female.

The specimen described is in the British Museum: ♂ ad. (No. 4). Cameroon Mountain, 10. iv. 09. Boyd Alexander coll.

Dr. van Someren sent the description of a new subspecies of *Apalis* from Uganda, which he proposed to name

Apalis nigriceps collaris, subsp. n.

Adult male. Crown, sides of the head, and ear-coverts deep glossy black; crop-band black, diamond-shaped, the lateral apices tapering; throat and underparts white, the flanks slightly tinged with cream-colour; under tail-coverts white. A distinct bright yellow band separates the black of the crown from the golden-olive of the back; coverts and secondaries edged with golden-olive; primaries blackish edged with grey; rump golden-olive; upper tail-coverts grey, strongly washed with golden-olive, or uniform golden-olive; middle pair of tail-feathers dark grey with cross-bars of a darker shade, tips white; next pair black with white inner webs; three outer pairs pure white.

Iris brown or reddish-brown, bill black, legs flesh-colour Wing 45–46 mm.

Immature male. Similar to the above, but with the black of the crown intermixed with grey. The black crop-patch indicated by a few black feathers; breast washed with pale yellowish; abdomen distinctly cream-coloured; back less golden-olive; upper mandible black, lower mandible pale horn-grey; legs not so bright.

Adult female. Similar to the immature male, but the bill is black; crown and ear-coverts grey; nape-band and back not so bright as in the adult male; under surface slightly greyer. Wing 44–45 mm.

Immature female. Somewhat similar to the adult female, but the under surface washed with yellowish; the head not so grey, and washed with olive.

Hab. Uganda (Mabira, Kyetume, Bugoma, and Ituri forests).

Type in the Tring Museum: ♂ ad. Bugoma forest, 16. x. 13. Dr. van Someren coll.

Obs. This bird differs from *Apalis n. nigriceps* in the colour of the upper surface, upper and under *tail-coverts*, and tail.

Mr. H. F. Witherby exhibited three young Black-necked Grebes, and remarked that he had often been struck by the different appearance of young Grebes in down-plumage at different ages. When the bird was very young the down appeared to be finer and shorter and the colour-pattern more definite than when the bird grew older. At one time Mr. Witherby had thought that this might be due to a second plumage of down, but an examination of a series of young Black-necked Grebes of different ages, which he had collected in Hungary in 1914, showed that this was not so.

Mr. Witherby pointed out that, although the older birds appeared to be clothed entirely in down, the feathers which succeeded the down were in reality more than half-grown, but were entirely concealed by the down, which adhered to them all over the body in a remarkably persistent way. The feathers grew very regularly, and gradually pushed up the down, which thus appeared to grow longer and, by becoming more separated, tended to break up the colour-pattern. In most young when the feathers began to grow a good deal of the down was soon rubbed off and the feathers were revealed at an early stage in their growth.

Mr. C. F. M. Swynnerton read a paper * on "The Coloration of the Eggs of Birds and of the Mouths of Nestlings." He had experimented on certain egg-enemies, and they had shown marked preferences—refusing certain eggs, while accepting others. This suggested a reason why certain conspicuous nests and eggs escaped complete destruction. Thus, too, the distinctive appearance of eggs

* [A full account of the experiments and of the results arrived at will appear in a future number of 'The Ibis.'—Ed.]

and of the mouths of nestlings might have been acquired to enable enemies to distinguish unacceptable eggs from eggs for which they were sufficiently hungry at the moment.

It was possible, also, that the coloration of the groups of eggs laid in holes (such as the white eggs laid by Picarian birds, Martins, etc., and white eggs with pink spots laid by Tits, Nuthatches, etc.) could not only be explained by the already-accepted theories, but might be accounted for by their distastefulness to enemies, each group centring round a well-known and usually unacceptable "model." This "model" (*i. e.* the species or group mimicked) might in one case be the Tits and in another the Picarians.

The possibility of "mimicry" in eggs must be treated with the greatest caution, as pure coincidence in coloration was so general a phenomenon; yet the polymorphic eggs of certain Weavers might possibly, in Mr. Swynnerton's opinion, be a case of mimicry. Many of the apparent "models," which the eggs of these Weavers resembled so closely, had been tested and found to be distasteful. The eggs of Tits, some Warblers, and some Wagtails were also unpalatable. The fact that Wagtails' eggs were sometimes unacceptable suggested the possibility that the attacks of enemies might even have contributed largely to mimicry in Cuckoos' eggs.

Mr. Swynnerton further exhibited enlarged coloured drawings of the mouths of certain African nestling-birds, illustrative of his theory that there was a strong warning element in the coloration. Resemblances, probably in part due to mimicry, were pointed out between the mouths of unrelated nestlings, such as that of *Hyphantornis jamesoni* and a *Chrysococcyx* found in the latter's nest; and, again, the resemblance between the mouths of *Chloropeta natalensis* and such Warblers as *Prinia mystacea* (experimentally found to be unpleasant) and *Cisticola cinerascens*.

Dislike was shown for a nestling of *Centropus burchelli*

with perhaps the most distinctive mouth of all, by a lemur and a cat.

[Many other instances were given, which through lack of space it is impossible to quote, but which seemed to bear out Mr. Swynnerton's theory on this subject.—Ed.]

Mr. Stuart Baker, referring to the first part of Mr. Swynnerton's paper, remarked that he thought Mr. Swynnerton's experiments formed a most interesting basis for further research, but that he personally did not place very much weight on his theories. Although he had never made any experiments with egg-eating animals and birds, he had kept many such and had never noticed that they distinguished in any way between the eggs offered them.

In refutation of the theory that the evolution of Cuckoos' eggs was carried out by the elimination of those resembling eggs which tasted best, and consequent survival of those which were most nauseous, he gave instances showing that such was not the case. He pointed out that some of the most remarkable cases of evolution in Cuckoos' eggs at present known had consisted merely of an alteration in resemblance from one egg to another, though both of these latter were, equally, very popular articles of diet amongst most, if not all, of the enemies against which they had to contend. He suggested that Mr. Swynnerton's theory of evolution by elimination overlooked the fact that Nature nearly always acted on the broadest lines. In this particular case, the one ever-present danger was detection by the foster-parent, whereas the chance of detection by an enemy was considerably more remote. It was, therefore, more profitable for Nature to eliminate individuals which incurred the former danger rather than those which incurred the latter.

Again, Mr. Swynnerton's theory was self-contradictory, in that it allowed the powers of discrimination to those birds which preyed upon eggs and refused the same power to the birds selected as foster-parents by the Cuckoos. If, as he suggested, the enemies could distinguish eggs by their sight,

smell, and taste, how was it that the foster-parents could not do the same?

He further remarked that parallel evolution was a constant cause of similarity between species of different genera, a point which did not seem to have been considered by Mr. Swynnerton at all.

The Rev. F. C. R. Jourdain said that, from observations made in the field in England, the egg-eating birds showed no discrimination of colour, but devoured all kinds found by them. Thus the Hooded Crow has been known to devour the eggs of species differing widely in colour and markings, such as those of the Red Grouse, Wood-Pigeon, Cormorant, Black-throated Diver, Heron, Gulls, and many others. Experiments made under purely artificial conditions formed a very uncertain foundation for theory, unless corroborated by field-observation.

Mr. D. Seth-Smith referred to the semi-luminous, bead-like, blue warts which are present on the sides of the base of the mandibles in the nestlings of certain species of birds, such as the Gouldian Grassfinch (*Poephila mirabilis*) and the Parrot-Finches (*Erythrura*). He remarked that these appeared to be necessary in order to indicate to the parent-birds where to place the food. When feeding the parent stood in the entrance-hole of the nest, excluding almost all light, and in this position the nestlings were nearly invisible, but when their mouths were opened these could be readily located by the presence of the blue beads which were placed, as it were, at each corner of a square.

In the discussion which followed, the Chairman, Dr. Hartert, Mr. Pycraft, and several other members took part.

In reply to various criticisms, Mr. Swynnerton added that, in thinking over the points which had been raised, he felt that mimicry in Cuckoos' eggs might often well have

come about by the action of the host only, the tendency to reject suspicious-looking eggs being regarded as selection's natural reply to special victimization by Cuckoos. The readiness to "sit on anything," on which he had laid stress, might mean no more, he now saw, than that the species in question had not been greatly victimized. The question could be experimentally tested. Even so, with unpleasantness present in the foster-parent's egg, enemies would have *contributed* to the likeness.

He thought that other criticisms were partly based on a lack of knowledge of the experiments, the results of which would be published in due course. It must be remembered that an enemy which was hungry would take anything ; this explained the desertion or removal by parents of their eggs when discovered.

Mr. D. A. Bannerman exhibited and drew the attention of Members to the copy of a comprehensvie work on North American Ornithology, which, as Editor of the 'Bulletin,' he had received from the University of the State of New York. This was entitled 'The Birds of New York,' part 2, by E. H. Eaton, and contained an account of all the birds known to inhabit that State. The book contained 106 coloured plates and over 300 species were figured, besides a number of good photographs depicting nesting-sites, &c.

The Discussion which it was intended to hold at the next meeting of the Club on "The Effect of Environment on the Evolution of Species," opened by Lord Rothschild, Ph.D., F.R.S., is unavoidably postponed until the June Meeting.

The Editor urgently requests Members who have MSS. for publication to place them in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 12th of May, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 31 Argyll Road, Kensington, W.]

(Signed)

E. G. B. Meade-Waldo, *Chairman.* D. A. Bannerman, *Editor.* P. R. Lowe, *Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCVII.

Smithsonian Institution
JUN 15 1915
National Museum

The two-hundred-and-fourth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 12th of May, 1915.

Chairman: E. Bidwell.

Members present:—H. G. Alexander; D. A. Bannerman, B.A. (*Editor*); R. Staples Brown; G. H. Dawson; H. O. Forbes, LL.D.; E. Gibson; E. Hartert, Ph.D.; Capt. C. Ingram; Sir H. Johnson; P. R. Lowe (*Hon. Sec. & Treas.*); G. M. Mathews; H. Munt; T. H. Newman; W. R. Ogilvie-Grant; Chas. Oldham; F. G. Penrose, M.D.; F. W. Proctor; C. B. Rickett; D. Seth-Smith; H. M. Wallis; H. F. Witherby.

Guests:—Dr. V. G. L. van Someren; Lieut. Eric Proctor.

The Editor will be obliged if Members who are serving in any branch of His Majesty's Forces (or who may know of any Member of the B. O. C. or B. O. U. now serving) will forward their names, together with details of rank, regiment, etc., to him at 31 Argyll Road, Kensington, W., so that a complete list may be compiled.

Dr. van Someren exhibited and described three new birds from Uganda, which he proposed to name

Cuculus mabiræ, sp. n.

Adult male. Similar to *C. jacksoni*, but the brown of the chin and throat much paler in colour, the remainder of the under surface not heavily barred with black, but almost uniform pale ochraceous with a few narrow, greyish-black, irregular bars. Wing 180 mm.

Hab. Mabira and Kasala Forests, Uganda.

Type in the Tring Museum : ♂ ad. Kasala Forest, 24. vi. 14. Dr. van Someren coll.

Obs. Two male examples were obtained.

Scoptelus pallidiceps, sp. n.

Adult male and female. Head pale brownish-white, the brownish colour extending well over the nape on to the neck. The under surface is very much greener than in *S. brunneiceps*, from which species it also differs in its larger size.

Hab. Mabira and Kasala Forests, Uganda; Mumias Forest, British East Africa.

Type in the Tring Museum : ♂ ad. Kasala Forest, 14. v. 14. Dr. van Someren coll.

Obs. Three male and three female examples were obtained.

Bleda exima ugandæ, subsp. n.

Adult male. Similar in general colour to *B. exima*, but lacking the yellow post-orbital spot and having the pre-orbital spot dull olive, not bright yellow; tail-feathers broadly tipped with bright yellow, excepting the middle pair, which may, or may not, be slightly tipped with yellow. Under surface brighter and the flanks darker; inner webs of the primaries and secondaries brighter yellow. Wing 115·5 mm.; bill shorter, measuring 12 mm. from the nostril. Feet grey (*not* yellowish).

Hab. Mabira Forest, Uganda.

Type in the Tring Museum : ♂ ad. Mabira Forest, 17. i. 14. Dr. van Someren coll.

Obs. Eight specimens were obtained.

Dr. Percy R. Lowe exhibited a specimen of a nestling in down of *Chionis minor*. He thought it was worth exhibiting, for, besides being probably the only specimen of its kind in the country, it might, in a sense, be said to be an historical specimen, having been obtained by the members of the 'Challenger' Expedition from Kerguelen Island in 1874. From that year until about a month ago it had been lying in the "spirit-room" at the Natural History Museum. When taken out of spirit and dried, the downy feathers seemed to be in such a good state of preservation that Mr. Ogilvie-Grant directed that Messrs. Rowland Ward should make a skin of it. That was accordingly done, and the result was a pretty good one, he thought, after forty years of soaking in spirit. The colour of the down was interesting, in being of a uniform greyish or drabby brown, with practically no indication whatever of any mottling, bars, or colour-pattern. Such a condition was anomalous as regards the nestlings of the Wader suborder, the only Limicoline nestling which was devoid of any actual colour-pattern being, as far as Dr. Lowe knew, the nestling of the Crab-Plover (*Dromas*).

The absence of colour-pattern in the nestlings of the two forms might reasonably be attributed to the anomalous positions in which the nests were found. Statements had been published to the effect that the nestling Sheathbill was hatched in a blind state. From an examination of embryos collected by the 'Challenger' Expedition, he was in a position to delare that such a statement must almost certainly be founded on error.

Dr. Lowe, after some further remarks on the habits of *Chionis*, then exhibited examples of the skulls of *Chionis*, *Stercorarius*, *Larus*, and *Hæmatopus*. It was generally stated, he said, that *Chionis* had affinities with the Gulls and Oyster-catcher, but, as regards its Larine relationships, he thought they were certainly justified in being more explicit, and that they might say that the osteological features of this interesting Plover pointed to a very distinct Skua-like

ancestry. Some of the points which justified such a conclusion he then briefly alluded to. It was interesting to note that these Skua-like osteological features were reflected in the Skua-like habits of the bird. Dr. Lowe had also brought for exhibition the skull of a Ruff (*Machetes pugnax*), which he contended proved beyond doubt that this Wader-form must be classed with the *Erolliinæ* (the Dunlin group) rather than with the *Tringinæ* (the Redshank group). He exhibited typical skulls of these two groups for purposes of comparison. As he was shortly publishing some notes on these various points in 'The Ibis,' he would not amplify his remarks on the present occasion.

Mr. D. A. Bannerman exhibited specimens of the large Shearwater inhabiting the North Atlantic islands, which had hitherto been considered identical with *Puffinus kuhli flavirostris* (Gould) of the Cape seas, and said :—"In 'The Ibis' for July 1914, I published a paper on the nidification and the distribution of the Tubinares in the North Atlantic islands. Since this paper appeared my attention has been called by Mr. Iredale to the significant fact that the type of *Procellaria flavirostris* Gould was obtained by Governor Grey in latitude 36° 39′ S., long. 10° 3′ E.—that is to say, south of the Cape of Good Hope. The name has been applied by Dr. Hartert, myself, and all recent ornithologists to the bird, which has its habitat in the North Atlantic islands, and which breeds extensively on the Canary Islands, Salvages, Madeira Group, and Azores (*vide* 'Ibis,' 1914, p. 146).

"In the British Museum there are two birds from Kerguelen-land obtained by the 'Challenger' Expedition, and referred by the late Dr. Sharpe, in the 'Transactions of the Royal Society,' extra vol., 1874, p. 122, to *Puffinus kuhli*. To these examples Gould's description of *P. flavirostris* applies perfectly, and it must be noticed that the birds were obtained near the type-locality of *Procellaria flavirostris*.

"An examination of these specimens reveals the fact that they differ markedly from specimens obtained in the North Atlantic islands in having

"(1) The bill very much more slender and differently shaped in several ways, which is best seen by glancing at the diagram (text-fig.).

Fig. 1.

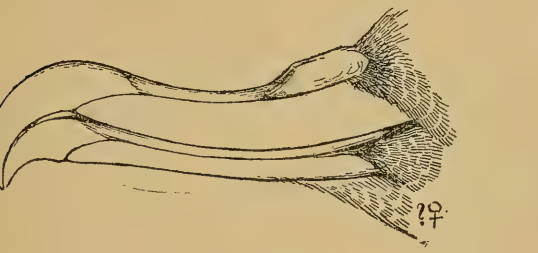

Fig. 2.

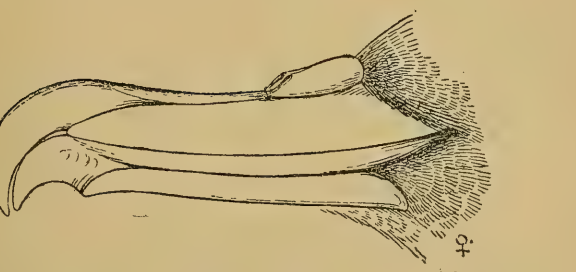

Fig. 1.—*Puffinus kuhli flavirostris* (Gould). Nat. size.
Fig. 2.—*Puffinus kuhli fortunatus* Bannerman. Nat. size.

"As is well known, the bill in male examples of the North Atlantic Shearwater is distinctly larger and generally more robust than in the female.

"In the specimens from Kerguelen the sex has not been ascertained, but the bill is much more slender and less robust than in *female* examples from the North Atlantic.

"I believe the birds from Kerguelen to be females, but should this supposition prove to be incorrect, then the difference in the size of the bill between the two forms will be even more striking still.

"(2) The birds from the South Atlantic are apparently distinctly smaller, with wings measuring 340–348 mm., whereas female examples from the North Atlantic average much more, the wings of certain birds reaching 367 mm.

"Both the differences which I have mentioned were noted by Sharpe, who did not consider the birds merited specific distinction; but Sharpe 'lumped' all the forms of this Shearwater together.

"An important fact which must be considered is that there is yet another race of Kuhl's Shearwater inhabiting the Cape Verde Islands—known as *Puffinus kuhli edwardsi* Oust.,—and the range of this bird lies between that of *P. k. flavirostris* in the Cape seas and the other form of *Puffinus kuhli* inhabiting the North Atlantic islands.

"If we apply Gould's name to the Cape bird, which we must do, we are left without a name for the Shearwater from the North Atlantic, and I therefore propose to name it

"**Puffinus kuhli fortunatus, nom. n.**

"*Hab.* Azores, Madeira Group, Salvage Islands, and Canary Islands.

"Types in the British Museum: ♂ ad., 1. vi. 13.; ♀ ad., 29. v. 13. Isla Graciosa, E. Canary Is. D. A. Bannerman coll.

"*Obs.* We have therefore five named races of *P. kuhli* as follows:—

"1. Puffinus kuhli kuhli (Boie).

"Type-locality, Corsica.

"*Hab.* Mediterranean, Adriatic, Ægean, Sea of Marmora.

"2. Puffinus kuhli fortunatus Bannerman.

"Type-locality, Gran Canaria (Canary Is.).

"*Hab.* Azores, Madeira Group, Salvage Is., Canary Is.

"3. Puffinus kuhli edwardsi Oust.

"Type-locality, Branca (Cape Verde Is.)

"*Hab.* Cape Verde Archipelago.

"4. Puffinus kuhli flavirostris Gould.
"Type-locality, 36° 39′ S., long. 10° 3′ E.
"*Hab.* Cape Seas, possibly breeding on Kerguelen.

"5. Puffinus kuhli borealis Cory.
"Type-locality, Chatham Isl., Cape Cod, Mass.
"*Hab.* Eastern Coast of North America."

Mr. G. M. Mathews sent the following description of the eggs of

Morganornis superciliosus gwendolenæ Mathews.

The clutch consists of three eggs, having a ground-colour of stone, marked all over with heavy blotches of dark brown; very few of the lines so characteristic of the eggs of the genus are present.

Measurements: 21 × 16 mm.

The clutch was collected by Mr. Tom Carter (who also obtained the type of the subspecies) on the 23rd of September, 1913, at Camarvon, West Australia. These eggs differ considerably both in coloration and measurements from the eggs of the other subspecies of *M. s. superciliosus*.

The Editor wishes to state that, in his summary, published in the last number of the 'Bulletin,' of Mr. C. F. M. Swynnerton's remarks, there are one or two points which the Author would have wished to qualify, but, owing to Mr. Swynnerton's MS. having to be considerably condensed, this was not possible. The Editor therefore is responsible if the account does not clearly convey Mr. Swynnerton's ideas, and Members are advised to defer their judgment of his theories until Mr. Swynnerton's paper on the same subject has appeared in 'The Ibis.'

The Chairman announced that at the June Meeting of the Club a Discussion would take place on "The Effect of Environment on the Evolution of Species," opened by Lord Rothschild, Ph.D., F.R.S.

The Editor urgently requests Members who have MSS. for publication to place them in his hands *not later* than the Meeting at which their communication is to be made.

The next Meeting of the Club will be held on Wednesday, the 9th of June, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 31 Argyll Road, Kensington, W.]

(Signed)

E. Bidwell, *Chairman.* D. A. Bannerman, *Editor.* P. R. Lowe, *Sec. & Treas.*

Smithsonian Institution
1915
National Museum

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCVIII.

The two-hundred-and-fifth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, the 9th of June, 1915.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. S. Baker; D. A. Bannerman, B.A. (*Editor*); E. Bidwell; C. D. Borrer; S. Boorman; R. S. Browne; P. F. Bunyard; E. Gibson; Rev. J. R. Hale, M.A.; E. Hartert, Ph.D.; Rev. F. C. R. Jourdain, M.A.; P. R. Lowe (*Hon. Sec. & Treas.*); G. M. Mathews; H. Munt; W. R. Ogilvie-Grant; F. R. Ratcliff; R. H. Read; C. B. Rickett; W. L. Sclater, M.A.; C. Swinhoe.

Guests:—C. E. Fagan, I.S.O.; P. B. Smythe.

The Chairman said that at a Meeting of the Committee which had been held that morning several important questions had been discussed which he would now lay before the Members present.

He regretted to announce that the Editor—Mr. D. A. Bannerman—was compelled to resign his office at the

conclusion of this Session, as he was shortly going to France, taking a motor ambulance in the service of the Red Cross. The Committee had therefore decided to ask Mr. D. Seth-Smith to undertake the duties of Editor of the 'Bulletin' for the next Session.

The Chairman made the further announcement that after careful deliberation the Committee had decided to increase the Club subscription from 5*s.* to 7*s.* 6*d.* per annum, subject to the approval of the Members present. The reasons which had prompted the Committee to take this step were briefly as follows:—

At the December meeting* it had been unanimously decided to increase the scope of the Club by holding Discussions during three evenings in the Session; the bulk and value of the 'Bulletin' had therefore materially increased, and consequently the cost of printing it. The Chairman said that he could testify to the popularity of this change in their policy, as he had received various letters from members of the Club expressing their great appreciation of this new institution. Secondly, it had been the custom in the past to make an allowance for useful work carried out under the auspices of the B. O. C.—such as the grant given for the last ten years to the Migration Committee and other similar grants. Unless the present subscription was slightly increased, the Club would in future have to refuse to undertake any work of this kind. Thirdly, it was hoped soon to issue another General Index to the 'Bulletin,' of which the cost would be considerable; this would not be possible unless the balance in hand was increased. The Committee therefore confidently asked the Members to increase their subscription by 2*s.* 6*d.*, which would place the Club on a sound financial basis.

The motion was then proposed by Lord Rothschild and seconded by Mr. Bannerman, "that the annual subscription should be increased to 7*s.* 6*d.*"; and after a short discussion this was carried by a large majority.

* [*Vide* Bull. B. O. C. xxxv. pp. 31, 32, 40, 41.]

Mr. H. Munt had been chosen to audit the accounts of the Club, in the place of Mr. D. Seth-Smith.

The Chairman announced that the first Discussion of the next Session would take place at the November Meeting on :—

"The Bearing of Oology on Systematic Ornithology."

Opened by the Rev. F. C. R. Jourdain, M.A.

Opposed by Dr. E. Hartert.

The Rev. F. C. R. Jourdain exhibited a nest of the Serin Finch (*Serinus canarius serinus*) taken at Vejer de la Frontera, Spain, on May 8, 1915, in which a row of black feathers projected perpendicularly upward from the interior of the nest to a height of over $1\frac{1}{2}$ inches, thus forming a screen which effectually concealed the sitting-bird. No other Serin's nest examined by the speaker showed any sign of this unusual construction.

Mr. Jourdain also read a letter from Mr. H. M. Upcher to Mr. Witherby, in which he stated that a friend had twice seen a Cuckoo lay its egg on the grass and place it in a Wagtail's nest by means of its bill. It was generally agreed that this method is frequently adopted by the Cuckoo, and that in the case of such species as the Willow-Wren, Wren, Goldcrest, Tit-mice, etc., no other process would be possible.

Dr. van Someren sent for exhibition six new birds from Uganda, which he proposed to name

Turdinus ugandæ, sp. n.

Adult male. Most nearly allied to *T. fulvescens* of Cassin and of Bates ('Ibis,' 1907), but differs in having the throat pure white, not sharply differentiated, but merging gradually into the grey on the side of the head and the olive-brown of the breast. In *T. fulvescens* the throat is grey with distinct

dusky shaft-streaks. In *T. ugandæ* the underparts are paler and less brownish than in either *T. fulvescens* or *T. reichenowi*.

Hab. Uganda Forests.

Types in the Tring Museum : ♂ ad., Sezibwa River Forest, 16. xi. 14 ; ♀ ad., Mabira Forest, 30. iv. 14. Dr. van Someren coll.

Obs. It may be pointed out that the bird referred to above as *T. fulvescens* is the species which, until Bates drew attention to it ('Ibis,' 1907), was known as *T. cerviniventris*. These birds have long tails. The pale-breasted bird, which has been erroneously recognised as *T. fulvescens*, must now be called *T. rufipennis* of Sharpe, the type of which is in the British Museum. I am convinced that the Uganda birds, which are *very* similar to *T. rufipennis*, are really quite distinct, and that *T. barakæ* Jackson should be recognised as a subspecies.

Turdinus albipectus minutus, subsp. n.

Adult male. Very similar to *T. albipectus* Reich., but very much smaller, with the back not so rust-coloured and the middle of the under-side of a less pure white colour. Wing 65 mm.

Hab. Mabira Forest, Uganda.

Type in the Tring Museum : ♂ ad. Mabira Forest, 2. x. 13. Dr. van Someren coll.

Macrosphenus flavicans ugandæ, subsp. n.

Adult male. Very similar to *M. f. flavicans*, but darker, richer yellow on the under-side. Wing 63 mm.

Hab. Uganda Forests.

Type in the Tring Museum : ♂ ad. Mabira, 14. i. 14. Dr. van Someren coll.

Obs. A dozen specimens were collected ; all show the distinguishing characters. The specimens of this bird collected by the Ruwenzori Expedition were referred to *M. f. flavicans*.

Chlorocichla gracilirostris chagwensis, subsp. n.

Adult male. Very like *C. g. gracilirostris,* but greyer on the under-side with an olive wash; the throat greyish, not white or yellowish, and slightly brighter green above. Under wing-coverts much brighter yellow. Wing, ♂ 83–87 mm., ♀ 78–83.

Hab. Uganda Forests.

Type in the Tring Museum: ♂ ad. Nazigo Hill, Chagwe Province, 20. x. 14. Dr. van Someren coll.

Obs. The range of this subspecies meets with that of *C. gracilirostris percivali* Neum. on the borders of Mt. Elgon. Eighteen specimens were obtained.

Andropadus ugandæ, sp. n.

Adult male. Intermediate between *A. gracilis* and *A. minor*, but differs from both in having the throat and breast greyish, the upper-side more olive, the tail more rust-coloured, and the upper and lower eyelids white. Wing 65–70 mm.; bill (from nostril) 7; tail 70; tarsus 15.

Hab. Kasala and Mabira Forests, Uganda, east to Mount Elgon.

Types in the Tring Museum: ♂ ad., 20. iv. 14; ♀ ad., 7. ii. 14. Mabira Forest. Dr. van Someren coll.

Obs. A large series was procured. Much confusion exists in connection with these forest Bulbuls; I have taken the opportunity of looking over the series in the British and Tring Museums before coming to a definite conclusion regarding the bird just described.

Chlorocichla indicator chlorosaturata, subsp. n.

Adult male. Very similar to *C. i. indicator*, but more greenish-olive above and very much darker grey below, each feather on the under-side being dark grey edged laterally with olive-green, middle of the abdomen darker ochraceous.

Wing, ♂ 102–107 mm., ♀ 99–102.

Hab. Uganda Forests.

Type in the Tring Museum: ♂ ♀ ad. Kyetume Forest, 7. xii. 14. Dr. van Someren coll.

Obs. Before naming this bird I have examined all the members of this group in the British and Tring Museums. The characters of this subspecies are found to be constant.

The remainder of the evening was devoted to a Discussion on

"The Effect of Environment on the Evolution of Species."

The Chairman *: It is much less easy, at the present day, to discuss Environment and its influence on Evolution than it was a few years ago, owing to the experiments carried out in connection with the study of the "Mendelian Law." This study and the experiments connected with it have led many biologists to the conviction that all variation is fortuitous, and that the fixity of certain types and the continuance of evolution are entirely due to the action of the Mendelian Law. It would take much longer than the time at my disposal to discuss adequately these experiments, or to explain why the exponents of "Mendelism" have, in many instances, come to the conclusions which they expound. In this discussion I propose to follow the lines of reasoning which have led to my personal conclusions, and to leave it to others to prove or disprove these conclusions as well as they are able. It is my opinion that climatic and other local conditions start the variation, and that the Darwinian law of the survival of the fittest directs and maintains this variation, but that the Mendelian law, by hastening the process of evolution in the direction in which it began, finally completes the process. Many obstacles appear in the path of the student, for it is, at this late stage in biological evolution, often impossible to trace the lines on which it has taken place, and therefore very difficult to determine which factors in environment have acted in a given case.

* A list of the specimens exhibited by Lord Rothschild to illustrate his address is given on pp. 140–142.

For instance, it very often happens that insular isolation, or isolation on a mountain, has had a much greater effect than transference on a continent. The conclusions to be drawn therefrom may be entirely upset by the discovery of a most aberrant and much more specialized type on a continent, which type may be, moreover, living under conditions *apparently* little different from those of allied species. Let us take the case of the gigantic land-tortoises, confined in recent times to two isolated island-groups. It might be, and at one time was thought, that these creatures attained their gigantic development on these islands on account of their lack of enemies. The discovery, however, in both recent and ancient strata, of numerous fossil forms of tortoises, some quite as large and in many instances larger than those at present existing, has shown that these great forms were world-wide, and that they have merely survived on these islands, but did not originate there.

It is a curious fact that on oceanic islands, where certain conditions prevail, there is a strong tendency shown in birds of many widely-separated groups to lose not only the power of flight, but in many cases the development of the sternum carrying the flight-muscles. Again, certain groups also have lost portions of the actual bony structure of the wing, or have the whole wing degenerating in size. We find on the islands south of New Zealand, parrots, ducks, and rails becoming quite powerless as regards flight; while in New Zealand itself, in recent times, there existed a whole series of birds incapable of flight, in which the actual wings, as well as the shoulder-girdle, had disappeared. On the Mascarene Islands pigeons, parrots, ducks, rails, and several other birds were found to be entirely deprived of the power of flight. On the other hand, in various orders of animals similar cases are found, which apparently owe their parallel development to the necessity of searching for food rather than to factors in their immediate environment. I refer to the penguins among birds, seals among mammals, and turtles among reptiles. In each of these the limbs have been transformed from instruments of flight or ambulation

into screw-paddles for rapid swimming; while in the sea-snakes the tail has been transformed for a similar purpose.

Among the many phenomena connected with evolution none have aroused greater interest than so-called "Mimicry" and "Protective Resemblance," and these call for special attention at the present moment, since they are denied by the extreme "Mendelians."

Even before this attitude of the "Mendelians" a number of biologists adopted a hostile attitude to "Mimicry," owing to the extravagant assertions made by many of its supporters. Some of them went so far as to say that the variation necessary to bring about "Mimicry" and "Protective Resemblance" was to a great extent voluntary on the part of the organisms involved. This, of course, is pure imagination. In our own branch of ornithology, we have an almost negligible number of instances which can be brought under the heading of "Mimicry"—in fact, the only ones generally quoted are certain Cuckoos and the genus *Buchanga*, the Moluccan and Papuan "Dusky Orioles," and the Honey-eaters called "Friar-Birds." The Cuckoos are apparently very evident cases of "Mimicry" for agressive purposes; but the object of the resemblance between the Dusky Orioles and Friar-Birds is far from clear.

On the other hand, cases of "Protective Resemblance" among birds are numerous, and certainly show clearly the effects of environment. In desert-regions the large majority of the birds are sand-coloured or else black; the latter so that they may be hidden in the shadows thrown by rocks and stones.

The evolutionary process due to environment is clearly shown in the Crested Larks of Algeria. In the desert these are sand-coloured, while in the north they are dark, exhibiting various shades of brown, similar to the rich soil upon which they live. In the central plateau they are brownish-grey, like the mixed soil, and in the extreme south they are yellow, like the rocky patches amongst the sand and clay.

In the far north of the Arctic Regions the creatures turn white in winter, while in summer their plumage and pelage are mottled or variegated to match the various shades of heather and lichens which are characteristic of the moors and tundras.

Amongst those birds whose plumage is coloured for protection the Goatsuckers stand out pre-eminently. We find that those Goatsuckers inhabiting more fertile regions have dark plumage of various shades of brown, grey, and buff to match the scrub they live in, while those of the desert have sand-coloured plumage and in the pebbly desert yellowish plumage. In certain birds the adult individuals show no special protective coloration, but the eggs and young which lie on the ground have suitable coloration according to the locality in which they are found. In this category are most of the Waders and the other ground-breeding birds. A remarkable instance, not so much of the effects of environment, but of adaptation, is that of the House-Martin, the form breeding in Algeria having a much shorter and rounder wing than the species breeding in Europe. This has been evolved owing to the much shorter range of migration of the African race. On the Galápagos Islands and a few neighbouring islets a whole series of birds of the Finch family has gradually developed. The adult males are almost all of a uniform black, while the females and young exhibit shades of mixed grey, brown, and buff. A few have developed the black only on the fore-part of the body, while others, old and young of both sexes alike, are without any black at all. The nearest allies of these Finches in other localities are all more or less brilliantly coloured.

In addition to their sober and very uniform coloration, the Finches of the Galápagos Islands have developed a most remarkable series of bill-modifications. If we look around for the reason of the remarkable development of the bills of these Finches of the genus *Geospiza*, we at once find that the most abundant and widespread vegetation on the Galápagos Islands consists of various cacti of the genera *Cereus* and *Opuntia*. On the leaves, fruit, and seeds of these cacti

the species of *Geospiza* feed, and their bills have become modified to deal with the formidable thorns and spines they encounter. In the desert-regions of Asia and Africa there has developed a whole series of Sand-Grouse (*Pteroclidæ*), an order of birds apparently structurally intermediate between the Pigeons and Game-birds, but all showing adaptation to their desert or steppe environment in the varying shades of yellow and brown of their plumage.

A great factor in producing colour-changes is the percentage of damp in the atmosphere and the amount of rainfall. The greater the moisture the darker the coloration becomes, and *vice versâ*.

It is unfortunate that among birds the effects of environment are not so universally apparent as among insects and other orders of animals; but it appears to be a common phenomenon that the higher a creature is in the scale, the more difficult it becomes for certain environmental factors to exert their full influence.

I must apologise for this very short and imperfect production, but by opening the discussion I hope to create wider interest in the subject.

Dr. Hartert: I should like to call attention to my old favourites, the Crested Larks. You will see that most of the specimens exhibited have little glass tubes attached to their legs containing samples of the soil on which they were obtained, which illustrates how wonderfully they agree with their surroundings. The North-Algerian Crested Lark (*Galerida theklæ harterti*) is a very dark bird and lives on a very dark soil; the soil exhibited was taken from the spot where the bird was shot. Then we have the reddish and clay-coloured forms (*Galerida theklæ hilgerti* and *G. t. carolinæ*) found on the reddish clay-soil, and, again, the very pale ones (*G. theklæ deichleri*) from the desert-sand. That is all very instructive, and, in the case of these Crested Larks, there is no doubt that it is not the amount of moisture and of rainfall, but actually the general colour of the soil on which they live,

which materially influences their coloration. We have a darker form of Crested Lark (*Galerida cristata neumanni*) in some parts of Italy than we have in Central Europe, where there is much more rainfall. It is certainly the colour of the soil which affects these birds. Naturally you can find examples of *G. c. neumanni* on ground which is not always as black as the soil shown, but that is the usual colour. In Algeria the soil of the northern slopes of the Atlas is dark practically everywhere ; in the plateaux it is reddish or clay-coloured, and in the desert there is sand which is very light and pale. If only I had all the Crested Larks from every country, with the soil upon which they were shot, I think a very interesting paper could be written, with plates showing the shade of colour of the backs of the birds and the colour of the soil on which the various subspecies live.

Mr. Ogilvie-Grant said that, at the request of Lord Rothschild, he had brought for exhibition a series of the Common Bustard-Quail (*Turnix taigoor* Skyes) to illustrate the climatic variations in plumage caused by the amount of rainfall in the districts the birds inhabited. The typical form, found in the Deccan and other parts of Central and Southern India where the rainfall was under 50 inches, had the general colour of the upperparts reddish-chestnut, while the birds inhabiting the Himalaya, parts of Burma, the Malay Peninsula, and Formosa, where the rainfall was upwards of 100 inches, had the general colour of the upperparts dark greyish-brown. These had been separated as *T. plumbipes* (Hodgs.).

In districts where the rainfall varied from about 60 to 100 inches, forms were found with the upperparts intermediate in colour, a mixture of rufous and greyish-brown.

The species was widely distributed, ranging from India, through Burma and China to Formosa and the Loo-Choo Islands. Over the whole of that range, wherever the rainfall was small, from about 14–50 inches, the typical red "*taigoor*" form occurred ; thus it would be seen that the

birds exhibited from Coimbatore (23 ins.), Madras (40 ins.), Mysore (30 ins.), S. Konkan (37 ins.), West Khandeish (22 ins.), and Saugor (49 ins.), all belonged to the rufous form and were indistinguishable from specimens obtained by Col. Wardlaw Ramsay in Burma near Karen-nee in a dry plain at Kyaiphogyee, where the rainfall was very small: all these scarcely differed in general colour from Chinese examples from Canton and the Loo-choo Islands.

When the rainfall exceeded 100 inches, the "*plumbipes*" type with dark greyish-brown upperparts was met with. As examples of this, specimens were shown from Sikhim (112 ins.), Dibrughur (117 ins.), and Cachar (120 ins.), also from Kossoom, Klang, and Singapore, all with a rainfall of about 200 inches, and from a locality in Formosa where the fall was about 100 inches.

Intermediate examples with the upperparts a mixture of rufous and greyish-brown were shown from Pegu and Thayetmyo (51 ins.) and Calcutta (66 ins.).

So closely was the general colour of the upperparts in these Bustard-Quails associated with the amount of rainfall in the districts they inhabited, that it was possible to make a fairly accurate estimate of the number of inches from the colour of the plumage.

Mr. Ogilvie-Grant said that he knew of no clearer or better instance of the effect of climate on individual variation. He united the whole of these birds under one name, *Turnix taigoor*, with two phases of plumage—a rufous and a grey-brown. He could see no possible advantage in giving names to the endless intermediate forms or climatic variations which occurred, as so many modern ornithologists considered desirable.

Mr. D. A. Bannerman: This is a very big question and there are many aspects of the case to consider. The remark which I wish to make is, I fear, rather far removed from the subject under discussion, but I will instance a somewhat remarkable case of adaptation.

Lord Rothschild has remarked that when a bird becomes dark the cause is usually considered to be dampness of the

atmosphere, species from a humid climate being usually darker in colour than allied forms inhabiting a dry region.

Dr. Hartert has especially mentioned the case of the Crested Larks, which appear to vary their coloration according to the colour of the soil upon which they are found, instead of following the general rule and becoming dark in a moist climate.

A somewhat parallel case is that of the Bustards, *Chlamydotis u. undulata* and *Chlamydotis u. fuerteventuræ*. The former lives on the mainland of Africa and is an inhabitant of sandy wastes in Morocco, Algeria, and the Sahara. Its plumage is of the usual colour found in desert-frequenting birds and, following out the theory of colour-protection, this bird accords exactly with the ground over which it roams. This Bustard at some remote period presumably crossed from the Moroccan coast to the Canary Islands, and the first land which it sighted was naturally the most easterly island, Fuerteventura, for there is no evidence to prove that this island, though lying only 60 miles out to sea, has ever been joined to the mainland. In Fuerteventura the Bustard found ground well adapted to its requirements—a low flat desert island very similar to the African deserts which it had left and, be it remembered, in exactly the same latitude. Moreover, Fuerteventura is one of the driest islands in the world and has an exceedingly small rainfall. There is, however, one great difference between it and the mainland which, though not affecting the climate, does affect the external appearance of the island. Fuerteventura is volcanic in origin, and the bare plains are dotted and strewn with lumps of blackish lava, often half buried in the sandy soil.

When the African Bustard first found itself on this ground, its light plumage no longer harmonised with its surroundings—in fact, the one character which contributed to its protection in the African deserts made it conspicuous in the Fuerteventuran waste. It therefore modified its plumage to the extent you now see, and in course of time harmonised exactly with its darker surroundings. This example is a

good one, for the physical conditions of Fuerteventura and the Saharan desert are much alike—the light, the climate, the desert vegetation, and possibly the food upon which it exists, being almost the same in both cases.

Isolation is, perhaps, the strongest factor in the differentiation of species, for once a bird is cut off from the parent stock it can no longer interbreed with it. It immediately "loses its balance," so to speak, and develops certain peculiarities to strengthen it in its struggle for existence.

Island-forms are often darker than the allied continental race, and this may often be traced to the existing climatic conditions. Many islands are very mountainous in character, attaining to a great altitude, the mountain-summits being in cloud most of the year; the result is a moist climate—Madeira is a good example,—and undoubtedly a moist climate produces dark variations in many cases.

But these conditions do not prevail in Fuerteventura, and we must look for another reason than humidity to account for the dark plumage of the indigenous Bustard. Professor Punnett, who, with Professor Bateson, is the greatest exponent of Mendelism in England, has kindly written to me in answer to my question as to the *causes* which have brought about this change in the Bustard. I will therefore conclude by reading you his letter, which contains some interesting suggestions. He writes: "I wish that I could be of any assistance in the case of the Bustard. This problem of local races and adaptation is one of the nuts left for us to crack—if we can. The first thing to be settled is whether the variation is genetic or whether it is merely a direct response to a change in the environment, and only endures as long as the change in the environment endures. In other words, would your Bustard on the island, if removed to the mainland conditions, breed birds like those on the mainland, and *vice versâ*?

"It might in this case be unnecessary to breed them. One has only to recall Beebe's experiments on desert forms, where he was able to get a darkening of the plumage by keeping them in a humid atmosphere during their moult.

"The Bustard case *may* be of the same kind, and, if so, one would expect a darkening of the plumage in the damper * island climate. If this were so, one would have to regard the apparent protective resemblance as merely a coincidence.

"By the way, are there enemies † on the island which could theoretically eliminate the lighter forms?

"It would be a pretty experiment to transfer the continental form to the island climate and observe whether it got darker with successive moults."

Dr. Hartert: I think it is very clear, from what Mr. Bannerman has said, that it is the wish of Nature that the bird should assume the colour of the soil on which it lives. In the Sahara—at least, where I have seen it—there are certainly no black lava-blocks, and therefore, because the black lava-stones cover the plains of Fuerteventura, the Bustards have become black-spotted, so as to accord with these lava-strewn plains. If the rainfall is not much greater, and the air not more moist in Fuerteventura than in Morocco, which I thought was the case, I think it is a very clear instance of the actual adaptation of a bird to the surrounding soil, and has a wonderful bearing on Lord Rothschild's remarks. The same may be said of the Crested Larks.

The Chairman: I think Dr. Hartert's meaning is that the birds which do not resemble the soil die out through their inability to contend with certain factors which produce the variation.

Before calling on Mr. Baker, who has some remarks to make, I should like to point out that in the case of those Galápagan Finches where the males are very black instead of blue, and the females have become light grey instead of dark brown, that the climate of the Galápagos Islands is extremely dry, while the climate of British Guiana and

* [In my letter to Professor Punnett I had not laid sufficient stress on the fact that the island in question possessed an *exceptionally dry* climate.—D. A. B.]

† [The only enemy of the Bustard in Fuerteventura is Man. No mammals or reptiles exist in the island in a wild state, and hardly any dangerous Birds of Prey.—D. A. B.]

Southern Mexico, where the nearest allied species live, is extremely moist, and, therefore, as in the case of the Fuerteventuran Bustard, there is evidently something more to be considered than the question of drought or moisture.

Mr. Stuart Baker cited the remarkable instance of the Kalij and Silver Pheasants, in which a gradual transition could be traced from a practically black bird to a practically white one. There were three apparent species dealt with which looked extremely different from one another, viz., the Black Kalij Pheasant (*Gennæus horsfieldi*); the Grey Vermiculated Pheasant (*G. lineatus*), and the practically white Silver Pheasant (*G. nycthemerus*). These birds looked remarkedly distinct, but if one examined all the forms found in the intervening countries between their habitats, it would be found that they could be entirely linked up and merged gradually into one another. The connecting-links between *G. horsfieldi* and *G. lineatus* were *G. cuvieri* and *G. oatesi* on the west of the triangle and *G. sharpei*, *G. rufipes*, and allied forms on the east—these latter gradually merging into the typical Silver Pheasant, *G. nycthemerus*.

Mr. Baker gave instances of the remarkable correlation between the variations in plumage in the genus *Gennæus* and the degrees of elevation, drought, and rainfall in the countries they inhabited, more especially as regarded the gradations of plumage shown between the almost black *G. horsfieldi* in the south-east of India, the grey *G. lineatus* in the south of Burma, and the nearly white Silver Pheasants of Western Burma and China. He exhibited a series of beautifully executed drawings by Mr. H. Grönvold, illustrating the differences alluded to *.

Mr. Baker said that it was not known with certainty that any Silver Pheasant was found further south than *G. lineatus*, but Mr. Ogilvie-Grant pointed out that, during Mr. H. C. Robinson's exploration of Gunong Tahan in the Malay Peninsula, he had come across, on the higher parts of the

* [*Cf.* Ogilvie-Grant, 'Game-Birds,' i. pp. 265–69, with sketch-map, 1895.—Ed.]

mountain, a species of Silver Pheasant on more than one occasion, but had been unable to secure a specimen. Mr. Baker said that he had been promised Silver Pheasants from a certain locality in the Malay Peninsula, but had not received any as yet.

Mr. W. L. Sclater: I should like to call the attention of the Members of the Club to the experiments of Mr. Beebe, which were briefly alluded to by Mr. Bannerman. Speaking from memory, the experiment was as follows:— Taking an example of the White-winged Dove of Arizona (*Melopelia asiatica*), which he had in captivity, he subjected it for some months artificially to a very hot damp atmosphere. At the end of this time the Dove had assumed a darker and richer plumage, and would, if it had been examined without prejudice, have been referred to an entirely different species of *Melopelia*. This seems to me to be one of the most remarkable instances of the effect of environment on a species.

The Chairman: In reply to Mr. Sclater, I should like to draw the attention of the Members to one point in connection with Mr. Beebe's most extraordinary experiments, and that is that they were entirely carried out under artificial conditions, and we all know that in the higher animals (such as mammals, reptiles, and birds), artificial conditions bring about strong modifications of the external characters, *e. g.* the colour and thickness of the fur in mammals and the colour of the plumage in birds. Mr. Beebe does not appear to have found out in his former series of experiments whether the offspring of such artificially treated birds would be affected by the damp or whether they would still, in their first moult, revert to the original desert-coloration. I think everything we see in a state of Nature goes to prove that they would revert to the desert type. We must wait till these further experiments are carried out in order to be quite sure that in the cases mentioned by Mr. Beebe the only factor affecting the coloration is atmospheric moisture. I think certain cases such as

the Crested Larks and the Fuerteventuran Bustard go to prove that there are other factors to be considered.

Mr. Read: I should like to ask why the resemblance of the Cuckoo (*Surniculus lugubris*) to the Drongo-Shrike (*Buchanga atra*) should be instanced as a case of mimicry? A Cuckoo does not usually resemble the species in the nest of which it deposits its egg.

The Chairman: In this case we have only *assumed* that it is so, because the Cuckoo which lays its eggs in the nest of the Drongo is entirely black. I alluded to it as one of the three asserted instances in ornithology in which there is a semblance of what is known as mimicry. The difference between Protective Resemblance and Mimicry is not always made clear: Protective Resemblance means the assumption by a living creature of a resemblance to some plant or non-organic object, while Mimicry is the imitating of one living creature by another.

List of Specimens and Drawings
exhibited by the Chairman to illustrate his Address.

New Zealand Region.

Specimens to illustrate Flightlessness.

Apteryx australis.
„ *haasti.*
„ *oweni.*
Ocydromus australis.
„ *earli.*
„ *fuscus.*
Cabalus modestus.
„ *sylvestris.*
Nesonetta aucklandica.
Mergus australis.
Stringops habroptilus.
Cyanorhamphus unicolor.

Drawings to illustrate Flightlessness.

Dinornis ingens.
Megalapteryx huttoni.
Dinornis giganteus (skeleton to show absence of the shoulder-girdle).
Notornis hochstetteri.

Mascarene Region.

Drawings to illustrate Flightlessness.

Apterornis cærulescens.
Aphanapteryx bonasia.
Erythromachus leguati.
Leguatia gigantea.
Lophopsittacus mauritianus.
Necropsittacus borbonicus.
Didus cucullatus.
„ *solitarius.*

To illustrate Similar Development in Different Orders.

Fore limbs changed into paddles.

Mammal.

Grey Seal (*Halichœrus grypus*).

Bird.

Gentoo Penguin (*Pygoscelis papua*).

Reptile.

Tortoise-shell Turtle (*Chelone imbricata*).

To illustrate Mimicry.

(a) *Surniculus lugubris* and *Buchanga atra.*
(b) *Oriolus buruensis* and *Philemon moluccensis.*
(c) *Oriolus forsteni* and *Philemon subcorniculatus.*

To illustrate Protective Resemblance.

Desert Birds.

Cursorius gallicus.
Ammomanes deserti algeriensis.
„ *phœnicurus arenicolor.*
Certhilauda alaudipes.
Eremophila alpestris bilopha.
Œnanthe deserti homochroa.
„ *leucura syenitica.*
„ *leucopyga ægra.*
Passer simplex saharæ.
Scotocerca inquieta saharæ.
Sylvia nana.
„ „ *deserti.*
Pterocles senegallus.
„ *exustus.*
„ *coronatus.*
„ *alchata.*
„ *arenarius.*
Syrrhaptes paradoxus.

To illustrate Protective Coloration.

Galerida cristata nigrescens.
" " *macrorhyncha.*
" " *arenicolor.*
" *theklæ harterti.*
" " *ruficolor.*
" " *carolinæ.*
" " *superflua.*
Galerida theklæ deichleri.
Chersophilus duponti.
Caprimulgus europæus.
" *nubicus tamaricis.*
" *ruficollis desertorum.*
" *ægyptius saharæ.*
" *eximius.*

To illustrate Protective Change of Plumage.

Plectrophenax nivalis.
Lagopus lagopus.
Lagopus rupestris.
" *mutus.*

To illustrate Development of Bill and Uniform Coloration *from the bright-coloured Continental Form through Insular Isolation.*

Highly-coloured Continental Ally.

Guiraca cyanea.
" *cyanoides.*
" *rothschildi.*

Galápagos Island Forms.

Geospiza strenua.
" *darwini.*
" *dubia.*
" " *albemarlei.*
" *conirostris.*
" " *propinqua.*
" *debilirostris.*
" *difficilis.*
" *harterti.*
" *scandens.*
" " *intermedia.*
" " *septentrionalis.*
" " *fatigata.*
" *fortis.*
Geospiza fortis fratercula.
" *acutirostris.*
" *fuliginosa.*
" *incerta.*
" *crassirostris.*
" *psittacula.*
" *habeli.*
" *affinis.*
" *prosthemelas.*
" *paupera.*
" *salvini.*
" *pallida.*
" *heliobates.*
" (*Pinaroloxias*) *inornata.*

Members are requested to inform the Secretary of any change of address without delay, so that a correct "List of Members" may be published in the present volume of the 'Bulletin.'

The next Meeting of the Club will be held on Wednesday, the 13th of October, 1915, the Dinner at 6.45 p.m. Notice as to where the Dinner will take place will be sent to Members in due course. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor.]

(Signed)

Rothschild,	D. A. Bannerman,	P. R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

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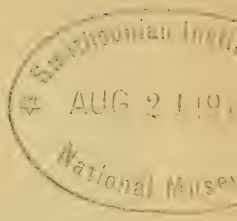

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

EDITED BY

DAVID SETH-SMITH, F.Z.S.

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SESSION 1915–1916.

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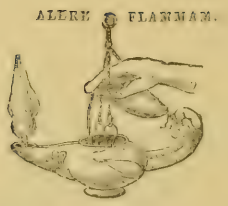

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PREFACE.

The number of attendances at the meetings of the British Ornithologists' Club during the past Session, 1915–1916, was 286 ; of these 247 were Members and 39 Visitors. This shows an average of nearly 32 per meeting, somewhat less than in the previous Session, a fact which is not surprising considering the number of Members who are on Active Service or doing other work in connection with the War.

During the past Session we have had to deplore the loss by death of several valued Members.

The veteran ornithologist Henry Eeles Dresser died at Cannes on November 28th, 1915, at the age of seventy-seven. Richard M. Barrington, so well known for his excellent work on the migration of Irish birds, died on September 15th, 1915, near Dublin.

Major C. H. T. Whitehead was killed in action on September 26th, 1915, in France, and Lt.-Col. H. H. Harington, whose many exhibitions of rare birds and their eggs from Burma will be fresh in the memory of our Members, fell in action in Mesopotamia on March 8th last.

Guy L. Ewen died at Windsor on the 25th of April last, while Major F. W. Proctor, a very regular attendant at our meetings, passed away as recently as June 13th, 1916, and on going to press we hear with much regret of the death of Lt.-Col. B. R. Horsbrugh, A.S.C., which took place at his residence, Tandridge Priory, on July 11th.

In spite of the present conditions due to the War, the interest taken in ornithology generally and in the meetings of the Club has been well maintained, and many new and rare species have been described and exhibited for the first time.

The Lantern-Meeting, held on March 8th, was well attended, and many very interesting slides were shown.

On two occasions (November and January) the meetings were chiefly devoted to Discussions on special ornithological subjects, these being "The Bearing of Oology on Classification," opened with a paper by the Rev. F. C. R. Jourdain, M.A., and "Bird Parasites and Bird Phylogeny," opened by Mr. Launcelot Harrison, B.Sc.

During the past Session Dr. Percy Lowe was obliged to resign the post of Honorary Secretary and Treasurer, owing to his having taken up Red Cross work, and Mr. C. G. Talbot-Ponsonby undertook his duties.

(Signed) D. SETH-SMITH,
Editor.

London, July 1916.

...onal Museum.

RULES

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

(*As amended, July 12th,* 1916.)

I. This Club was founded for the purpose of facilitating the social intercourse of Members of the British Ornithologists' Union. Any Ordinary Member of that Union can become a Member of this Club on payment (to the Treasurer) of an entrance fee of *One Pound* and a subscription of *Seven Shillings and Sixpence* for the current Session. Resignation of the Union involves resignation of the Club.

II. Members who have not paid their subscriptions before the last Meeting of the Session, shall cease, *ipso facto,* to be Members of the Club, but may be reinstated on payment of arrears *and* a new entrance fee.

III. Ordinary Members of the British Ornithologists' Union may be introduced as Visitors at the Meetings of the Club, but every Member of the Club who introduces a Member of the B. O. U. as a Visitor (to the dinner or to the Meeting afterwards) shall pay *One Shilling* to the Treasurer *on each occasion.*

IV. No gentleman shall be allowed to attend the Meetings of the Club as a guest on more than three occasions during any single Session.

V. The Club shall meet, as a rule, on the Second Wednesday in every Month, from October to June inclusive, at such hour and place as may be arranged by the Committee. At these Meetings papers upon ornithological subjects shall be read, specimens exhibited, and discussion invited.

VI. An Abstract of the Proceedings of the B. O. C. shall be printed as soon as possible after each Meeting, under the title of the 'Bulletin of the British Ornithologists' Club,' and distributed gratis to every Member *who has paid his subscription.* Copies of this Bulletin shall be published and sold at *One Shilling* each.

Descriptions of new species may be added to the last page of the 'Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at

the discretion of the Editor and so long as the publication of the 'Bulletin' is not unduly delayed thereby.

Any person speaking at a Meeting of the Club shall be allowed subsequently to amplify his remarks in the 'Bulletin'; but no fresh matter shall be incorporated with such remarks.

VII. The affairs of this Club shall be managed by a Committee, to consist of the Chairman, who shall be elected for five years, at the end of which period he shall not be eligible for re-election for the next term, the Editor of the 'Bulletin,' the Secretary and Treasurer, and the Editor of 'The Ibis,' *ex officio*, with three other Members, one of whom shall be changed every year. Officers and Members of the Committee shall be elected by the Members of the Club at a General Meeting, and the names of such Officers and Members of Committee, nominated for the ensuing year, shall be circulated with the preliminary notice convening the General Meeting at least two weeks before the Meeting. Should any Member wish to substitute another candidate, the nomination of such, signed by at least two Members, must reach the Secretary at least one clear week before the Annual General Meeting.

Amendments to the Standing Rules of the Club, as well as very important or urgent matters, shall be submitted to Members, to be voted upon at a General Meeting.

VIII. A General Meeting of the B. O. C. shall be held on the day of the October Meeting of each Session, and the Treasurer shall present thereat the Balance-sheet and Report; and the election of Officers and Committee, in so far as their election is required, shall be held at such Meeting.

IX. Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted must communicate in writing with the Chairman, who will call a Committee Meeting to deal with the matter.

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Aplin, Oliver Vernon; Bloxham, Banbury, Oxon.
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Bahr, P. H.; 12 Vicarage Gardens, Kensington, W.
Baker, E. C. Stuart; 6 Harold Road, Upper Norwood, S.E.
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Barclay, Hugh Gurney; Colney Hall, Norwich.
Baynes, George K.; 1 Fleet Street, E.C.
Bickerton, W.; The Firs, Farraline Road, Watford.
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Bonhote, John Lewis, M.A.; Zoological Gardens, Giza, Egypt.
Boorman, S.; Heath Farm, Send, Woking, Surrey.
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Borrer, C. D.; 20 Pelham Crescent, South Kensington, S.W.
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Bradford, Sir J. Rose, F.R.S.; 8 Manchester Square, W.
Briggs, T. H.; Rock House, Lynmouth, R.S.O., Devon.
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Buckley, C. M.; 4 Hans Crescent, S.W.
Bunyard, P. F.; 57 Kidderminster Road, Croydon.
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Chaplin, Nugent; The Lodge, Bourne End, Bucks.

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Chase, R. W.; Herne's Nest, Bewdley, Worcestershire.
Chubb, Charles; British Museum (Natural History), Cromwell Road, S.W.
Clarke, Major Goland van Holt, D.S.O.; Brook House, Hayward's Heath, Sussex.
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Clarke, Col. Stephenson Robert, C.B.; Borde Hill, Cuckfield, Sussex.
Clarke, William Eagle, LL.D., F.R.S.E.; Royal Scottish Museum, Edinburgh.
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Collett, A. K.; 5 Stone Buildings, Lincoln's Inn, W.C.
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Curtis, Frederick, F.R.C.S.; Alton House, Redhill, Surrey.
Davidson, J.; 32 Drumsheugh Gardens, Edinburgh.
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Dawson, G. H.; 21 Great St. Helens, E.C.
De Winton, W. E.; Southover Hall, Burwash, Sussex.
Dobbie, James B.; 12 South Inverleith Avenue, Edinburgh.
Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.
Earle, Edward V.; 81 Lancaster Gate, W.
Elliot, Edmund A. S., M.R.C.S.; Slade, Mounts, S. Devon.
Ellison, Rev. Allan; Althorpe Rectory, Doncaster.
Elwes, Henry John, F.R.S.; Colesborne Park, Cheltenham.
Evans, Arthur Humble, M.A.; 9 Harvey Road, Cambridge.
Fanshawe, Captain R. D.; Broxmore, Cavendish Road, Bournemouth.
Finlinson, Horace W.; Lancing College, Shoreham-on-Sea, Sussex.
Fitzherbert-Brockholes, W. J.; Claughton-on-Brock, Garstang, Lancashire.
Flower, Major S. S.; Kedah House, Zoological Gardens, Giza, Egypt.
Forbes, Henry Ogg, LL.D.; Redcliffe, Beaconsfield, Bucks.
Foster, Nevin H.; Hillsborough, Co. Down, Ireland.
Frohawk, F. W.; Stanley House, Park Road, Wallington, Surrey.
Gainsborough, The Earl of; Exton Park, Oakham.
Garnett, Charles; 97 Whitehall Court, S.W.
Gerrard, John; Worsley, Manchester.
Gibson, Ernest; 25 Cadogan Place, S.W.

Godman, Captain E. S.; Hampsteel, Cowfold, Horsham, Sussex.
Godman, Frederick DuCane, D.C.L., F.R.S.; 45 Pont Street, S.W.
Goodall, J. M.; The Nest, Bembridge, Isle of Wight.
Goodfellow, Walter; The Poplars, Kettering.
Gosse, Capt. Philip, M.R.C.S.; Curtlemead, Beaulieu, Hants.
Gould, F. H. Carruthers; Matham Manor House, East Molesey.
Grant, C. H. B.; Hedingham Cottage, Hampton Road, Twickenham, W.
Grey of Falloden, The Rt. Hon. Edward, The Earl, K.G., P.C.; Falloden, Christon Bank, Northumberland.
Griffith, Arthur F.; 59 Montpelier Road, Brighton.
Gurney, G. H.; Keswick Hall, Norwich.
Gurney, John Henry; Keswick Hall, Norwich.
Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.
Hale, Rev. James R., M.A.; Boxley Vicarage, Maidstone, Kent.
Hartert, Ernst, Ph.D.; The Museum, Tring, Herts.
Harvie-Brown, John A.; Dunipace House, Larbert, Stirlingshire.
Hawker, R. M.; Bath Club, Dover Street, W.
Headley, F. W.; Haileybury College, Hertford.
Hellmayr, C. E.; Zoologische Sammlung des Staats, Alte Akademie, München, Germany.
Hett, G. Seccombe; 8 Wimpole Street, W.
Hony, G. Bathurst; 4 Beaufort Road, Clifton, Bristol.
Horsfield, Herbert Knight; Crescent Hill, Filey, Yorkshire.
Howard, H. Eliot; Clarelands, near Stourport.
Howard, Robert James; Shearbank, Blackburn, Lancashire.
Ingram, Capt. Collingwood; Sussex Mansions, Westgate-on-Sea.
Iredale, Tom; 39 Northcote Avenue, Ealing, W.
Jackson, Sir Frederick J., C.B., K.C.M.G.; Entebbe, Uganda, East Africa.
Johnson, Sir Henry J.; 55 Sloane Gardens, S.W.
Jones, Major H.; 41 Vineyard Hill Road, Wimbledon Park, S.W.
Jones, Fleet-Surgeon Kenneth H., R.N.; Manor House, St. Stephens, Canterbury.
Jourdain, Rev. F. C. R., M.A.; Appleton Rectory, near Abingdon, Berks.
Joy, Norman H.; Thurlestone, Bradfield, near Reading.
Kelso, J. E. H., M.D.; Edgewood, Arrow Lakes, British Columbia.
Kinnear, Norman B.; Bombay Natural History Society.
Kloss, C. Boden; Kuala Lumpur, Federated Malay States.

La Touche, J. D.: Chinese Customs, Chinwangtao, N. China.
Laidlaw, Thomas Geddes: Bank of Scotland Branch, Duns, N.B.
Lambert, Godfrey C.; Woodcote, Esher, Surrey.
Langton, Herbert; St. Moritz, 61 Dyke Road, Brighton.
Lascelles, Hon. Gerald; Tillington House, Petworth.
Le Souëf, D.; Zoological Society, Melbourne, Australia.
Lodge, G. E.; 5 Thurloe Studios, Thurloe Square, S. Kensington, S.W.
Long, Sydney H., M.D.; 31 Surrey Street, Norwich.
Lowe, P. R., B.A., M.B., B.C.; The Nuns, Stamford.
Lucas, The Rt. Hon. Lord, P.C.; 32 Old Queen Street, S.W.
Lynes, Captain Hubert, R.N.; Garthmeilio, Corwen.
Macmillan, G. A.; 27 Queen's Gate Gardens, S.W.
Macmillan, W. E. F.; 42 Onslow Square, S.W.
Macpherson, Arthur Holte; 21 Campden Hill Square, Kensington, W.
Magrath, Lieut.-Colonel H. A. F.; 51st Sikhs F.F., Indian Expeditionary Force 'D,' c/o India Office, S.W.
Marshall, A. McLean; Great Chitcombe, Brede, Sussex.
Marshall, James McLean; Bleaton Hallet, Blairgowrie, N.B.
Mason, Colonel E. S.; 10 Lindum Terrace, Lincoln.
Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.
Mathews, G. M.; Foulis Court, Fair Oak, Hants.
May, W. Norman, M.D.; The White House, Sonning, Berks.
Meade-Waldo, Edmund Gustavus Bloomfield (*Vice-Chairman*); Hever Warren, Hever, Kent.
Mills, Rev. H. Holroyd; The Rectory, St. Stephen-in-Brannell, Grampound Road, Cornwall.
Munn, P. W.; Stourwood Cottage, Stourwood Avenue, Southbourne, Hants.
Munt, Henry; 10 Ashburn Place, South Kensington, S.W.
Murray, Capt. E. Mackenzie; Woodside, Coupar Angus, Perthshire.
Musters, J. P. C.; Annesley Park, Nottingham.
Nelson, T. H., J.P., M.Sc.; Seafield, Redcar, Yorks.
Nesham, Robert; Utrecht House, Poynder's Road, Clapham Park, S.W.
Newman, T. H.; Newlands, Harrowdene Road, Wembley, Middlesex.
Nichols, J. B.; Parliament Mansions, Victoria Street, S.W.
Nicholson, F.; Ravenscroft, Windermere.
Nicoll, Michael J.; Valhalla House, Zoological Gardens, Giza, Egypt.

Ogilvie, Fergus Menteith; The Shrubbery, 72 Woodstock Road, Oxford.

Ogilvie-Grant, W. R.; British Museum (Natural History), Cromwell Road, S.W.

Oldham, Chas.; The Bollin, Shrublands Road, Berkhamsted, Herts.

Parkin, Thomas; Fairseat, High Wickham, Hastings.

Patterson, William H.; 25 Queen's Gate Gardens, S.W.

Pearse, Theed; 119 Pender Street West, Vancouver, B.C.

Pearson, Charles Edward; Hillcrest, Lowdham, Nottingham.

Penrose, Francis G., M.D.; Rathkeale, 51 Surrey Road, Bournemouth.

Pershouse, Major S.; 12 Chatsworth Square, Carlisle.

Pigott, Sir Thomas Digby, K.C.B.; The Lodge, Lower Sheringham.

Player, W. J. P.; Wernfadog, Clydach, R.S.O., Glamorganshire.

Popham, Hugh Leyborne, M.A.; Hunstrete House, Pensford, near Bristol.

Price, A. E.; 4 Mincing Lane, E.C.

Pycraft, W. P.; British Museum (Natural History), Cromwell Road, S.W.

Ratcliff, F. R.; 29 Connaught Square, W.

Rawson, Herbert Evelyn; Comyn Hill, Ilfracombe.

Read, Robert H.; Camelot, South Parade, Bedford Park, W.

Renaut, W. E.; 29 Elsham Road, Kensington, W.

Richmond, H. W., F.R.S.; King's College, Cambridge.

Rickett, C. B.; 27 Kendrick Road, Reading, Berks.

Rippon, Colonel G.; United Service Club, Pall Mall, S.W.

Rivière, B. B., F.R.C.S.; St. Giles' Plain, Norwich.

Robinson, H. C.; State Museum, Kuala Lumpur, F. M. States.

Rothschild, The Lord, Ph.D., F.R.S. (*Chairman*); The Museum, Tring, Herts.

Rothschild, Hon. N. Charles; Arundel House, Kensington Palace Gardens, W.

Russell, Capt. Conrad; 2 Audley Square, W.

St. Quintin, W. H.; Scampston Hall, Rillington, Yorkshire.

Sapsworth, Arnold Duer; 30 Sussex Place, Regent's Park, N.W.

Sargeaunt, Arthur St. George; Exbury, Padstow, Cornwall.

Sargent, James; 76 Jermyn Street, St. James's, S.W.

Sclater, William Lutley, M.A. (*Vice-Chairman*); 10 Sloane Court, S.W.

Selous, Capt. Frederick Courteney; Heatherside, Worplesdon, Surrey.

Seth-Smith, David (*Editor of the 'Bulletin'*); 34 Elsworthy Road, South Hampstead, N.W.

Seth-Smith, Leslie Moffat, B.A.; Tangley, Caterham Valley, Surrey; and Kampala, Uganda.

Seton, M. C. C.; 13 Clarendon Road, Holland Park, W.

Sharman, Frederic; 47 Goldington Road, Bedford.

Smalley, Frederic W.; Challan Hall, Silverdale, nr. Carnforth.

Sparrow, Lt.-Col. R.; Rookwoods, Sible Hedingham, Essex.

Stanford, E. Fraser; 9 Cumberland House, Kensington Court, W.

Staples-Browne, Capt. R. C.; Bampton, Oxon.

Stares, J. W. C.; Portchester, Hants.

Stenhouse, J. H., M.B., R.N.; Craigievar, Keptie Road, Arbroath.

Studdy, Colonel Robert Wright; Waddeton Court, Brixham, Devon.

Styan, F. W.; Ben Craig, Bayham Road, Sevenoaks.

Swann, Geoffrey; 11 Onslow Crescent, S.W.

Swann, Harold; 45 Brompton Square, S.W.

Swinhoe, Colonel C.; 4 Gunterstone Road, W. Kensington, W.

Swynnerton, C. F. Massy; Gungunyana, Melsetter District, S. Rhodesia.

Talbot-Ponsonby, C. G. (*Secretary & Treasurer*); 5 Crown Office Row, Temple, E.C.

Terry, Major Horace A.; Compton Grange, Compton, Guildford.

Thorburn, Archibald; High Leybourne, Hascombe, Godalming.

Ticehurst, Claud B., M.A., M.D.; Grove House, Lowestoft, Suffolk.

Ticehurst, N. F., F.R.C.S.; 35 Pevensey Road, St. Leonards-on-Sea.

Townsend, R. G.; Buckholt, Dean, Salisbury.

Trevor-Battye, Aubyn B. R.; Ashford Chace, Petersfield, Hants.

Tyrwhitt-Drake, Hugh G.; Cobtree, Sandling, Maidstone.

Upcher, Henry Morris; Sheringham Hall, Sheringham, R.S.O.

Vaughan, Matthew; The Limes, Marlborough, Wilts.

Vaughan, Commdr. Robert E.; Lough Swilly Hotel, Buncrana, Co. Donegal.

Wallis, H. M.; Ashton Lodge, Christchurch Road, Reading.

Walton, Lt.-Col. H. J., I.M.S.; c/o Messrs. King & Co., P.O. Box 110, Bombay, India.

Wardlaw-Ramsay, Colonel R. G. (*President B. O. U.*); Whitehill, Rosewell, Midlothian.

Whitaker, Joseph I. S.; Malfitano, Palermo, Sicily.

White, S. J.; Merok, Chiltern Road, Chesham Bois, Bucks.

Whymper, Samuel Leigh ; Oriental Club, Hanover Square, W.
Wild, Oliver H. ; 29 Viewforth, Edinburgh.
Wilkinson, Johnson ; Vermont, Huddersfield, Yorkshire.
Wilson, Charles Joseph ; 34 York Terrace, Regent's Park, N.W.
Witherby, Harry F. ; 326 High Holborn, W.C.
Witherington, G. ; 19 Sumner Place, S. Kensington, S.W.
Wollaston, A. F. R. ; 15 Montpelier Square, S.W.
Woodhouse, Cecil, M.D. ; Chetnole House, Sherborne, Dorset.
Workman, William Hughes ; Lismore, Windsor, Belfast.
Wynne, R. O. ; Foulis Court, Fair Oak, Hants.

[Members are requested to keep the Secretary informed of any changes in their addresses.]

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Instn.
NOV 15 1915
National Museum

No. CCIX.

The two-hundred-and-sixth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, October 13th, 1915.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present :—E. C. S. Baker ; E. Bidwell ; C. D. Borrer ; P. F. Bunyard ; E. Hartert, Ph.D. ; Rev. F. C. R. Jourdain, M.A. ; G. C. Lambert ; P. R. Lowe (*Hon. Sec. & Treas.*) ; G. M. Mathews ; H. Munt ; T. H. Newman ; C. Oldham ; C. B. Rickett ; D. Seth-Smith (*Editor*) ; W. L. Sclater, M.A. ; C. G. Talbot-Ponsonby ; H. M. Wallis ; H. F. Witherby.

The Hon. Treasurer, in presenting a statement of the Club's Accounts for the Session just concluded, expressed regret that the balance lying at the bank was not larger than it actually was—for, whereas the last session started with a balance of £29 1*s.* 7*d.*, the present session commenced with only £18 3*s.* 8*d.* to the credit of the Club.

Several causes had contributed to this decrease, amongst which might be mentioned certain slightly increased expenses due to one or two innovations which were instituted last session. There had also been an increased difficulty in getting in subscriptions, due, the Treasurer imagined, to the war, and the absence or preoccupation of many members

on war duties. A sum, for instance, of something over £7 0*s.* 0*d.* was still outstanding and due to the Club for subscriptions not yet paid. Had these been paid in, the money accruing would have brought the Club's credit up to the neighbourhood of £25 0*s.* 0*d.*

The total receipts amounted to £130 7*s.* 8*d.*, the total expenditure to £112 4*s.* 0*d.*

Against the diminished balance might be put the fact that during the coming session the Club would not be called upon to subscribe the usual sum of £15 0*s.* 0*d.* to the Migration Report Committee, as the last Report was to be the final one—at any rate, for the time being; while in addition to this the increased annual subscription of 7*s.* 6*d.*, instead of 5*s.*, ought soon to place the Club in a stronger financial position.

On the whole, the Hon. Treasurer thought that perhaps the general opinion of the Members would be that they might congratulate themselves that the Club was financially in as good a position as was actually the case.

The Hon. Treasurer expressed the hope that members would not fail to sign Bankers' Orders for the payment of their subscriptions, so as to save unnecessary expense in postage &c.

The Chairman alluded to the great loss sustained by the Club by the death, which occurred suddenly on September 15th, of Mr. R. M. Barrington, who had been a member since 1895, having been elected to the British Ornithologists' Union in 1881. He had taken a great interest in the birds of Ireland, and contributed many notes to the 'Irish Naturalist.'

Dr. Ernst Hartert exhibited a new Timeliine bird from Bali, which he described as follows :—

Cyanoderma melanothorax baliensis, subsp. n.

Differs from *C. m. melanothorax* of Java in having the throat light buff, the breast rusty buff, instead of white, and in having the bill slightly larger. Wing, ♂ 60–61, ♀ 56 mm.

Hab. Bali. Examined 5 ♂, 1 ♀, collected by William Doherty and Erwin Stresemann. Compared with four specimens from Java in the Tring Museum.

Type: ♂ ad. Bali, collected in April, 1896, by W. Doherty.

Obs. Cyanoderma melanothorax melanothorax is a very rare bird. It was overlooked by Sharpe, though described long ago by Temminck, and thus left out of the 'Catalogue of Birds in the British Museum.' Sharpe, however, called attention to this in an article in the 'Annals and Magazine of Natural History.' So far the only specimens known to me in any collection in Great Britain are those four collected by Mr. Prillwitz in West Java.

Mr. H. F. Witherby exhibited a young Black-necked Grebe and a hybrid Linnet-Greenfinch in juvenile plumage, both of which were obtained in Ireland and had been sent to him for inspection by Mr. W. J. Williams of Dame Street, Dublin. Mr. Witherby made the following remarks:—"In the October issue of 'British Birds' (vol. ix. p. 125), Mr. W. J. Williams made an announcement respecting the breeding in the summer of 1915 of the Black-necked Grebe (*Colymbus n. nigricollis*) in the west of Ireland. As the extension of the known breeding-range of any species seemed to me of the greatest importance, and as the proof of breeding rested in this case upon a young bird which was obtained, I asked Mr. Williams if he would allow me to exhibit this bird to the members of the Club. The bird was received by Mr. Williams in the flesh on August 25th, 1915. It was obtained in the west of Ireland on a lake about fifty miles from the sea. You will see that the bird has just moulted from the down stage to the juvenile plumage, and that there are filaments of down still adhering to the tips of some of the feathers. All the wing-feathers are in quill and only about half-grown. It might have been possible for the bird to have flown a very short distance, but I think you will agree with me that it could not possibly have reached this lake from the sea some fifty miles away. It seems to me, therefore, certain that the bird was bred in the neighbourhood. The species has been known to breed

in Wales since 1904, and the fact that it breeds in Ireland is of the greatest interest.

"The second bird I have to show you is a young Greenfinch-Linnet hybrid (*Chloris ch. chloris* × *Carduelis c. cannabina*) brought to Mr. Williams in August by a local (Dublin) bird-catcher. The bird is in juvenile plumage, and I exhibit specimens of Greenfinch and Linnet in the same plumage for comparison. You will see that the hybrid in colouring and markings is very much like the Linnet, except that it has pale yellow axillaries and the outer webs of the wing-feathers are yellow as in the Greenfinch, the tail-feathers are a curious mixture, their outer webs being yellow as in the Greenfinch, and their inner webs with the large wedge-shaped white marks exactly as in the Linnet. The bill is intermediate between the two species."

At the next meeting of the Club there will be a discussion on "The Bearing of Oology on Systematic Ornithology," to be opened by the Rev. F. C. R. Jourdain, M.A.

The next Meeting of the Club will be held on Wednesday, the 10th of November, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting, MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	Percy R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCX.

The two-hundred-and-seventh Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, November 10th, 1915.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present :—Capt. J. P. Aldworth ; E. C. Stuart Baker ; E. Bidwell ; Clifford D. Borrer ; Arthur D. Bradford ; P. F. Bunyard ; Earl of Gainsborough ; F. H. Carruthers Gould ; W. R. Ogilvie-Grant ; Rev. James R. Hale, C.F. ; E. Hartert, Ph.D. ; Capt. Collingwood Ingram ; Rev. F. C. R. Jourdain, M.A. ; P. R. Lowe (*Hon. Sec. & Treasurer*) ; G. M. Mathews ; W. Norman May ; E. G. B. Meade-Waldo ; H. Munt ; T. H. Newman ; A. G. Price ; W. P. Pycraft ; W. E. Renaut ; C. B. Rickett ; A. D. Sapsworth ; W. L. Sclater ; D. Seth-Smith (*Editor*) ; C. G. Talbot-Ponsonby ; H. M. Wallis ; H. F. Witherby.

Guests :—C. E. Fagan ; W. J. F. Williamson.

The Chairman made the following announcement :—

"(1) At a Meeting of the B. O. C. Committee held this morning at the South Kensington Museum, certain proposals in connection with the publication of the

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'Ibis' and the 'Bulletin' of the Club were considered.

"As a result, it was proposed by the Chairman and agreed to by the Committee:

"That it be suggested to the Committee of the B. O. U. that the B. O. C. would be willing to publish only an epitome in the 'Bulletin' of the debates held during the current session, provided that the Committee of the B. O. U. were willing to and did publish *in extenso* in the 'Ibis' the papers read by at least the Proposer and Opposer of the debates.

"As regards the suggestion that descriptions of new species, genera, etc. should be epitomized in the 'Bulletin,' the Committee of the B. O. C. thought that this could not be entertained.

"(2) The following resolution was also adopted:—

"That in future Officers and members of the Committee of the B. O. C., instead of being elected by the Committee, shall be elected by the Members of the B. O. C. at a General Meeting—that is to say, in the same way as the Union Committees are elected—and that this proposaal be incorporated in the Rules.

"It was also proposed and carried that amendments to the Standing Rules of the B. O. C., as well as very important or urgent matters, shall be submitted to Members, to be voted upon at a General Meeting.

"It was also agreed that a General Meeting of the B. O. C. be held on the day of the October Meeting of each Session, and that the Treasurer shall present thereat the Balance-sheet and Report, and that the election of Officers, in so far as their election is required, shall be held at such Meetings."

The Chairman submitted these propositions to the Members of the Club, who approved of them unanimously.

Dr. E. Hartert exhibited and described a new subspecies of *Stachyris*, which he characterized as follows :—

Stachyris leucotis goodsoni, subsp. nov.

Similar to *S. leucotis leucotis* from the Malay Peninsula, but the crown darker and with a slaty tinge ; back, scapulars, and wing-coverts deeper rufous, tips to the longest upper wing-coverts darker rufous, not creamy rufous.

Hab. Borneo.

Type an adult male from Gunong Mulu, collected in March 1898 by John Waterstradt, in the Tring Museum. Named after Arthur Goodson, in the Tring Museum, who first called attention to this form.

Dr. Hartert also sent the following note :—

"Both Mr. Tom Iredale and Mr. Charles Chubb have called my attention to the unfortunate fact that the very nice generic name *Claudia* (Cat. B. Brit. Mus. xvi. p. 469, 1892), monotype *Claudia squamata* (Cass.), is preoccupied, and have urged me to propose a new one in its place. I herewith introduce for it the apparently new generic term

Reinarda,

genotype *Reinarda squamata* (Cass.)."

Dr. Percy R. Lowe exhibited a new subspecies of Ringed Plover, which he described as follows :—

Ægialitis hiaticola tundræ, subsp. nov.

A smaller and darker race than *Æg. h. hiaticola* (for particulars and measurements see 'Ibis,' July 1914).

Type. (*a*) Male in Coll. Brit. Mus., ex Coll. Henry Seebohm. No. 96.7.1.485. Valley of the Yen-e-say, East Siberia.

(*b*) Female, ditto. No. 93.1.25.186.

Obs. In the 'Ibis' for July 1914 (pp. 395–403) I made some remarks which had as their object the upholding of Seebohm's name of *Æg. hiaticola major* for British-bred examples of the Common Ringed Plover.

Unfortunately I had not then seen (as I stated in my

paper) any examples of Linné's *Æg. hiaticola hiaticola* from the topo-typical locality, viz. Sweden (Middle and South), with the result that I very unwisely jumped to the conclusion that Swedish birds would turn out to be identical with the smaller and darker race of Ringed Plover which inhabits the tundras of Russia, Siberia, and possibly Norway.

As a matter of fact they are not identical, although I was led to think so from seeing dark Norwegian specimens.

Moreover, there still appears to be some doubt as regards the question whether the race which inhabits the British Isles is or is not identical with the typical race inhabiting Sweden (*cf.* Brit. Birds Mag. vol. ix. p. 8 & pp. 79–80).

Dr. Hartert, I believe, is quite convinced that they do not differ. Herr Schiöler, on the contrary, in an exhaustive paper (Dansk. Ornith. Forenings Tidsskrift, March 1915, pp. 161–181) on the various races of the Common Ringed Plover, has lately held that they do ; but he disagreed with my statement that the British race is the larger. In this, of course, he was right, since, as I have just said, I was unfortunately comparing the British race with the tundra-breeding race.

Since then Prof. Lönnberg has very kindly sent me five breeding-plumage specimens from Middle and South Sweden (type-locality), and, as a result, I have come to the conclusion that without a much larger series it is impossible to come to any satisfactory conclusion on this question (for even in the small series sent there appeared, judging merely from size, to be two distinct races, corresponding to the two localities represented).

As regards, however, Ringed Plovers from the tundras of Russia and Siberia, there seems to be no doubt that these represent a distinct subspecies of the typical race. There seems, also, to be no doubt that this race requires naming, for, as implied by Dr. Hartert and Miss Jackson ('Ibis,' 1915, p. 533), Ménétriés's name of *intermedius* (Cat. Raisonné Caucasus, p. 53, 1852, Lenkoran) cannot apply to these tundra birds, and must be considered as a synonym of *Æg. dubius curonicus.*

I have carefully read Ménétriés's description of *intermedius.*

which he described from Lenkoran in the Caucasus. It is a very vague and unsatisfactory description ; but if anything can be made of it at all, I agree with Dr. Hartert in thinking that *intermedius* must be referred to the *dubius* group of Ringed Plovers—and this in more senses than one. I have been very courteously asked by Dr. Hartert to give a name to this tundra race of Ringed Plover, and I propose the above name.

Type in British Museum Coll.

Mr. E. C. Stuart Baker exhibited specimens of a new subspecies of Lark, which he proposed to call

Mirafra cantillans williamsoni, subsp. nov.

He made the following remarks :—

"The subspecies of Lark which I now exhibit I propose to name after Mr. W. J. F. Williamson, who discovered it at Bangkok, Siam, where it is said to be common. It is nearest *not* to typical *M. cantillans* from West and Central India, but to *M. philippensis* from Manilla and the Philippines.

"From *M. cantillans* it differs in being much smaller, with a wing varying between 68 and 73 mm. as against 77 to 82 in that bird. The upper surface is very much darker and the lower surface also decidedly so. In *Mirafra cantillans cantillans* the general tone of the upper plumage is a rufous sandy, the pale edges of the feathers dominating the dark centres ; in *M. c. williamsoni* the general aspect of the back is dark brown, the edges to the feathers being much narrower and grey or grey-brown in tint.

"From *M. c. philippensis* it differs in being rather paler and less black above and in being decidedly darker and duller in tint below. Every specimen in the series also shows some rufous on the breast and flanks which is never present in *M. c. philippensis*, and there are also fewer black markings on the breast and lower throat than there are in that bird.

"The types of the new subspecies are

♂. 31. 3. 15. Bangkok,

♀. 19. 4. 15. Bangkok,

which Mr. Williamson is presenting to the British Museum, together with others.

"I also exhibit a series of eggs of this subspecies taken by Mr. Williamson round about Bangkok."

Mr. W. J. F. Williamson gave an interesting sketch of the ornithological work which had been carried out in Siam.

Mr. Ogilvie-Grant exhibited a male specimen of the Scottish Crested-Titmouse (*Parus cristatus scoticus*), which he had shot in East Ross-shire, and made the following remarks:—

"On the 18th of October, 1915, I observed several Crested Titmice in company with a large, travelling flock, composed principally of British Coal-Titmice, Long-tailed Titmice, and Golden-crested Wrens, with a pair or two of Tree-Creepers. The low purring note made by the Crested Titmice, somewhat like the chirrup of the long-tailed species, at once attracted my attention, and I suspected that the birds would prove to be visitors from Scandinavia, as large flocks of migratory Thrushes, Blackbirds, etc., had just arrived from the north-east. The flock when under observation was feeding in the tops of some large Scotch fir-trees, and was consequently rather difficult to observe except with a glass. I shot the specimen exhibited for identification, and was surprised to find that it is a typical example of the Scottish form. With the exception of an example met with near Loch Loy, north-east Nairnshire, 16th of May, 1915 (Blackwood, Scottish Nat. 1915, p. 285), this appears to be the only recorded instance of the occurrence of the species outside Strathspey. The Crested Titmouse is fairly numerous in that area, where I have often observed small flocks of old and young birds in the summer months."

The Rev. F. C. R. Jourdain called attention to the record of eggs of the Crested Tit from Ross-shire in the 'Catalogue of the Eggs in the British Museum,' vol. iv.

Mr. Ogilvie-Grant also exhibited male and female examples of a Bulbul (*Rubigula johnstoni*) recently described from Siam by Nils Gyldenstolpe [Kungl. Svensk. Vet.-Akad. Handl. Bd. 1. no. 8, p. 25 (1913)].

The species was described from a single male specimen now in the Museum at Stockholm. Thanks to the efforts of Mr. E. G. Herbedt, the Natural History Museum had received two adult males and a female of this fine species, which was allied, on the one hand, to *R gularis* from Southern India and, on the other, to *R. dispar* from Java and Sumatra. From the specimens exhibited it would be seen that the species was easily distinguished from both these red-throated forms by its well-developed crest. The female of *R. johnstoni*, hitherto unknown, appeared to be similar to the male, but the specimen was in moult and somewhat imperfect.

The remainder of the evening was devoted to a Discussion on

The Bearing of Oology on Classification,

opened by the Rev. F. C. R. Jourdain with the following paper :—

At the present time there are undoubtedly large numbers of ornithologists who have ceased to regard Oology as having any great scientific value, and in consequence have shut their eyes to innumerable useful clues as to the relationship between various groups of birds. On the other hand, it is only fair to say that there are many egg-collectors who have no scientific object whatever in view. The mere amassing of enormous series of Guillemots' eggs or specializing in clutches of Tree-Pipits' eggs leads to no scientific end, and tends to the depreciation of a branch of ornithology which is already under-estimated ; but still more injurious is the mere purchasing of eggs, with little or no authentication in many cases, with a view to pecuniary gain by re-sale.

The ground-work of all scientific study is the provision of a large series of ascertained facts. It is therefore necessary that there should be collections of eggs (and without collectors there can be no collections), and also that the eggs

should be systematically studied. Of course we need the observations on the courtship, the breeding-habits, and the whole life-history as well; but we cannot dispense with the ground-work any more than we can work out the ornithology of a district without specimens of the birds themselves. This may be a truism, but the unfortunate fact remains that the workers in one branch of ornithology hamper and hinder, instead of helping, those who are engaged in that section on which I am speaking to-night.

At a previous debate at the B. O. C. the somewhat wearisome iteration of agreement or disagreement with the previous speaker was broken by a short speech by Mr. Iredale, which, unfortunately, was only very briefly reported in the official summary. We were discussing the question of what constitutes a generic character, and Mr. Iredale said that in the ideal scheme of classification one must not be content with anatomical distinctions, but that every stage in the bird's development—the egg, the embryo, the down-stage, the pterylography — should receive its share of consideration. Seebohm, in vol. v. of the Brit. Mus. 'Catalogue of Birds,' boldly accepted the spotted plumage of the immature Turdidæ as the main character by which he differentiated them from the other subfamily of Sylviinæ; and it is becoming more and more clear that in the future we shall not be content to depend solely on structural characters.

I have never urged that oological characters should be the dominant factor in determining the position of a bird in the genealogical tree of life. To do so would, in my opinion, be just as absurd as to attempt the complete classification of birds by one structural character. There is a natural tendency to exaggerate the importance of what one has made a special study of, as Garrod over-estimated the importance of the ambiens muscle, and others have laid undue stress on other characters, such as the intestinal convolutions or the deep plantar tendons. Even the maxillo-palatal bones, whose characters were so ably elucidated by Huxley, form only a part (although an important one) of the enormous mass of material from which the final

judgment must be made. Fürbringer, in his monumental work, selects some forty-eight taxonomic characters for consideration, and shows that what seem at first to be structural characters of the greatest importance, such as the structure of the bill and feet, often fail to elucidate the true affinities of birds.

But what attempt has been made in the past to put the case for Oology before the public? I believe that Prof. Newton, and perhaps I may add Dr. Hartert, began their careers with a high conception of the value of oological characters, but later in life came to modify their views. The literature of the subject is scanty, partly because the subject presupposes an acquaintance with the eggs of the whole bird-world, and not of the British Isles or even Europe only, while few men have the opportunity to study so vast a subject, and those who have the chance, neglect it.

Des Murs, in the "Première Partie" of his 'Traité général d'Oologie ornithologique' (pp. 1–37), gives an excellent sketch of the chief publications on the subject from the days of Marsigli and Zinnani to 1860, and discusses the various theories propounded in them, which are for the greater part too crude to detain us. It is enough to mention that Zinnani suggests their merits as articles of food as a basis for classification; Günther arranges them according to size, and Buffon, in support of his theory that the colours of eggs vary according to the plumage of the parent, quotes the eggs of the Woodpeckers as being similarly marked and spotted with red! Des Murs's own work is, however, a serious contribution to science. Somewhat diffuse, and as regards material in many cases altogether lacking or entirely in error, yet there is much of interest and value. It is somewhat startling to find the writer seriously discussing the possibility of the eggs of the Great Northern Diver being hatched in hollows under the parents' wings, as suggested by Pontoppidan, and his suggestion that the eggs of the Californian Vulture may really belong to some tree-nesting species of Pelican is amusing; but, after making all allowances for defective material, we find that his general conclusions are, at any rate, partly sound.

For example: (1) While the usual shape of the egg is oval, there are exceptions in some groups, such as the "ovalaire" shape of the Tinamous, the "elliptique" shape of the Grebes, Cormorants, and Pelicans, the "ovöiconique" with the Penguins and Guillemots, and the "cylindrique" with the Megapodes and Sand-Grouse; or, to take examples from the British list, the Accipitres, Meropes, and Halcyones may be cited as orders in which the shape is spherical, the Limicolæ as oviconical, and the Caprimulgi as cylindrical.

(2) That not a single aquatic bird has a glossy-shelled egg: this character is confined in varying degrees to land-birds.

(3) Eggs of any given species do not vary according to climate.

(4) The type of coloration, though varying in different species indefinitely, is, nevertheless, constant in certain families—*e. g.*, white in the Pigeons, unicoloured and without markings in the Pheasants and Tinamous.

(5) The shape and style of markings, apart from colour, are also characteristic of certain groups, such as the Buntings, the Grackles, and most of the American Orioles (Icteridæ).

In the classification which follows great stress is laid on the shape of the egg, while the texture of the shell and the colour and markings are also taken into consideration. The author then proceeds to take the various suborders, tribes, and families separately, and shows how wonderfully, on the whole, the oological characters follow the natural groups, though not equally clearly in every case. Thus, in the first suborder, the Accipitres, there are striking oological differences between the Vulturidæ, the Aquilidæ (under which head are included such forms as *Haliaëtus*, *Pandion*, and *Circaëtus*), and the Falconidæ (including, besides the true Falcons, the Goshawks (Asturinæ), and Harriers (Circinæ), as well as the Secretary Birds (*Gypogeranus*)). On the other hand, all the birds of the order Ptilopteri, comprising two tribes, the Aptenodytæ and the Eudyptidæ, although varying in shape from spheroidal to oviconic, agree in absence of colouring-matter. It is unnecessary here to analyse his results in detail, especially as in most cases he reserves his oological characters for

suborders or, more usually, for each "Tribus" and "Familie." Evidently, therefore, he values them chiefly for generic or family distinctions rather than for the main divisions. Yet it is surprising to find how frequently common characteristics are found throughout a whole order in more recent schemes of classification.

From 1860 up to the present time little has been written on the subject. Dr. Kutter's early death prevented him from giving us more than a couple of interesting papers in the 'Journal für Ornithologie' (1877–78) and another in 1889 *. Dr. Hartert also addressed the Senckenberg Society at Frankfort on the same subject in 1890, but this paper I have been unable to see. In 1905 the late Dr. E. Rey published a work on the eggs of mid-European birds †, classified according to oological characters. A very noticeable point about this work is that he does not confine himself to the egg as Des Murs did, but utilizes nesting-sites, number of eggs in the clutch, and even nesting materials as characteristics. Without going so far as this, except as forming a rough key for practical use, I think that he indicates a weak spot in Des Murs's work. The number of eggs in the clutch of any species varies within certain limits, but the consistency with which every known bird in the order Procellariiformes lays only a single egg, while most of the Columbæ, Caprimulgidæ, and all the Colymbidæ lay normally two, and the Laridæ, as a rule, lay three (with the exception of the Stercorariidæ, which only lay two), the Limicolæ rising to three and in most cases four, the Passeres generally four or five to six, and the Galliformes generally still more, indicates that here is a most valuable character which has been much neglected. As Dr. Rey confined his scheme to European birds, he avoided many of the problems which face the student of the wider subject. To these we will return later.

And now as to the eggs themselves. When we come to consider that the shell is merely a temporary protective covering of calcium carbonate, necessarily formed in a

* "Ueber d. wissenschaftl. Bedeutung der Oologie."

† 'Die Eier d. Vögel Mittel-Europas.'

spheroidal or ovoid shape by the exigences of its position in the oviduct and the necessity of passing along it, there are few facts in nature more remarkable, I may say astounding, than the infinite variety in shape, size, colour, texture, and markings. Is this all meaningless? To take the question of shape first; it is clear that it must be regulated by pressure of the upper part of the oviduct walls acting on the resistance of the egg itself while the calcareous covering is still soft. M. Hardy first suggested that the normal position of the parent would affect the shape of the egg. For example, the *Caprimulgus* spends most of its time in a prone attitude, and so lays a cylindrical egg, because it lies in the oviduct horizontally; while a Kingfisher or Bee-eater, adopting an upright position, lays a spherical egg, because the downward pressure and weight of the egg operate against the long axis. This theory, propounded in 1857, was rediscovered in 1891 by Dr. Nicolsky, and introduced as a novelty to the notice of the B. O. U. in the 'Ibis' for 1893. Pyriform eggs are supposed to be laid by birds which adopt both positions, such as Guillemots. Seebohm, in the paper referred to, suggested that long-legged birds hatched in an advanced stage of development, required elongated or pyriform eggs, while short-legged "præcoces" and even long-legged "altrices" laid rounder eggs. There is probably more than a fraction of truth in both theories, which connect the structure of the bird and that of the egg, but neither will explain every case. Then, when we come to consider size, we find that the egg is by no means always proportioned to that of the parent. The Cuckoo lays an egg sometimes smaller than a Sparrow's; the Apteryx lays a huge egg, which is a quarter of its own weight. Roughly speaking, size depends on the stage of development in the chick when hatched. In some groups, where the eggs are laid on the ground, the chicks are necessarily much more advanced than when they have the protection of a nest, where they are out of the way of many dangers. The length of the incubation period must also be taken into consideration, so that here we see a direct connection between the habits of a bird and the size of its egg.

Now we come to the question of colour. Here, at first, we are bewildered by the variation, but at last certain rules begin to dawn on us. Thus, colour tends to disappear when breeding is carried on in the dark, and colour is accompanied by light. Many eggs are more or less protectively coloured; in others the necessary protection is obtained by means of down or nesting material. Here again, then, we find structure and habits directly connected with colour in some cases. A bird whose eyes are constructed for night-work will naturally tend to nest in a dark hole, and its eggs will probably be white. The extraordinary range of variation in Cuckoos' eggs is the inevitable result of their parasitic habits on different species. But I have said enough to show that it is impossible to regard the variation in these respects as accidental, and therefore negligible. We may not understand the working of these laws, and at times one may be in opposition to another, in which case that of the greater importance to the preservation of the species will prevail; and this will, I think, explain the apparent anomalies which undoubtedly do exist.

If you took a representative collection of eggs of S. African birds, and showed them to a man who was well acquainted with British birds' eggs alone, he would be able to select with some certainty the eggs of the Birds of Prey, Owls, Pigeons, Herons, Ducks, Waders, Goatsuckers, Grebes, Cormorants, and many of the Passeres, such as Sparrows, Shrikes, Chats, Swallows, etc., but with the eggs of species which have no near allies on our list, such as the Fin-foot, the Hammer-kop, and the Weavers, he would naturally be at a loss. But the fact remains that he would be able to tell almost as much about the birds from a study of the eggs as from seeing the skins!

The fact is that in many orders the eggs are so constant to type as to be recognizable at a glance. It is almost impossible to mistake a Petrel's egg. Those of the Owls and Pigeons are almost equally characteristic. Among the the Accipitres we find two main types, but all conform more or less to one or the other. As a rule the Limicoline egg is unmistakable. On the other hand, among the Passeres, and even in a family like the Muscicapidæ of Dr. Hartert (or

Sylvidæ and Turdidæ combined in the B. O. U. List), we get almost every type of colour and marking. Sometimes in a single species there is the most extraordinary variation, as in the case of *Cisticola*, *Anthus trivialis*, and *Sylvia melanocephala*. We cannot, therefore, attach equal value to colour in all cases. In some genera and families it runs riot, in others it is rigorously confined to one type; but this furnishes no reason for ignoring it. Anyone who takes the trouble to study the structural characters by which the orders and families of birds are differentiated, will see that they cannot be used rigidly: what is crucial in one case is valueless in another. In the Accipitres the beaks are all of one type, but the bill of the Curlew is more like that of the Ibis than the Avocet.

In order to appreciate the value of oological characters let us see what they have taught us in the past. Look back at the older works on ornithology, even as recently as Yarrell's day, and see the wide gap between the Laridæ and the Limicolæ: the close association of the Procellariidæ with the Laridæ, with which they were grouped under one heading, the separation of the Charadriidæ from the Scolopacidæ by the Gruidæ and Ardeidæ!

Since Fürbringer's day there has been a distinct tendency to separate the Striges and Accipitres: the former being classed with the Coraciiformes, and their apparent likeness to the Accipitres being ascribed to parallel development only. Certainly this derives some support from Oology. The wide gap between the Ardeidæ and the Gruidæ is also amply confirmed by the study of the eggs.

That we have still much to learn has been shown quite recently by Dr. P. R. Lowe in his study of the Chatham Island Snipe, formerly ascribed to the genus *Gallinago* and now shown to be a "living fossil," a survival from a far more ancient stock. The difference between the eggs is so striking that it arrests the eye at once. The eggs of *G. gigantea* and *G. stricklandi* are Scolopacine, and it will be interesting to see whether further studies of their anatomy will show that they differ radically from *Gallinago*.

In the B. O. U. List the orders Podicipediformes and

Colymbi are separated. Mr. Ridgway unites them in a single order with two families. I think that if there is any significance in Oology they should be separated; not merely because their eggs differ, but because, while the Grebes lay four to six chalky-white eggs, the Divers lay only two dark brown, hard and smooth-shelled eggs with black markings. It is true that among the Steganopodes we find the Gannets laying one or two and the Cormorants and Shags three to five, but the eggs are all of the same character, and only differ in number.

I admit there are cases which present difficulty: some of the Passeres lay white eggs, *e. g.* the *Montifringilla* genus and the Cinclidæ; but perhaps this may be accounted for by the gradual atrophy of the colour-producing ducts through Natural Selection, owing to their nesting in covered sites, and perhaps the same may be the case with *Podoces humilis*. But when we find *Dromas*, a Limicoline bird, laying a single large, white, dull-shelled egg, oval in shape, at the end of a burrow, I confess that all explanations seem inadequate. Professor Newton always maintained that definite proof of identification was lacking, and certainly we should like to know much more about such an extraordinarily aberrant form.

We do not know enough about *Dromas* to define its position with exactitude, and I should like some of our anatomists at home and some of our field-workers abroad to concentrate their efforts on this species *. These are not the only problems presented by the study of Oology, but merely a selection, and it must be remembered that even in cases where the range of colour-variation is extreme, there are other characteristics which are unaltered. The shape, texture, and clutch of one egg only, are practically constant in the case of the Guillemot, although the colour and markings differ to an extraordinary degree. What we want to foster is a broader outlook among all branches of ornithologists: the recognition of the value of *every* branch of ornithological research, and the abandonment of the attitude that

* Dr. P. R. Lowe informs me that he has been investigating the osteology and life-history of this species, and hopes shortly to publish the results in a paper in the 'Ibis.'—F. C. R. J.

scientific ornithology consists solely of the structure and classification of birds and their synonymy, and that it is apart from the study of the life-history of the bird, and that this can be ignored in scientific study and should be relegated to "popular" ornithology. And among egg-collectors we want to do away with the idea that the collection exists solely for the pleasure of the owner: that the justification of its existence lies in the use made of it and of—what is equally valuable—the knowledge gained in acquiring it by one's own exertions.

The Chairman: I think we are all very much interested in Mr. Jourdain's paper, but before I call upon Dr. Hartert to answer it, as I do not intend to take any large part in the discussion, I must make three points which struck me during Mr. Jourdain's lecture. He laid some stress upon the fact that the size of the egg depended, in his opinion, considerably on the state of development of the young bird at the hatching period and also on the time of incubation. Well, I should like to draw the attention of the Club to this fact, that two most extraordinary examples of very large eggs are the Guillemots and Apteryx, eggs which were both cited by Mr. Jourdain. The Apteryx is hatched in such an advanced state of development that it can gain its own livelihood when it is hatched, while the Guillemot is in a very low state of development. On the other hand, quoting from one author, he remarked that with regard to the large pyriform eggs of the Limicoline and allied birds, the birds were so highly developed that they required a large egg to develop in before hatching. Well, the most advanced birds of the whole ornithological world are the Megapodes, which are hatched by the heat of decaying vegetable matter, and when they are hatched are able to fly, and they have not pyriform but semicylindrical eggs, somewhat similar to those of the Goat-suckers, although I quite admit that they are large for the size of the bird.

Dr. E. Hartert: History repeats itself, but with changes. Twenty-five years ago I was asked to give a lecture about Oology before the Senckenbergische Gesellschaft in Frankfurt, and I called it "On Oology and its Importance for Science." To-day I am asked to "oppose" a lecture on

the same subject in the B. O. C. I am afraid I must disappoint you very much, because I agree with my "opponent" in almost every case. It is true that twenty-five years ago I was more enthusiastic about the services which the study of eggs would render to classification. I never went so far as to attempt an ornithological system based on oological characters, but I thought that eggs would in many difficult questions finally decide the systematic position of birds difficult to place. I do not now hold this view, because there are so many cases where eggs, if I may say so, leap out of the line, *i. e.* where certain genera or species have eggs that differ materially from those of all their allies. One of the most striking cases, already mentioned by Mr. Jourdain, is that of *Podoces humilis*, a member of the family Corvidæ, which lays a snow-white egg. Another is that of *Dromas*—also mentioned before by Mr. Jourdain—which certainly lays an un-Wader-like, single, large, white egg. Again, the eggs of *Montifringilla* are white, a character only found in this genus among the Fringillidæ. *Opisthocomus*, the "Hoazin," lays a typically Ralline egg, yet its anatomy is thus singular, that it has been placed in a special order—but close to the Rails, and in this case I believe that the Ralline egg is really an ancient character of significance. I have no doubt that eggs preserve ancestral characters very long, because they are less apt to be modified by external influences: the duration of their existence is extremely short, as compared with that of the birds; during this period they perform no active functions and come only into passive contact with their surroundings.

But striking exceptions from the rule are not confined to coloration. The shape of the eggs is generally characteristic of larger groups, such as orders or families, but there are some exceptions: we find, for instance, that the Chatham Island Snipe lays eggs that are not in the least pyriform, and the same is the case with the Woodcock, yet both genera are closely related to that of the Snipes, *Gallinago*, with its pyriform eggs. The number of eggs in clutches is, in some cases, very constant.

Humming-birds lay always two eggs, and I do not know

of exceptions ; most Swifts lay two eggs, yet among our Common Swift and other species three are not very rare, while some species lay mostly three eggs, so that this rule also is not without exceptions. In some cases, as in the Rough-legged Buzzard, the number of eggs in the clutch varies according to the abundance of food in different years ; in *Passer simplex* the clutch varies from one to five eggs ! The texture of the shell is much neglected by collectors, and so is the comparative thickness, though both characters are generally fairly constant, and in some cases important—I will mention only the comparative great thickness of the egg-shell of *Cuculus canorus*—but, on the other hand, the same texture occurs in eggs of widely different families !

I therefore conclude that characters of the egg-shell cannot *decide* the systematic position of any bird against other factors, but that they can give very useful hints and can corroborate views gained from anatomy, osteology, pterylography, structure of bills, feet, etc.

I might here repeat what I said twenty-five years ago : Nowadays the words oology and oologists sometimes produce unkind thoughts and words, suggesting the plunder of nests and extinction of rare birds, or, what is still worse, of work without any scientific value. This happens because the public does not differentiate between an egg-collector and an oologist. Of course the collector likes to be called an oologist, while this name should only be applied to those who study their eggs and make their studies known to the scientific world. The fact, however, is that the number of real oologists is very small, while that of egg-collectors is very large. On the other hand, if one wishes to study Oology, one is, in most cases, obliged to make a collection, because very few museums possess a really large collection, containing many reliable eggs of foreign birds as well.

But the study of eggs is indispensable, quite as indispensable as that of the caterpillars is for a lepidopterist, or that of the seeds for a botanist. We cannot say that we know birds if we are only acquainted with their structure and feathers. Moreover, it often opens wide vistas and assists us sometimes in classification.

Much harm is done by eggs bought from unreliable dealers, or eggs collected by unreliable persons in the field. Wrongly identified eggs do more harm than good, but unfortunately there are many in the hands of collectors who buy them from dealers, and many in the collections of the British Museum and of Adolph Nehrkorn—the two largest general collections of eggs. It is important with unknown eggs that the parent bird should be collected, and in order that these birds may later on be available as proofs of the identity of eggs, this should be clearly indicated on the labels. We fix, in the Museum at Tring, a blue label to the skin of a parent bird of which we have the eggs, so that it can easily be found afterwards. This is in many cases as important as the red type-labels, which, unfortunately, so far as I know, only the U.S. National and the Tring Museums have introduced, an example which, however, should be followed by every museum in the world.

Mr. Pycraft: In the first place I cannot help feeling that Mr. Jourdain's notions of classification, and the generally accepted notions of classification, are not quite on all fours. I gather from his remarks that classification, to him, is but a mechanical process of "sorting out."

But if classification is to be of any permanent value it must express the genetic relationship, not only of species, but of the larger groups, one to another, so far as this is possible. I fail, therefore, to see that eggs can be of any great value from this larger point of view. Nothing he has said to-night tends to show that they are. In certain cases it may be established that the characters of the eggs are correlated with somatological characters, but in themselves the shells of eggs can afford but a very indifferent guide to the systematist. It is not quite correct to say that Garrod founded a classification on the ambiens muscle, because he used this in conjunction with a number of other thigh-muscles, and characters furnished by the feet.

If we are to make a really scientific classification we must—and this is now generally admitted—take a large number of "factors" into consideration. Some, such as the condition of the young at birth, the shape of the wings and beak, the

characters furnished by the eggs, are "adaptive" characters, and must be used with caution. Much more reliable are the data furnished by the muscles, skeleton, and embryo.

In the case of the Grebes and Divers, to which reference has been made, it is to be noted that, according to the evidence derived from the eggs, these two belong to widely different orders. Yet the evidence furnished by their anatomy seems to show, fairly conclusively, that they are derivatives of a common stock, and not that their close likeness is due to parallel development, such as obtains between the Owls and the Accipitres. There can be no doubt but that the Owls are Coraciiform birds, while the Accipitres are of a Ciconiiform stock.

With regard to the coloration of white eggs, Mr. Jourdain holds that eggs are white because of the atrophy of the pigment-glands of the oviduct. That is true, but it does not go far enough. I think the whiteness of such shells—which are usually laid in holes—is to be attributed to the action of Natural Selection which has eliminated those birds which, breeding in holes, laid coloured eggs. I fail to see otherwise why Thrushes' eggs are coloured, for so far as I know, this coloration confers no benefit on the species.

Without doubt Mr. Jourdain has raised some interesting points in his endeavour to demonstrate a direct relationship between the coloration of the egg and the life-history of the bird.

Mr. E. C. Stuart Baker: I would preface what I have to say to-night by stating that I am firmly of opinion that Oology can be of the greatest use as an aid to classification, but I think that it must be worked in moderation, as should be every other method by which we differentiate between species, genera, and families. What may be a characteristic of the greatest importance in one case may be of no use whatsoever in another. Oology, I consider, is of less use in determining differences than as a guide which shall lead us to examine more carefully species, genera, or families which show striking anomalies in the eggs they lay.

Colour is, of course, only one of the many characteristics of eggs which have to be taken into consideration; texture,

shape, weight, and even the colour of the inner lining of eggs are all characters of importance, though varying in degree in different families or orders.

Oology, as an aid to classification, is still in its infancy—indeed, it is still altogether ignored by some of our cleverest ornithologists ; but many years ago I was convinced of its utility, and in 1895 I wrote an article (a very crude one) on the subject in 'The Asian,' which was afterwards rewritten for the 'Ibis.' Another twenty years' experience has confirmed me in my opinions whilst warning me that no deductions drawn with its aid can be universally applied.

To-night we have had many of the pros and cons very ably laid before us, but I fancy that the net result of our discussion is that we stand much as we did before, with a verdict of "not proven." The mass of evidence I have collected, both in favour of and against my own opinions on the subject, are enough to convince me that it is impossible in a discussion of this nature to touch even the outermost edge of the argument which could be brought forward by either side.

I do not, therefore, propose to place before you any arguments in speech one way or the other ; but I should like you to see a few typical exhibits which may serve to demonstrate how, in many cases, the assistance to classification given by eggs is self-evident, whilst in others the very contrary is the case.

There are, of course, a very large number of eggs of which one can at once say, this is laid by such or such a genus or family. Thus, one cannot fail to identify the eggs of an Ant Thrush (Pittidæ), of a Trogon (*Harpactes*), or of an Oriole (Oriolidæ), and if other types of eggs are found and the bird which lays it is declared to be one of these genera, we at once feel there is a mistake somewhere and have a hunt round for it. Again, there are certain genera and families whose eggs cannot be separated from many others, such as the blue eggs of the Hedge-Sparrows, yet if we find a pink or a brown egg we at once know that the layer thereof is not an Accentor, however much she may look like it.

I have not troubled to bring to-night exhibits of this nature; but those I do produce will, I think, show the difficulties under which the systematic oologist labours.

I exhibit eggs of a number of species of Warblers (Sylviidæ) selected from nine genera and thirteen species. Now the merest glance at this box suffices to show how impossible it would be to lay down any laws which shall say what is the definition of a Warbler's egg. Further than this it shows not only that we cannot lay down limits for the family, but that in many cases we cannot give a general description even of the eggs of the genus or species.

Amongst other eggs shown are those of *Horornis*, *Acrocephalus*, and *Chætornis*, which may be said each to be typical for the genus; then there are other genera such as *Prinia*, which show the most striking variations in colour; and again, *Franklinia*, which cannot, however, be said to be *a*-typical, as each species of this genus lays eggs of all the varieties shown, as well as many more. Then there are other species in this family which lay eggs of many types and colours; and I show here two boxes which contain series of eggs of two of our most common Indian birds, the Tailor-bird (*Orthotomus sutorius*), and the Brown Hill-Warbler (*Suya crinigera*). I also exhibit three other boxes to show that similar variations are to be found in other families. These shown here are the eggs of two small Babblers, *Pyctorhis sinensis* and *Alcippe*, and of the Broad-bill, *Psarisomus dalhousiæ*.

The next difficulty the oological systematist has to meet is the frequent close resemblance between the eggs of widely divided species and families. Titmice are common birds with eggs of most species very much alike. I here show clutches of eggs of three common forms of Titmice, and below these I give clutches of six other genera which have nothing whatsoever to do with the Paridæ. The Rose-Finches are also birds which lay boldly-coloured and well-marked eggs, and I exhibit a clutch of eggs of the Beautiful Rose-Finch (*Propasser pulcherrimus*), with a clutch of Babblers' eggs on either side of it, and I am sure you would find it hard to say

which was which, yet there is no connection between the three genera *Propasser*, *Minla*, and *Siva*.

The next box to which I would draw your attention is one containing unicoloured eggs, and is only shown because I once had my attention drawn to the fact that so many of the small Thrushes (Chats, Nightingales, etc.) laid eggs of this description. The box exhibited shows that these birds hold no monopoly of unicoloured eggs : the eggs in it are taken from the families of Thrushes, Chats, Babblers, Shortwings, Weaver-birds, Sunbirds, etc.

Having said so much and produced so many boxes which all go to show how difficult it is to prove my own opinion, I will now ask you to inspect the other boxes of my exhibit, each of which contains a series of different genera of Thrushes, a family which I have selected as being one of the most wide-spread and best known. At the same time the eggs exhibited are mostly of the rarer genera, not only because they may be more interesting, but because so many of those present will be able to fill up the gaps from their own personal knowledge of Thrushes' eggs. For instance, it would be easy, I am sure, for Messrs. Jourdain, Bunyard, and others to produce series of the Common Song-Thrush and Common Blackbird which would completely fill the gap between the genera *Monticola* and *Geocichla* as shown here.

The series of true Thrushes' eggs runs from the blue eggs of *Monticola* to the extremely erythistic eggs of *Petrophila*, and it is remarkable that these two genera which lay eggs composing the extremities of the series are, by many ornithologists, combined under one and the same genus.

The Rev. F. C. R. Jourdain, replying, said that it was erroneous to state, as Mr. Pycraft had done, that Garrod's classification was not founded upon the presence or absence of the ambiens muscle, as Garrod had divided all birds into two subclasses according to this character.

The value of oological characters, as regards the larger group of birds, was shown by the fact that the results achieved by the labours of anatomists during the last fifty years were

clearly demonstrable by the study of eggs : the union of the Charadriidæ and Scolopacidæ, the separation of the Lariidæ and Procellariidæ, and so forth.

In explanation of the anomaly of *Montifringilla*, *Cinclus*, and *Podoces* laying white eggs, Mr. Jourdain called attention to an exhibit kindly prepared for the purpose by Mr. P. F. Bunyard, showing that many Passeres which normally laid coloured eggs occasionally produced white eggs or eggs with a white ground. If advantageous to the species when breeding in covered sites, these eggs would be perpetuated by Natural Selection.

Replying to Mr. Stuart Baker, Mr. Jourdain said that all his arguments and examples were drawn from a single order, the most highly developed one, in which colour variation might almost be said to be normal, and left untouched the important fact of the comparative fixity of type in the older and less highly developed orders.

The next Meeting of the Club will be held on Wednesday, the 8th of December, 1915, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting, MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	Percy R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Institution
JAN 17 1916
National Museum

No. CCXI.

The two-hundred-and-eighth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, December 8th, 1915.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present :—Capt. J. P. Aldworth ; E. C. Stuart Baker ; E. Bidwell ; S. Boorman ; A. D. Bradford ; P. F. Bunyard ; C. Chubb ; H. O. Forbes ; F. H. C. Gould ; W. R. Ogilvie-Grant ; Rev. J. R. Hale, C.F. ; E. Hartert, Ph.D. ; Rev. F. C. R. Jourdain, M.A. ; P. R. Lowe (*Hon. Sec. & Treasurer*) ; G. M. Mathews ; H. Munt ; T. H. Newman ; C. E. Pearson ; F. R. Ratcliff ; W. E. Renaut ; C. B. Rickett ; A. D. Sapsworth ; D. Seth-Smith (*Editor*) ; H. M. Wallis ; H. F. Witherby.

Guests :—E. E. Adams ; C. E. Fagan ; E. H. Hickman.

The Chairman delivered his Annual Address :—

"Brother Members of the B. O. C.,—

"Fourteen months ago, when I last addressed you, we were in the throes of the greatest war and, incidentally, the greatest and most tragic catastrophe the world has ever known ; unfortunately, when I now come to address you

once more, we are still far from seeing peace—in fact, I might almost say as far off as then. This terrible war has not spared our Club, and we all have to regret the personal loss of many friends and also an irreparable loss to our favourite science.

"We have to mourn the deaths of Lieutenant R. B. Woosnam, Captain The Hon. Gerald Legge, Major C. H. J. Whitehead, Lord Brabourne, Lieutenant K. J. Meiklejohn, Lieutenant C. M. Dyer, and Lieutenant Lewis N. G. Ramsay. Although not all members of our Club, they were one and all most ardent and indefatigable ornithologists, and their loss is, indeed, a hard one to bear.

"Among our allies in France, we have to regret the death from wounds of Prince E. d'Arenberg. On the side of our enemies Herr Geyr von Schweppenburg has lost a leg and Count Zedlitz has also been wounded, while Hermann Löns has been killed. We have also to regret the loss, previously announced, of Mr. R. M. Barrington. In Germany, Ornithological Science has lost through death Count Berlepsch, Professor Bernard Borggreve of Wiesbaden, Herr G. J. von Wangelin, and Dr. Gottlieb von Koch; also the author and artist of the 'Oologia Palæarctica Universalis,' Herr Georg Krause. In Hungary, the death of Herr Otto Herman removes the pioneer of bird-protection and of bird-migration studies in the Austrian Empire. Austria has sustained another loss in the death of Professor Augustin Bonomi of Rovereto.

"The beginning of the present month has added to our many losses one which will more than arouse the sympathies of ornithologists throughout the world. On Dec. 2nd, Henry Eeles Dresser passed away in Cannes at the age of 77. His ornithological activity extended over half a century, and his more important writings cover 45 years, beginning with his paper in 'The Ibis' for 1865, 'On the Birds of Southern Texas,' and ending with the completion of his 'Eggs of the Birds of Europe' in 1910. His fame for all time will, however, rest on his monumental work 'The Birds of Europe,' which he commenced in collaboration with the late

Dr. Bowdler Sharpe, but completed alone. Besides numerous articles, he also wrote several monographs, the most important being the 'Monographs of the Rollers and of the Bee-eaters.' A further very valuable publication by H. E. Dresser is his 'Manual of Palæarctic Birds.'

"The continuance of the war has undoubtedly much interfered with the prosecution of Ornithology and ornithological exploration; but, considering the almost worldwide upheaval, I consider that our science has remained remarkably alive and a lot of good work has been done.

"Mr. Eagle Clarke and the Misses Rintoul and Baxter have continued their highly valuable studies on migration, and Mr. Witherby and Miss Jackson have done much to further our knowledge in connection with moults and plumages connected with British Birds, and Rüppell's Warbler and Dusky Warbler have been added to the British List. The new edition of the 'B.O.U. List of British Birds' has appeared, which gave rise to several articles of comment by Messrs. Iredale, Hartert, Bannerman, Ticehurst, and the authors of the Hand-list. Mr. Howard's very exhaustive life-history of the 'British Warblers' has been brought to a successful finish.

"In Germany and France a number of very interesting notes on the birds in and around the fighting area have been published by Count Zedlitz (Poland), Hans Böker (N. France), Dr. Gengler (who even found time to make a collection of Belgian Birds, about which we may hear later), Lieutenant Schalow, and Captain Bacmeister; while on the French side Messieurs Albert Hugues, L'Hermite, Février, and de la Fuye have published short articles, and the Comte de Tristan a very interesting and extensive one on the 'Birds of the Dunes of Nieuport' during the war.

"In France the following articles of special interest have appeared:—'A List of the Raptores of the Peninsula of Dakar,' by Dr. Millet-Horsin; 'Notes on the Song-birds of Vendome,' by M. Coursimoult; 'A List of Birds observed in Morocco between the Years 1884 and 1914,' by H. and A. Vaucher; and 'Observations on the Birds of the

Neighbourhood of Sfax' (Tunis), by P. Bédé. A little book called 'La Protection des Oiseaux,' Guide pratique by Monsieur Magaud d'Aubusson, will please those interested in 'Bird-Protection,' though I fear the introduction and great spread of the Mongoose and the Mynah (*Acridotheres tristis*) will render null and void much of the protective work in the French Colonies, and incidentally also all over the world.

"In Germany no important works on the birds of the country have appeared during the year, but many local lists and observations have been published.

"The most important papers on African birds have been those of Mr. Claude Grant on the East African collections of Captain G. P. Cosens, made by Mr. Willoughby Lowe, and Mr. Bannerman on the birds collected by the late Captain Boyd Alexander. I should, however, like to point out that Mr. Claude Grant assigns the Ostrich egg obtained at Loita to *Struthio massaicus*, while in reality the Ostrich of the Gwasso Nyiro and Loita Uplands is the blue-necked and blue-thighed *Struthio molybdophanes* and NOT the red necked and thighed *S. massaicus*.

"In Italy a most interesting history of the Turin Museum collections has been published by our veteran friend Count Salvadori.

"In Holland and Denmark the respective Ornithological Societies have been very active, and much of interest has been published.

"Our Russian confrères have been very active, and much has been written on the Ornis both of their Asiatic and European possessions. We are specially glad to have at last a German translation of Professor Suschkin's most important work in Russian on the 'Birds of the Middle Kirghize Steppes.' Two articles—or, rather, works—on Oceanic birds, though not published in the last 14 months, must be mentioned, viz. Dr. Sarasin's 'Birds of New Caledonia and the Loyalty Islands' and Mr. Bryan's 'Some Birds of Molokai.' In both these highly interesting accounts the authors deplore the ravages in the Avifauna carried out by the Mynahs and Mongoose.

"In India and Siam active work is being carried out by Colonel Harington and Mr. Williamson, while large collections have been made in Siam and Sumatra by Count Gyldenstolpe, and Messrs. Robinson and Kloss, which have been and are being worked out by them.

"In America the most important fact of the year was the death at a great age of the last living individual of the Passenger-Pigeon (*Ectopistes migratorius*).

"Numerous articles have appeared on fossil and recent birds of the United States, as well as numerous notes. Among German articles of note are the 'Fauna Faeroënsis' by Laubmann, 'Bernard Hantzsch's Ornithological Collections in Baffinsland' by Dr. Erich Hesse, and several articles on the 'Ornithology of the Caucasus' by Laubmann.

"Among miscellaneous articles may be mentioned one on 'Mortality among Waterfowl around Great Salt Lake, Utah' by A. Wetmore, 'The Penguins of South Georgia' by R. C. Murphy, and 'The Wren of St. Kilda, its Status, Plumages, and Habits' by Mr. Eagle Clarke.

"Many large collections have been made in Mexico, Central America, and South America, among others, by Messrs. S. M. Klages and Walter Goodfellow.

"Mr. Fleming describes a new subspecies of *Turnagra capensis* (=*crassirostris* auct.) from Stephen's Island, New Zealand, and incidentally again raises the question of the extermination on that island of the little *Traversia lyalli*. It has been said that it was exterminated by collectors; while I wish to emphasize once more that it was exterminated by the lighthouse-keeper's cat, and the eleven specimens known to science were rescued by the Lighthouse-keeper Lyall from between the claws of the cat.

"The stupendous work by Mr. Gregory Mathews on 'The Birds of Australia' is progressing steadily, volume iv. parts 2 & 3, and volume v. part 1, having appeared in 1915. 'The Austral Avian Record,' 'The Emu,' and 'The Journal of the S. African Ornithologists' Union' continue to flourish and bring much of interest. At the Tring Museum work is progressing, though little of importance has come

to hand, the expected collections from the Louisiade Islands having not yet reached us. The principal collections which have arrived at the British Museum lately are the Siamese collections of Mr. Kloss and the very important one made by Mr. Butler south of Khartoum. It is of importance to mention here the exploring expedition of Stötzner to the interior of China, the Ornithologist accompanying which is Dr. Weigold.

"In apologising for the shortness of this report of the last fourteen months' ornithological progress, I hope, if we live to enjoy another Session, we shall meet under happier conditions and in a restored peace."

Mr. E. C. Stuart Baker exhibited two specimens of a new subspecies of *Mirafra*, for which he proposed the name

Mirafra assamica marionæ, subsp. nov.

He made the following observations:—

"The interesting specimens shown form a link between *Mirafra assamica* and *Mirafra microptera*, resembling the former most nearly in coloration and the latter in size.

"From *M. assamica* it also differs in being more brown and less grey above and paler below, whilst from *M. microptera* it differs in being grey-brown rather than rufous-brown or sandy brown and, generally, much darker. It has the same ill-defined nuchal markings as are to be found in *M. microptera*, but these are whitish instead of rufescent. The wing averages about 75·0 mm. or about the same as in *M. microptera* as against a full 84 mm. in *M. assamica*.

"I name this new Lark after Mrs. Marion Williamson, who obtained the specimens.

"The types are:

♂. Ayuthia, Central Siam, 8.7.14.
♀. " " " "

"These two skins, which are those of a pair killed by the same shot, have been presented to the Museum by Mr. Williamson."

Dr. Ernst Hartert exhibited and described some new subspecies of birds from the Indo-Malayan countries, which he characterized as follows :—

Malacocincla sepiaria tardinata, subsp. nov.

Differs from *M. s. sepiaria* of Java and Bali by the brighter ochraceous colour on the flanks and under tail-coverts, this colour spreading nearly over the whole abdomen, which is broadly white in the middle in *M. s. sepiaria*. Wing : ♂ 77 mm., ♀ 71.

Hab. Eastern Malay Peninsula.

Type : ♂. Gunong Tahan, 1000 feet, collected by John Waterstradt in Nov. 1901. In the Tring Museum.

Obs. This bird agrees in coloration of the underside exactly with *Malacocincla* (*Turdinus* auct.) *abbotti olivacea*, while it has the beak and grey superciliary line, as well as the dark feet, of *M. sep. sepiaria*. It has, consequently, in collections been mistaken for either of them. In Nov. Zool. 1902, p. 563, I called attention to the differences, but at the same time enumerated the specimen from Gunong Tahan under *M. a. olivacea* (p. 562).

Pomatorhinus schisticeps cryptanthus, subsp. nov.

Colonel Harington, in his "Notes on Indian *Timeliidæ*," Journ. Bombay Nat. Hist. Soc. of Nov. 1914, p. 330, has already called attention to this form, in saying that specimens from Nepal to Sikkim and Bhutan "are noticeable for the dark colour of the chestnut band, whilst those to the east gradually get paler, until they merge into *P. s. mearsi* O.-Grant." As it is, most of these *Pomatorhini* are somewhat variable in coloration, but all specimens from the Cachar Hills and from Margherita in Assam agree fairly well with each other, and differ at a glance from a series of *P. schisticeps schisticeps* from Sikkim and Nepal by being less dark and less olivaceous on the upperside, and by the chestnut on the sides being brighter and richer, and extending farther down along the flanks. They are, indeed, very closely allied to *P. s. mearsi*, but the upperside and edges to the

primaries are not so pale, but distinctly darker, and the sides are of a deeper chestnut. Wings, 94–102 mm.

Hab. Hills south of Brahmaputra, Cachar to Patkoi Hills (series collected by E. C. Stuart Baker and H. N. Coltart).

Type: ♂ ad. Margherita, Upper Assam, 22. ii. 1902, collected by Dr. H. N. Coltart. In the Tring Museum.

Erythrocichla bicolor whiteheadi, subsp. nov.

Similar to *E. bicolor bicolor* from Sumatra and the Malay Peninsula, but the forehead much less rufescent, almost uniform with the interscapulium.

Hab. Borneo.

Type: ♂ ad. No. 389 Whitehead Coll., Benkoker, 11. x. 1885. In the Tring Museum.

Macronus ptilosus reclusus, subsp. nov.

Differs from *M. p. ptilosus* of the Malay Peninsula and Sumatra in having the whole breast and abdomen fulvous-brown, without a slaty-grey patch in the middle of the breast and abdomen, and the crown of the head is of a lighter rufous; the back and flanks of a slightly lighter brown.

Hab. Borneo.

Type: ♂ ad. Kina Balu, 1000 feet. Collected by John Whitehead, 17. i. 1888. In the Tring Museum.

Obs. The name *trichorrhos* of Temminck cannot be accepted for this new form, because the grey middle of the abdomen is clearly mentioned in the original description, although the species was said to have come from "Borneo and Sumatra." Salomon Müller discovered it first on Sumatra, but says that he later on also found it on Borneo. As the type-locality for Temminck must be designated the lowlands of Sumatra.

Mr. P. F. Bunyard exhibited a clutch of nine eggs with down and feathers of the Ring-necked Duck (*Nyroca collaris*) from Alberta, Canada, from the collection of Francis M. Blackwood, taken on May 31st, 1902; also a clutch of seven

from the collection of Walter Raine, taken by F. Baines at Crescent Lake, Assimbora?, N.W. Canada, and made the following remarks:—

"The claim of this comparatively widely distributed American species to a place on the British list rests on the evidence of a single specimen found in Leadenhall Market (see B. O. U. List, 2nd ed. p. 177), and, as far as I am aware, the eggs, down, and feathers have not yet been described by any British Ornithologist, neither are they represented in the National Collection.

"*Description.—Eggs.* There are apparently two types: those of the first type are pale olive-green, very much like the eggs of the Pochard (*Nyroca ferina*); those of the second type are pale olive-green tinged with brown, like eggs of the Tufted Duck (*N. fuligula*). Shape closely resembling those of the Tufted Duck. Size intermediate between those of the Tufted Duck and Scaup. Texture of shell finely grained, but rather coarser than in those two species. Inner membrane distinctly reddish brown when held to the light.

"*Feathers.* Three distinct patterns occur, as is also the case with the nest-feathers of the Tufted Duck and Scaup: no. 1 white, pale brownish at the base; no. 2 a self-coloured feather of pale chocolate-brown with paler centres, darker towards the tip; no. 3 same colour as no. 2, the tip, however, is slightly speckled, as with those of the Pochard and, according to Mr. Heatly Noble, those of the Scaup. Though I have not found this feather in the nests I have examined, the feathers of the Ring-necked Duck would, however, appear to have one distinguishing characteristic—the extreme tips of the speckled feathers are not white, as in those of the Pochard and Scaup. It remains, however, to be proved as to whether this is constant.

"*Size.* The same as those of the Pochard, smaller and narrower than Scaups, and much larger than those of the Tufted Duck.

"*Down.* Slightly paler than that of the Scaup; intermediate in colour between that of the Scaup and Pochard;

much paler than that of the Tufted Duck. General appearance pale chocolate-brown, with conspicuous white centres. Size the same as that of the Scaup and Tufted Duck.

"With more material to work upon it may be possible to detect certain characteristics by which the eggs, down, and feathers of the Ring-necked Duck may be separated from those of the other members of the genus *Nyroca* mentioned. From the material I have very carefully examined, I am at present unable to distinguish any marked characteristics by which they could be safely indentified.

"Weight, average of 16 eggs, 4·916 g. Scaup (35 eggs), 5·795 g. Pochard (33 eggs), 6·30 g. Tufted Duck (31 eggs), 4·722 g."

Mr. Bunyard also exhibited a clutch of three eggs of the Sanderling (*Calidris grenaria*) from Viking Vatyn, N.E. Iceland, and made the following observations:—

"These eggs were imported by Mr. R. Plumb, of Preston, and were taken by one of his collectors, Jon Sigitha, on June 10th, 1900, who called special attention to them at the time the consignment was made, and asking Mr. Plumb to what bird they belonged. They were originally a clutch of four, one being broken by the collector when blowing; he knew they were not Dunlin's, because they were taken in an altogether different place to that in which Dunlins bred. They were shown by Mr. Plumb to Standen of Owen College Museum, who thought they were Sanderling's. He also made a comparison with the four eggs in the British Museum, and was at once struck by theirsimilarity of his eggs—one of them, in particular, as he says, would have made up a very nice clutch of four. They were also sent to Marsden of Bristol, who was sufficiently satisfied to offer £5 for them. They, however, remained in Mr. Plumb's collection for some time, but were eventually sold to Mr. Wm. Westhead of Preston, from whose collection they came into my possession, when the collection was sold at Stevens's Rooms on Oct. 15th, 1915—'Whitehead,' as printed in the catalogue, being a misprint. Mr. Plumb mentions these eggs to me in

a communication dated Mar. 14th, 1903, in which he says: 'I had a set of three Sanderlings myself some years ago.'

"The only eggs with which these might possibly be confused by an unpractised eye are those of the Dunlin. Mr. Plumb has handled many clutches of this species from Iceland, but he says that he never saw any like these. I have myself very carefully compared them with my own series of 30 clutches, and I can say without the slightest hesitation that they are certainly not Dunlin's. I am also showing them this evening in a drawer with sixteen clutches of Dunlins' eggs, a series which embraces the three distinct forms and every variety to which these eggs are subject. I have also carefully compared them with the four specimens in the National Museum. They are exactly the same in every way as three of them, one or two of which are from Iceland and about which there is apparently some doubt; and they also compare favourably with the well-authenticated eggs figured by Dresser in his 'Eggs of the Birds of Europe' (plate 84). In my opinion, my eggs finally identify those in the Museum from Iceland and *vice versâ*, and should, I think, finally settle the question as to whether the Sanderling breeds in Iceland. There are, I find, many authorities who are of the opinion that they do so. I also believe there are clutches from Iceland in Continental collections.

"*Description.* Ground-colour greenish yellow. Surface-markings pale vandyke-brown. Underlying markings few, inconspicuous, pale greyish brown. Size of markings small, evenly distributed, slightly heavier at the large ends, slight scrolls of black-brown on the extreme large ends (one of the characteristics of the Sanderling). Shape sharply pyriform.

"Weight: (1) 0·496 g., (2) 0·475 g., (3) 0·482 g. Average, 3 eggs, 0·484 grs."

Mr. Ogilvie-Grant remarked that in the British Museum Collection there were four single eggs, said to be those of the Sanderling. Of these one only was authentic, that taken by Col. H. W. Feilden on Grinnell Land, lat. 82°

33′ N., on the 24th of June, 1896, voyage of H.M.S. 'Alert.' In that instance the female had been shot from the nest. The other egg recorded in the 'Catalogue of Birds' Eggs,' ii. p. 52 (1902), as "Iceland (*W. Proctor*), Seebohm Coll.," was without any certain data, and, even if the identification was correct, the locality was probably erroneous. The two other eggs received from the Crowley Bequest, after the second volume of the 'Catalogue of Birds' Eggs' had been issued, were equally open to doubt—one being of unknown origin, while the other was said to have been taken at "Lancaster Sound, Wollaston Land, by Singleton Stewart of Enterprise." Lancaster Sound is not near Wollaston Land, and "Enterprise" might refer to H.M.S. 'Enterprise' or a town in Canada.

The eggs shown by Mr. Bunyard were evidently quite unauthentic, and therefore of little value.

Mr. D. Seth-Smith said that he had received a letter from Sir William Ingram, stating that he had just received a report on the Birds of Paradise (*Paradisea apoda*) which he liberated on the Island of Little Tobago in the West Indies in 1909. There was no doubt that some of the birds had bred, and this year four young birds had been reared. The male birds were this year (1915) showing their side-plumes for the first time, which appeared to prove that they did not attain their adult plumage until the seventh year at least.

Sir William Ingram believed that he had now on the island ten or twelve adult males, five or six adult females, and at least five young birds, four of which had been hatched this year.

It was interesting to observe that the birds had bred while still in immature plumage.

The Chairman said that it was very interesting to hear that the *Paradisea apoda* on Little Tobago had bred in immature plumage, and that they were only now in their eighth year assuming their fully adult dress. It was, how-

ever, known that many birds, which required more than one year to assume their adult plumage, bred in their immature dress. This was especially the case with the larger Raptores such as the Imperial and Spanish Imperial Eagles, *Aquila mogilnik* and *A. adalberti*, which bred in all sorts of plumages. In the Sandwich Islands, Messrs. Palmer and Perkins had proved that the native Flycatchers *Chasiempis* also bred in the immature and intermediate plumages. As regards the length of time taken to assume the adult plumage, in the case of the Paradise Birds on Little Tobago, it was possible that their capture, transport to England, and thence to the West Indies, may have produced such a shock to the system that the assumption of the adult plumage may have been retarded, though, of course, not to the same extent as in real confinement. In the latter condition, two examples of *Aquila adalberti*, a bird supposed to take from five to seven years to assume adult plumage, lived for twenty-five years in the Hamburg Gardens without changing from the first year's plumage—*i. e.* the new feathers each year coming of the colour of the first plumage, and a Corean Sea-Eagle only assumed the white tail after ten years instead of five. The Gannet, which became adult in its fifth season, however, appeared not to be affected by the shock of captivity; though often in a state of nature a few birds assumed the final plumage as early as the fourth season.

Mr. Ogilvie-Grant said that in the allied form, *Paradisea apoda novæ-guineæ*, from Southern Dutch New Guinea, the full adult plumage was not assumed until the sixth year. This had been recorded in his Jubilee Volume of the 'Ibis,' which would be published in a few days.

He also reminded the Chairman that specimens of the Condor kept in the Zoological Gardens, Regent's Park, had not assumed their full plumage with grey secondary-quills and white ruff until the tenth year. It was, of course, possible—even likely—that the assumption of full plumage had been retarded by the fact that they were kept in captivity.

Mr. H. F. Witherby made the following observations :—

"At the last meeting *à propos* of the exhibition by Mr. Ogilvie-Grant of the three forms of Crested Tit, I asked if any member of the B. O. U. List Committee could say why *Parus cristatus mitratus* had been omitted from their List. Mr. Grant, while stating that he was unaware of the reason, suggested that it might have been that my note on the subject in 'British Birds' (vol. v. p. 110) was ambiguous. I fail to see any uncertainty in my words, which were : 'The history of this specimen, now in Mr. Munn's possession, is quite satisfactory, and it is the same as that mentioned by Bury in the 'Zoologist' for 1844 (p. 639), so Mr. Munn informs me. The bird is an undoubted example of the Central European form, *Parus cristatus mitratus*.' If this statement was not clear enough, it would have been perfectly simple for the Committee to have asked either Mr. Munn or me for further details. Neither of us has been consulted. The bird is not so much as mentioned in the B. O. U. List. Had the evidence been considered not satisfactory, surely the bird would have been placed in Appendix I.

"Further, it is stated under '*Parus cristatus*, Northern Crested Titmouse' (p. 59), 'other English records of Crested Tits probably relate to this form.' This statement can surely only mean that while the Committee accept my identification of the Yorkshire Crested Tit as *Parus c. cristatus*, they do not accept my identification (recorded on the same page of 'British Birds') of the Isle of Wight specimen as *Parus c. mitratus*.

"If this is so, it seems to me rather an arbitrary action *without examining the bird.*

"I should like to add that it is stated in 'The Birds of Hampshire and the Isle of Wight' that Mr. Kelsall (one of the authors) had seen this specimen in the collection of Mr. Butler, who shot the bird near Yarmouth, Isle of Wight. Mr. Munn, the other author of this work, obtained the specimen from Mrs. Butler, who stated that it was certainly the bird obtained by her husband. The Rev. C. A. Bury, writing in the 'Zoologist' for 1844 on 'The Birds of the

Isle of Wight,' states (p. 639), 'The Crested Tit has been once obtained by Mr. Butler in the neighbourhood of Yarmouth, and the specimen is still in his possession.' Mr. Munn sent the specimen to me, and I found it to be a very typical example of *P. c. mitratus*."

Mr. H. M. Wallis exhibited an (unsexed) specimen of the Central European Barn-Owl (*Flammea flammea guttata*, B. O. U. List) which was killed at Coley Park Farm, near Reading, on November 20–21, by Mr. H. G. Leigh, and presented to Reading Borough Museum in the flesh. The specimen is somewhat lighter than the typical Barn-Owl of Central Europe, but much darker than the ordinary British bird. Its primaries, crown, and nape are brownish grey. The grey of the mantle is deeper in tint and more extensive than is usual with a British Barn-Owl, and its under surface, including the under wing-coverts, is washed with warm buff and spotted. The thighs are buffish, but devoid of spots. The discs around the eye are dusky white with inner rings of buff completely surrounding the eye. The mandibles are darker than those of *Flammea flammea*.

At the next Meeting of the Club there will be a Discussion on

"**Bird-parasites and Bird-phylogeny,**"

opened by Mr. Launcelot Harrison, B.Sc. (Research Scholar, Quick Laboratory, Cambridge); Mr. James Waterston, B.Sc. (Imperial Bureau of Entomology) and Mr. Bruce Cummings (Entomological Department, South Kensington Museum) will continue the discussion.

The next Meeting of the Club will be held on Wednesday, the 12th of January, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting, MSS. for publication in the Bulletin.]

(Signed)

ROTHSCHILD,	D. SETH-SMITH,	PERCY R. LOWE,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXII.

FEB 5 1916
National Mus

The two-hundred-and-ninth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, January 12th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—Capt. J. P. Aldworth; H. G. Alexander; E. C. Stuart Baker; E. Bidwell; C. D. Borrer; P. F. Bunyard; C. Chubb; W. Eagle Clarke; H. J. Elwes; G. Gibson; F. H. C. Gould; W. R. Ogilvie-Grant; Rev. J. R. Hale, C.F.; G. B. Hony; Capt. C. Ingram; T. Iredale; Rev. F. C. R. Jourdain, M.A.; G. C. Lambert; H. Langton; P. R. Lowe (*Hon. Sec. & Treasurer*); G. M. Mathews; E. G. B. Meade-Waldo; T. H. Newman; T. Parkin; C. E. Pearson; A. E. Price; R. H. Read; W. E. Renaut; C. B. Ricketts; Hon. N. C. Rothschild; A. D. Sapsworth; W. L. Sclater; D. Seth-Smith (*Editor*); A. Trevor-Battye; H. M. Wallis; J. Wall-Row; Col. R. G. Wardlaw-Ramsay (*President B.O.U.*); S. L. Whymper; H. F. Witherby.

Guests:—F. L. Berney; P. A. Buxton; Bruce Cummings; G. H. Dawson; Launcelot Harrison; Sir H. J. Johnson; Guy A. K. Marshall; G. Meade-Waldo; Major W. H. Mullens; James Waterston.

Mr. H. F. Witherby exhibited two Black Wheatears, which had been lent to him by Mr. J. B. Nichols for the purpose—both were males. One, which was obtained at Rye, Sussex, on September 2nd, 1909, was of the typical (European) form, *Œnanthe leucura leucura*; while the other (obtained at Pevensey Sluice, Sussex, on June 7th, 1915) was of the North African form *Œ. l. syenitica*. Mr. Witherby pointed out that the occurrence of these birds had already been recorded, but he thought the Members might like to see them, as they showed very clearly the differences between the two forms. In general colour the male of *Œ. l. syenitica* was distinctly brownish black, while that of the typical form was jet-black, and in *Œ. l. syenitica* the black tips of the tail-feathers were considerably broader than in *Œ. l. leucura*.

Mr. Charles Chubb exhibited and described the following new birds from Ecuador :—

Asio galapagoensis æquatorialis, subsp. n.

Adult female. Allied to the female of *A. galapagoensis*, but differs in its larger size and in being dull black above with pale fulvous and white markings to the feathers, instead of brown with sandy-rufous markings; the buff colour of the under surface is also paler, and the dark shaft-lines to the feathers more restricted, and there are scarcely any radiations or indications of cross-bars. "Bill slate-grey; iris brown" (*W. Goodfellow*).

Total length 370 mm., culmen 27, wing 322, tail 153.

Loc. Pichincha, Ecuador, 11,000 feet, Feb. 1915—collected by W. Goodfellow.

Ciccaba albitarse goodfellowi, subsp. n.

Adult female. Similar to *C. albitarse*, but distinguished in being blackish above, instead of brown; the pale markings buff, instead of rufous, and much less extensive. The under surface, for the most part, white, especially on the breast where the allied form is always rufous. "Bill horn-brown, tip pale yellow; feet yellow; iris yellow" (*W. Goodfellow*).

Total length 305 mm., wing 270, tail 146.

Loc. North of Quito, Ecuador, 11,000 feet, Nov. 1914—collected by W. Goodfellow.

Pyriglena castanopterus, sp. n.

Adult female. Head, sides of the face, throat, abdomen, tail, and under tail-coverts black, inclining to brown on the sides of the body and flanks; mantle, back, and wings dark chestnut-brown, with white bases to the feathers on the mantle. "Bill and feet black; iris brown" (*W. Goodfellow*).

Total length 159 mm., culmen 18, wing 76, tail 76, tarsus 29.

Loc. Braza, East Ecuador, 6000 feet, April 1914—collected by W. Goodfellow.

Grallaria nuchalis obsoleta, subsp. n.

Adult male. Similar to *G. nuchalis* Sclater, but differs from the type of that species, from Rio Napo, in being olive-brown above, instead of rust-brown, with the nuchal collar more indistinct, the crown of the head darker, the primary quills inclining to olive, instead of rufous, and the entire under surface dark slate-colour, instead of dusky brown with a tinge of ashy on the abdomen. "Bill black; feet dark brown; iris dark ruby-red" (*W. Goodfellow*).

Total length 180 mm., culmen 27, wing 118, tail 61, tarsus 58.

Loc. West side of Pichincha, Ecuador, 12,000 feet, Nov. 1914—collected by W. Goodfellow.

Automolus brooki, sp. n.

Adult male. Similar to *A. rufobrunneus* (Lawr.) on the upper surface, but easily distinguished by the pale shaft-streaks to the feathers on the top of the head, nape, and sides of the face. The under surface is quite different from the allied form—the throat being buffy-white with dark edges to the feathers, the breast olive-brown becoming fulvous on the middle of the abdomen, the sides of the body and flanks chestnut-brown, and the under tail-coverts deep chestnut-red. "Bill dark slate-colour; feet dark brown; iris dark brown" (*W. Goodfellow*).

Total length 215 mm., culmen 27, wing 100, tail 94, tarsus 29.

Loc. Gualea, West Ecuador, July 1914—collected by W. Goodfellow.

Mr. Gregory M. Mathews exhibited and described a new subspecies of Petrel :—

Cookilaria cookii byroni, subsp. n.

Differs from *C. c. leucoptera* Gould in being darker, almost brown, above—not blue-grey.

Type. Byron Bay, Northern New South Wales, in the Austral. Avian Museum, Fair Oak, Hants.

(To be added on p. 38 of 'A List of the Birds of Australia,' 1913.)

Referring to the eggs of the Sanderling in the British Museum, the Rev. F. C. R. Jourdain made the following remarks :—

"In the last number of the 'Bulletin' (p. 39) Mr. Ogilvie-Grant states that only one of the four eggs of the Sanderling in the British Museum is authentic, viz. that taken by Colonel Feilden. In dismissing the three remaining eggs as practically valueless, Mr. Grant states that one from the Crowley Bequest was said to be taken at 'Lancaster Sound, Wollaston Land, by Singleton Stewart of Enterprise.' He remarks that Lancaster Sound is not near Wollaston Land, and that 'Enterprise' might refer to the ship of that name or a town in Canada.

"The egg in question agrees closely in type with that taken by Col. Feilden and with the descriptions of authentic eggs. Mr. Grant has quoted correctly from the slip which was copied out when the egg was admitted to the Museum Collection, but has apparently omitted to notice that the inscription on the egg contained no reference to Lancaster Sound, and that the word which appeared on the label as 'Stewart' was really 'Steward.' Singleton was, as a matter of fact, gunroom-steward on H.M.S. 'Enterprise' in the voyage made by Captain R. Collinson (after-

wards Admiral Sir Richard Collinson) in search of Sir John Franklin, 1850–1855. A number of eggs were collected during the voyage, some of the more important of which, such as those of the American Stint (one of which was also taken by Singleton), Semipalmated Sandpiper, Pectoral Sandpiper, Baird's Sandpiper, etc., are now in the British Museum. The egg in question could not be confused with any of these, and bore no resemblance to that of the Dunlin. There was no reason to believe that H.M.S. 'Enterprise' visited Lancaster Sound, which was probably an error of the copyist."

Mr. Ogilvie-Grant said that the label accompanying the supposed Sanderling's egg from Wollaston Land had been copied by Mr. J. R. Reid from the Crowley Register of Eggs, which had been returned to the owner in 1902. Mr. Reid was an extremely careful worker, and the particulars given on the label had probably been quite accurately transcribed by him.

Among the eggs collected by Admiral Sir Richard Collinson and presented to the British Museum, there were no eggs of the Sanderling, and the evidence in favour of the specimen from Wollaston Land being an egg of *C. arenaria* was entirely presumptive.

Mr. Launcelot Harrison, B.Sc. (Research Scholar, Quick Laboratory, Cambridge), then opened a discussion on

Bird Parasites and Bird Phylogeny,

with a paper, of which the following is a summary*:—

The bird-parasites referred to belong to the insect order Mallophaga, and are minute insects, of an average length of two millimetres, found upon all birds. They are completely parasitic in all stages of their life-history, the eggs being attached to the feathers of the host, and giving rise to a larva generally similar to the adult. They are incapable of maintaining life for more than a couple of days

* Mr. Harrison's paper will be published *in extenso* in the next number of 'The Ibis.'

off the body of the host, and usually die fixed by their mandibles to the feathers. Transference to a new host can only take place at actual bodily contact.

Owing to the fact that these insects have lived for a very long time under very equable conditions, on a nutrition of epidermal products which varies little in chemical composition, and at a body-temperature which remains practically uniform, they exhibit a condition of "retarded evolution." Parasites of any group of birds, such as Crows, Kingfishers, Hawks, Plovers, or Petrels, are recognizable as such, whether their host-origin be known or not. The only reasonable explanation of this condition is that parasites of these groups have evolved from parasites of their ancestral stocks. And, as they have evolved at a slower rate, the gaps to be bridged are smaller in the case of the parasites than in that of the hosts.

That the Mallophaga have a long-standing history of parasitism is proved by the fact that the Ostrich and the Rheas have parasites hardly specifically distinct, which are distinguished from all other Mallophaga by a curious asymmetry of the chitinous framework of the head. Consequently, the parasitic history of the group must antedate the isolation of these birds in the Ethiopian and Neotropical regions.

Although opportunities of invading a new host are limited, it is admitted that straggling can, and does, take place. Bird-parasites have been found living on mammals ; marsupial parasites on carnivores ; and a Petrel-infesting species has become established as a normal parasite of Skuas. But such cases are few, and are almost always capable of detection.

Although birds have been split up into obviously natural ordinal groups, the inter-relation of these groups is not understood, and no satisfactory characters of phyletic value have been found. A closer study of bird-parasites may, from the conditions outlined, afford valuable suggestions to the bird-morphologist.

Some such suggestions have already been published. The

family Goniodidæ, of Mallophaga, is found solely upon Fowls, Tinamous, Pigeons, *Opisthocomus*, and Penguins, all of which groups also agree in the absence of Philopteridæ. The first four are now usually admitted to be related, but parasitic evidence would appear to demand the same affinity for the Penguins. Parasites of the Palamedeidæ link up with those of Ducks, Geese, and Swans, thus confirming the Anserine affinities of this somewhat anomalous group. The Parridæ would appear to be Rails, not Limicolines; and the Apterygidæ more nearly akin to the Rails than to any other living birds.

Finally, an attempt is made to indicate a natural classification of the Tubinares by means of some of their parasites belonging to the genus *Lipeurus*. The species of this genus found upon Petrels fall into six well-marked groups—a basic group A, from which the remaining five are derived; the latter being divisible into two subgroups, BCD and EF, respectively. Listing the genera of Petrels according to the groups of parasites which they possess, the following scheme results :—

A.	B.	E.
Garrodia.	*Procellaria.*	*Daption.*
Oceanites.	*Pelagodroma.*	*Pagodroma.*
Oceanodroma.	*Pelecanoides.*	*Thalassœca.*
	CD.	EF.
	Œstrelata.	*Fulmarus.*
	Puffinus.	*Priocella.*
	Priofinus.	
	Majaqueus.	F.
		Ossifraga.
	D.	*Diomedea.*
	Prion.	*Thalassogeron.*
		Phœbetria.

This classification, which is constructed without reference to the Petrels themselves, agrees very well with that of Forbes ('Challenger' Reports, iv.), the only difference being the removal of *Pelagodroma* from the first to the second division, the inclusion of the Fulmar group with the

Albatrosses rather than the Shearwaters, and the linking of *Ossifraga* to the Albatrosses, not the Fulmars.

This illustration, prepared specially for this Discussion, will show that there is something in the idea propounded. The Mallophaga require to be much more assiduously collected and studied before more general statements can be made, and it is hoped that ornithologists, when collecting specimens, will pay some attention to the preservation of these minute parasites, especially in the case of rare birds and those of doubtful affinities.

Mr. Bruce Cummings (Entomological Department, British Museum) followed with a paper, of which the following is a *résumé* :—

"Probably no one more than Mr. Harrison himself would insist on the care with which this phylogenetic test should be applied. Two important factors must be borne in mind: convergence and the chance straggling of the parasites on to other hosts. For example, is the Gallinaceous parasite on Penguins really Gallinaceous, or has it had an independent origin and merely converged on the Gallinaceous genus *Goniodes*? Convergence, I have reason to believe, is not unknown in this group of insects. With regard to that other cause of stumbling—straggling,—the Hoatzin presents us with a case in point. Mr. Harrison has referred to the undoubted Gallinaceous affinities of this bird, supported by the existence of a Gallinaceous parasite upon it. But *Opisthocomus* possesses also a *Læmobothrium*, an isolated genus, distinguished by the relatively enormous proportions of the individual species. It is, *par excellence*, the parasite of the Birds-of-Prey, but occurs also on *Psophia*, *Fulica*, *Ibis*, *Anser*; so that there is a tangle here in which the simple phylogenetic relationship between parasite and host does not hold good. To clear it up, we must assume either a Gruiform or Ciconiiform origin of the Birds-of-Prey; we must suppose that the genus *Læmobothrium* has remained quite stationary in its evolution from the time when the Birds-of-Prey took their origin, and we must explain the occurrence of the parasite on all the remaining birds as

cases of *established* stragglers, having particular regard to the similarity of habitat in Waterfowl and the contact of feathers between Accipitrine birds and their prey."

Although, in the main, in sympathy with Mr. Harrison's views, the speaker directed further criticism against the idea that the parasites in their evolution have necessarily lagged behind the evolution of the host, and pointed out that the parasites' evolution sometimes appeared to progress *pari passu* with, and sometimes to progress beyond, that of the host.

Mr. Iredale: I must congratulate Mr. Harrison upon his lucid exposition of this new feature. With regard to the Petrels, I think Mallophaga must be taken in consideration with a good deal of caution, but from the data put forward by Mr. Harrison, they seem certainly worth investigation from the view-point of the systematic ornithologist. In the case of odd birds, which are rather difficult to place systematically (such, for instance, as *Pelecanoides*), they may help immensely. From the superficial study of these birds, this is a wrong location. This genus could not possibly go with the Thalassidromidæ (=Hydrobatidæ) from any ordinary study of birds themselves. When we get on to *Daption*, *Thalassœca*, etc., these three birds naturally go together if you study the superficial characters carefully. They also come close on to Fulmars, and then *Ossifraga* follows on. Mr. Harrison goes a step further. *Ossifraga* (recte *Macronectes*) stands quite alone, and to put it among the Albatrosses is a big jump. We cannot tell, however, by superficial examination where this form belongs. It stands quite by itself. Its habits and general appearance are very peculiar, and it is therefore possible that by careful study of the parasites a definite clue to its correct systematic position might be obtained.

An extra word of caution may be interposed. Petrels always breed in colonies, and four or five distinct genera may occur in the same breeding-district. Consequently, there is a very good chance of interchange of parasites. If 'stragglers" among the parasites are not frequent under

these circumstances, the students of Mallophaga in the present connection have a very strong case already in their favour. Then, diverting to the cases quoted where there appears to be anomalous distribution, I favour the advocates of convergence. When the parasites are more thoroughly studied, it is certainly possible that the ones which now look alike may prove to be very widely different. This is a very common error, as I believe these Mallophaga students have commonly found. You continually get two microscopic animals that superficially look alike, but, when the distinguishing features are recognised, prove very distinct. With regard to the affinity of *Apteryx* to the Rails, this is practically accepted by all osteologists at the present time.

As to these apparent cases of relationship, it must be always considered if we are dealing with an ancient class of parasite, and we find them on widely divergent groups all over the world, they may have established themselves on these groups many centuries ago and continued on them, and they would give no clue to the phylogeny of the birds. I conclude the parasites will come into use when there is a doubt about the systematic position of a genus, and *after* considering the factors we get from the birds' skins. I think such consideration will probably lead, in many cases, to a better and more sound classification than we have at present.

Mr. Buxton : Is there any explanation of the fact that some lice so very constantly trek on to a bird's head and neck. If you skin a Capercallie, for instance, and perhaps get three lice on your hands, and leave it until the evening, you will find hundreds of Mallophaga all over the beak and eyes and front parts of its head. One would like to know if there is any explanation of it. Lice generally get into the dark, but these things trek up into the light.

Mr. Read asked if any particular species of parasite was found upon the Cuckoo, or whether it was liable to be attacked by those which were commonly found upon those species which acted as its foster-parents; also whether the House-Sparrow was ever attacked by parasites common to the Swift, as the two species often occupied the same nesting-sites.

Mr. Seth-Smith: One interesting point about bird-lice is the extraordinary rapidity with which they multiply if the bird is unhealthy. If you look at a perfectly healthy bird, you will perhaps find a few lice, but as soon as that bird gets out of condition you will find it is simply swarming with them. They increase at an enormous rate as soon as a bird gets into a low condition of health.

Mr. Harrison: With regard to the question of convergence which has come up more than once to-night, I do not think any serious student of these parasites who really examines the evidence closely (it is unfortunate I cannot possibly put all this evidence in front of you) would insist very much upon convergence as a serious factor in deciding relations in general. Here and there convergence in the past may lead to erroneous results in the present. We practically know nothing about Mallophaga yet. Where I go into a group and work it intensively, I find all the ideas held previously are grossly wrong. The actively-moving Liotheids are supposed to be able to effect an easy transference to a new host. I quite agree with one speaker that they are not so useful for my purpose, because we do not understand them at present, and it is possible they have succeeded in more irregular transference. Yet, even among the Liotheids, there is evidence of the same condition. The Pelicans possess a peculiar Liotheid genus, which has adopted a specialised habitat in the gular pouch, and has its tracheal system specially modified to withstand the periods of submersion which it must undergo. It seems to me more reasonable to suppose that the species of this genus have descended from the parasites of the Pelican ancestral stock, rather than that they have been produced by some process of convergence. The question of straggling, which Mr. Cummings has adduced, I quite admit. There are a reasonable number of proved instances, but, so far, we have detected them. With regard to the question of retarded evolution, I am quite willing to admit that at the ultimate ends of the evolutionary branches, there may be varying rates of evolution, but I maintain that the general rate of evolution has been slower. No parasite of

another host has been recorded from the Cuckoo. Cuckoos are rarely parasitized, but when you find a Cuckoo that is, it generally has a fair supply, and these parasites are Cuckoo-parasites. We have no evidence of Swift-parasites being found upon Sparrows.

Mr. Iredale has discussed one or two points, and I may say with regard to the earlier of those groups, A and B, I had not a great deal of material on which to base my conclusions. Mr. Iredale said it was rarely that one Petrel bred by itself. That is certainly so, but by taking the parasites of species of Petrel from various localities, it is possible to sort out those parasites which are intrinsic and those it has acquired from other species breeding in the same locality. Wherever it is, we occasionally find the parasites of other Petrels upon it. Mr. Buxton has made a comment on the fact of parasites walking out about the head and beak of the bird. That is one of the remarkable things about Mallophaga. The genera have specialised habitats on the body of the bird. As soon as a bird becomes too sick to attend to its toilet, then the Mallophaga increase.

The next Meeting of the Club will be held on Wednesday, the 9th of February, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform Dr. P. R. Lowe, at 27 Ormonde Gate, Chelsea, S.W.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting, MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	Percy R. Lowe,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXIII.

The two-hundred-and-tenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, February 9th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present :—E. C. Stuart Baker ; E. Bidwell ; C. D. Borrer; A. D. Bradford ; P. F. Bunyard ; E. V. Earle ; E. Hartert ; Rev. F. C. R. Jourdain ; G. C. Lambert ; G. M. Mathews; E. G. B. Meade-Waldo ; H. Munt ; T. H. Newman; C. E. Pearson; F. R. Ratcliff ; R. H. Read ; W. E. Renaut ; C. B. Ricketts ; D. Seth-Smith (*Editor*).

Guests :—G. R. Humphrys; W. E. Wait.

The Chairman announced that Dr. Percy Lowe had been obliged to resign the Secretaryship, owing to his having taken up Red Cross Work, and that Mr. C. G. Talbot-Ponsonby had consented to fill the post.

Lord Rothschild then made the following observations on Edoliisoma incertum (Meyer) and E. meyeri Meyer :—

"In the Jubilee Supplement to 'The Ibis,' Mr. Ogilvie-Grant suggests that as the male of *Edoliisoma meyeri* is almost indistinguishable from the male of *plumbea* Müll., and that as *E. meyeri sharpei* Rothsch. & Hart. is only smaller, the birds identified by us as *meyeri sharpei* from the Utakwa and Setakwa Rivers were probably really males of *plumbea*. Being now occupied in rearranging the Campophagidæ in the Tring Museum, we re-examined the whole material of the *amboinense–ceramense* groups. It now turns out that the type of *E. meyeri sharpei* and the specimens from South New Guinea have nothing to do with the *amboinense* group at all, which can be at once seen by the different grey marking on the remiges. These birds belong to the *ceramense* group, and are nothing more nor less than the adult males of *Edoliisoma incertum*.

"The males of the *ceramense* group differ very slightly from males of the *amboinense* group, other than in the grey on the remiges, but, as a rule, the chin and throat is more uniform with the lower surface, though in *incertum* it is not so. The females are, however, very distinct; for while the *ceramense* group has uniform grey females like the males, the *amboinense* group has more or less rufous or buff females, generally with barred or spotted undersides. I exhibit ♂ ♀ *Edoliisoma incertum* and ♂ ♀ each of *E. ceramense*, *E. amboinense rostratum*, *amb. mülleri*, *amb. admiralitatis*, and *E. schisticeps poliopse* for comparison."

Dr. Ernst Hartert exhibited and described a new *Iole* as follows :—

Iole philippensis saturatior, subsp. nov.

Differs from *Iole philippensis philippensis* from Luzon as follows: Crown darker, more slaty grey; back darker, more olivaceous; tail darker; chest and sides of breast darker, more olivaceous.

Hab. Mindanao.

Type: ♂ ad. Davao, January 1903. Collected by W. Goodfellow. In the Tring Museum.

Obs. Rich. C. McGregor, in his 'Man. of Philippine Birds,' p. 507, calls the species *Iole gularis* (Puch.), 1855, and rejects the name *Turdus philippensis* of Gmelin, as being antedated by *Turdus philippensis* Müller, 1776, and Boddaert, 1783. This is all right, but in 1844 Strickland described our bird as a new species from Luzon under the name *Hypsipetes philippensis*, not being aware of Gmelin's name. Though *Turdus philippensis* was antedated, *Hypsipetes philippensis* Strickl. was not, and need not be rejected. Otherwise the species would have to be called *Iole gularis*. This was described in 1855 as coming from China; the latter is evidently an error, and Luzon must be fixed as its original locality, all Philippine birds in those times coming from Manila, as Mindanao was then almost unknown.

Messrs. Ernst Hartert and V. G. L. van Someren sent the following description of a new *Smithornis*:—

Smithornis capensis medianus, subsp. nov.

This new form is nearest to *S. capensis albigularis*, but differs in a distinct brownish-yellow patch on each side of the breast, the breast and abdomen are more distinctly tinged with pale lemon-yellow, the black stripes are wider. The upperside is slightly more tinged with ferruginous, not quite so olive. Wing 74–76 mm., thus being slightly longer than in *S. c. albigularis*, which has the wing about 71–73·6 mm.

Hab. Kyambu Forest, Uganda, Toro, and forests west of Lakes Albert Edward and the northern portion of Tanganyika.

Type: ♂ ad. Kyambu Forest, 10. x. 1915. Collected by Dr. V. G. L. van Someren.

Five specimens from Mpanga Forest, Toro, the forests west of Lake Albert Edward, and west of Lake Tanganyika evidently belong to this same subspecies. From *S. capensis camarunensis* Sharpe it differs by being less rufescent, more

olivaceous on the upperside, the patch on the sides of the breast is not so dark, the abdomen more tinged with yellow.

In a very valuable paper on the structure and affinities of *Smithornis* in 'The Ibis,' 1914, p. 495, by G. L. Bates, in which it is shown that this genus does not belong to the Flycatchers nor to the normal Passeres at all, the author places *S. capensis albogularis* Hart. (Bull. B. O. Club, xiv. p. 73, 1904), from Angola, as a synonym of *S. capensis* (*capensis*); this is quite wrong, as a comparison of specimens would have shown at once. The author also included the Mpanga Forest, in Toro, among the localities for *S. camarunensis*, but not quite correctly, as I have shown above.

Dr. Hartert showed a book by Mr. Bengt Berg, called "Stora Karlsö," with some most beautiful photographs of birds and Scandinavian scenery.

Mr. R. H. Read exhibited a series of eggs of Limicolæ, showing how those of many species intergrade, and how unusual or abnormal types of one species are with difficulty distinguished from normal eggs of another.

A very large round egg of the Oystercatcher resembled in size and ground-colour a rather small round egg of the Curlew; whilst one of another set of small eggs of the latter species was indistinguishable from that of a Whimbrel. Another Oystercatcher's egg was the counterpart of the egg of a Stilt, and a third that of a Norfolk Plover, whilst a pigmy specimen was not unlike that of a Pratincole. A Woodcock's egg with a few dark liver-coloured blotches resembled that of a Bartram's Sandpiper, and a set of small Golden Plovers' alongside a set of eggs of the Great Snipe were a puzzle to many members. Perhaps the most interesting was a set of small eggs of the Common Sandpiper taken by Mr. Read in Scotland, and exhibited between eggs of Temminck's and the Little Stint, some of the eggs of all three species being practically indistinguishable. Had such a set been found in Northern Europe, they might well have

been attributed to either of the two latter species. Another set of unusually large eggs of the Common Sandpiper, taken by Mr. Read in Sweden, were an exact counterpart in size and markings of eggs of the Green Sandpiper, although not quite so pyriform in shape as the latter. A pigmy set of Peewits' eggs fairly resembled a set of those of the Red-necked Phalarope; whilst, as a contrast, a normal egg of the Reeve was shown alongside a pale green, almost spotless, egg of the same species, the latter being one of a set of two similar spotless rounded eggs taken by the exhibitor near the former in Denmark.

The object of the exhibit, which greatly interested the members present, was to show how necessary it is that eggs of the Limicolæ should be properly authenticated before assigning them to any particular species.

Mr. Gregory M. Mathews sent the following description (to be added on p. 150 of 'A List of the Birds of Australia'):—

Sauropatis sordida colcloughi, subsp. nov.

Differs from *S. s. sordida* (Gould) in being more brilliantly coloured. The blue in all the feathers of the head, back, and tail being most noticeable. The head is bluish green, not greenish brown; the back is also bluish green, and the primaries edged with indigo. Tail blue.

Type from Mud Island, near Brisbane, Queensland. Collected by Mr. M. J. Colclough on 22nd November, 1915.

The next Meeting of the Club will be held on Wednesday, the 8th of March, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W., at 6.45 p.m.

The Meeting will be devoted to an exhibition of Lantern-slides by Members, and the Editor especially requests that those who wish to show slides will kindly send him a list as early as possible, so that their names may be included in the Agenda.

Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

The Annual General Meeting of the British Ornithologists' Union will be held on the same day (March 8th), and the Annual Dinner of the B. O. U. will take place conjointly with that of the B. O. Club.

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Institution
APR 21 1916
National Museum

No. CCXIV.

The two-hundred-and-eleventh Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, March 8th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker; E. Bidwell; S. Boorman; A. D. Bradford; P. F. Bunyard; P. A. Buxton; Abel Chapman; C. Chubb; Col. S. R. Clarke, C.B.; K. J. A. Davis, F.R.C.S.; H. J. Elwes, F.R.S.; E. Gibson; F. H. C. Gould; Rev. J. R. Hale, C.F.; E. Hartert, Ph.D.; Tom Iredale; Sir H. H. Johnson; G. C. Lambert; G. M. Mathews; E. G. B. Meade-Waldo; H. Munt; W. R. Ogilvie-Grant; W. P. Pycraft; F. R. Ratcliff; R. H. Read; W. E. Renaut; C. B. Rickett; Hon. N. C. Rothschild; A. D. Sapsworth; W. L. Sclater, M.A.; D. Seth-Smith (*Editor*); M. G. Seton; J. H. Stenhouse, M.B., R.N.; C. G. Talbot-Ponsonby (*Sec. & Treas.*); C. B. Ticehurst, M.A., M.D.; A. Trevor-Battye; J. Wall-Row; J. Wilkinson; H. F. Witherby.

Guests:—F. L. Berney; H. N. Coltart; C. E. G. Cronker; P. H. Eastwood; G. Evans; Capt. J. C. Faunthorpe; C. Hopwood; Sir H. H. Howorth, K.C.I.E., F.R.S.; W. M. Page; E. E. Read; W. E. Wait.

Hon. Lady Members of the B.O.U.:—Miss Dorothy M. A. Bate; Miss M. D. Haviland; Miss Annie C. Jackson; Miss E. L. Turner.

The Chairman, at the conclusion of the dinner, having proposed the health of His Majesty the King, said that as this was not an ordinary occasion he would substitute for the usual toast of "Absent Ibises" that of "Absent Friends."

Dr. Ernst Hartert exhibited and described a new form of Woodcock as follows:—

Scolopax rusticola mira, subsp. n.

Differs from *S. rusticola rusticola* in its darker, less rufous, more olivaceous upperside, darker under wing-coverts, less rufescent underside, and larger dimensions, especially a stronger and wider bill. All portions of the upper surface, except the black patches, are more olivaceous and darker, which is especially noticeable on the forehead, neck, and rump; the sincipital black bar is narrower, the black patches on the back and scapulars more elongate; on the rump, as well as on the upper tail-coverts, the dark markings are finer vermiculations, and the tips are hardly lighter, though nearly or quite uniform; in fact, a single feather from these parts would show this bird to be different from our Woodcock. The wing-coverts are very much darker. The outer primaries have smaller rufous spots on the outer webs, and the inner ones are almost uniform, having no semi-bars or notches, but only a few dirty white specks or tiny vermiculations along the inner edge. The underside is more whitish, while the sides are brownish and thickly freckled with blackish. The bill is generally longer, but more conspicuous in its thickness and width, it being at least one millimetre wider before the tip. The bill is 75–83 mm. long, the wing 200–215 mm., *i. e.* 5–7 mm. longer than in European examples; the tarsus 47–49 mm., *i. e.* about 10 mm. longer; middle toe 48–50 mm. The tip of the wing is much shorter, the distance from the

outer secondaries to the end of the primaries being at least 1–2 cm. less. There is thus a larger bird with apparently less power of flight. The first abortive primary is very much longer and wider.

Hab. Amami Oshima or Amami Island, in the northern Riu Kiu or Loo Choo group of Japanese Islands.

Type: ♂ ad. No. 506. Amami Oshima, 10. xii. 1904. Collected by Alan Owston's Japanese collectors. Evidently a resident on the island.

Obs. I should not have hesitated to regard this interesting bird as a species, and to name it binomially, if it had not been that the Tring Museum received also a young bird (No. 502) which is very much redder than the adult birds, thus so closely resembling *S. rusticola rusticola* that it might easily be mistaken for it, though it undoubtedly belongs to *S. r. mira*, having the wider beak, longer tarsi and toes, darker under wing-coverts, longer secondaries, and more uniform inner webs of the outer primaries. This new Woodcock is of particular interest, as hitherto all attempts to divide our species into races have failed.

Dr. Hartert also described a new form of *Coracina* as follows :—

Coracina novæhollandiæ kuehni, subsp. n.

Similar to *Coracina* (= *Graucalus* auct.) *novæhollandiæ melanops* from New South Wales, but the black of the throat does not extend so far downwards; the breast is paler, the upperside lighter. Differs from *C. n. subpallida* Mathews in being much darker on the upperside, while the coloration of the underside is almost the same.

Hab. Kei Islands. Specimens from the Aru Islands appear to belong to the same race, also those from Tiandu and Taam (South-east Islands), but no adult birds from these Islands are available, and one from Sula Bessi.

Type: ♀ ad. Tual, Little Kei Islands, i. x. 1897. Collected by the late H. Kuehn. Named in memory of the collector, who for many years lived and collected on the Kei Islands, and died in the Eastern Archipelago.

Lord Rothschild communicated the following note on *Scolopax saturata* Horsf. and *Scolopax saturata rosenbergi* Schl. :—

"Having been able to compare a large series of *rosenbergi* from New Guinea with several from the Malay Archipelago, I can now clearly state that the latter, the true *saturata*, is not identical with *rosenbergi*. Mr. Ogilvie-Grant had already hinted at this, and Mr. G. M. Mathews positively affirmed it. I, however, thought the material they had for comparison was insufficient.

"Fresh material enables me to define the differences. *S. s. saturata* differs from *S. s. rosenbergi* in having much narrower and darker rufous markings on the feathers of the upper surface, but especially on the upper wing-coverts ; the tail is less rufous, and the dark bars on the underside are much narrower."

At the request of Messrs. H. C. Robinson and C. Bowden Kloss, Mr. Ogilvie-Grant described a new species of *Cettia* from the highlands of Sumatra :—

Cettia sumatrana, sp. n.

Lusciniola fuliginiventris Nicholson (nec Hodgs.), Ibis, 1883, p. 246. [Mount Dempo, Sumatra, 9000 feet : H. O. Forbes Coll.]

Adult male and female. Most nearly allied to *C. oreophila* Sharpe from Mt. Kina Balu, North-west Borneo, but easily distinguished by the raw umber instead of dark Dresden-brown colour of the upper parts and the much darker under-parts, the breast and sides being rich brownish olive, with only the middle of the belly whitish. In *C. oreophila* the sides are isabella-colour, and the breast whitish tinged with brown. The first primary-quill is about half the length of the second, which is considerably shorter than the third ; the fifth and sixth are subequal and very slightly longer than fourth and seventh. Wing, 50–52 mm. ; tail 47–52. Iris hazel ; bill dark horn, gape and basal half of the lower mandible yellow ; feet brown.

An immature female has the middle of the breast and belly pale yellowish white and the throat washed with the same colour.

Obs. This species was first procured by Dr. H. O. Forbes, but Mr. Nicholson wrongly identified it with *Lusciniola fuliginiventvis* Hodgs. from the Himalaya. Superficially it resembles that bird in general appearance, but in the latter species the bill is more slender, the tail shorter and composed of twelve feathers instead of ten, and the colour of the upper parts is of an even darker brown without the slightly rufous-orange tinge characteristic of the Sumatran bird.

Messrs. Robinson and Kloss stated that this little Warbler did not occur below 7000 feet and ranged higher than any other vertebrate met with on the Korinchi Peak, one specimen having been shot at an elevation of over 11,000 feet, at the limit of vegetation.

Though not at all shy it was very skulking in its habits, and hopped about near the ground among dense vegetation. It was consequently rather a difficult bird to obtain.

Hab. Korinchi Peak, 7000–11,000 feet, Sumatra.

Types in the British Museum : ♂, No. 1340, Korinchi Peak, 10,000 feet, 3. v. 14 ; ♀, No. 1193, Korinchi Peak, 7300 feet, 27. iv. 14. H. C. Robinson and C. Boden Kloss Coll.

The remainder of the evening was devoted to an exhibition of Lantern-slides by Members of the B. O. U. and B. O. C.

Mr. F. R. Ratcliff showed some slides of the French Sahara. From Laghouat, at the edge of the southern Atlas Range, through the region of the Dayas—high-lying desert of hard soil covered with rough pebbles, in the depressions of which are spinneys of pistachier trees and jujubier thorn-bushes—to the Mozabite towns of Ghardaia and Guerrara lying in the ravines of the Chebka. Thence north-east, through the more sandy districts of El Alia to Touggourt, from which the route turned north, above the underground

bed of the Oued Rhir to Mraier, on the western edge of a series of Chotts below sea-level, and so on to Biskra.

Miss E. L. Turner showed a very interesting series of photographs, of which the following may be specially mentioned:—Long-eared Owl nesting on the ground; Moorhens courting; Lapwings bathing; Redshanks feeding; Herons in flight; Eider-Ducks and Sheld-Ducks bathing; Terns playing.

Mr. R. H. Read showed a number of photographs of birds with their nests and eggs, taken in Norway and Sweden.

Miss Maud Haviland exhibited a series of about thirty very beautiful slides, of which the following are deserving of special notice:—Peewits challenging; Jackdaws bathing; Studies of Shovelers; Little Stint; Grey Phalarope; Turnstones; Black-throated Divers; Kittiwakes and Guillemots on the Bass Rock; Red-necked Phalaropes; Black-headed Gulls robbing a nest of Sandwich Terns; Courtship of the Common Gull; Red-throated Divers; Oyster-catchers; and Eider-Ducks.

Mr. K. J. Acton Davis followed with another fine series of pictures of sea and land birds.

Mr. D. Seth-Smith showed a few slides, taken in the Zoological Gardens last April, of Ruffs and the Great Bustard in display.

Captain Collingwood Ingram, who was unable to be present, sent two slides, illustrating the difference in the colour-pattern of nestlings of the Common and Lesser Terns, together with the following notes (kindly communicated by Mr. Talbot-Ponsonby):—

"During a recent visit to the breeding-haunts of the Common and Lesser Terns, I was greatly impressed by the striking differences in the colour-pattern to be found in the downy young of these two species. In the chick of

the Common Tern (*Sterna hirundo*) the chin and sides of the throat are invariably *dusky*, whereas in the juvenile Lesser Tern (*Sterna minuta*) these parts are always *white*. The chief interest of this observation lies in the fact that these birds represent what, in my opinion, are two very distinct groups of Terns, easily recognisable in the adult by the form of the tail.

"The question now arises, Are these two characters correlative and invariably present in *all* the members of their respective groups? I have not been able to examine much material, but all the specimens of Terns in down in the Natural History Museum tend to support this supposition. Chicks of the under-mentioned species are represented in the National Collection, and, according to my classification, these may be conveniently divided as follows:—

"Group I.

"Adult with a deeply-forked, long tail. Downy young with dusky throat.

Sterna hirundo (= *fluviatilis*).
Sterna paradisæa (= *macrura*).
Sterna dougalli.
**Sterna hirundinacea* (from Falkland Islands).
**Sterna aleutica* (from Alaska).

"Group II.

"Adult with shorter and not such a deeply-forked tail. Downy young with white, or nearly white, throat.

Sterna minuta.
Sterna nilotica (= *anglica*).
Sterna sandvicensis (= *cantiaca*).
Sterna tschegrava (= *caspia*).
**Sterna antillarum*.
**Sterna melanauchen*.

* [These names have been copied direct from the old Museum labels.—C. I.]

"Are these characters sufficiently important to warrant the generic separation of these two groups? Certainly many Passerine genera have been recognised and universally accepted on less substantial grounds. I do not know to what extent these birds have been compared from an anatomical point of view, but it would seem that further research is desirable."

The next Meeting of the Club will be held on Wednesday, the 12th of April, 1916, at **PAGANI'S RESTAURANT**, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXV.

The two-hundred-and-twelfth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, April 12th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker; G. K. Baynes; E. Bidwell; S. Boorman; H. B. Booth; C. Borrer; P. F. Bunyard; P. A. Buxton; Abel Chapman; R. W. Chase; H. N. Coltart; H. J. Elwes, F.R.S.; E. Gibson; F. C. Gould; E. Hartert, Ph.D.; G. B. Hony; Capt. C. Ingram; Rev. F. C. R. Jourdain; G. C. Lambert; H. Langton; G. E. Lodge; G. M. Mathews; H. Munt; C. Oldham; F. G. Penrose; W. P. Pycraft; F. R. Ratcliff; C. B. Rickett; A. D. Sapsworth; W. L. Sclater, M.A.; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Sec. & Treas.*); H. F. Witherby.

Guests:—F. W. Dewhurst; G. H. Lings; H. Massey; D. H. Mears.

Mr. Clifford Borrer proposed the following resolution, which was seconded by Mr. D. Seth-Smith and carried by the Meeting:—

"That Rule I. be altered to read as follows:—

"Any Ordinary *male* Member of that Union can become an Ordinary Member of this Club on payment (to

the Treasurer) of an entrance fee of One Pound and a subscription of Seven Shillings and Sixpence for the current session. Any lady members of the Union shall be admitted as Honorary or Extraordinary Members of the Club, and may attend as such at the annual combined dinner in March."

The Chairman pointed out that this resolution would have to be confirmed by the Committee and by the Annual Meeting of the Club.

Mr. Clifford Borrer exhibited the following varieties of British Birds, all taken in Norfolk, except the Snipe :—

Skylark. Three examples, all showing different phases of the sandy variety.

Moorhen. An immature specimen spotted with white on the back.

Starling. An immature bird of a bluish-white and variegated colour—a most unusual variety.

Hedge Accentor. A bird with a white mantle. Varieties in this species appear to be uncommon.

Snipe. A specimen of the common sandy variety.

Knot. A very pale variety.

Lord Rothschild and Dr. Ernst Hartert exhibited and described some Flycatchers from the Solomon Islands, and made the following remarks :—

In the 'Novitates Zoologicæ,' 1901 to 1908, we have in various places mentioned specimens of "*Rhipidura cockerelli*" from the islands of Guadalcanar (the "terra typica"), Rendova, Vella Lavella, Choiseul, and Bougainville, and we described as a new species *Rhipidura albina* from Kulambangra. When Mr. Goodson put out the whole series to be re-arranged in the new cabinets it became obvious that nearly every island has its own form, and that *Rh. albina* should be looked upon as one of the subspecies of *Rh. cockerelli*. We must, therefore, recognize the following forms :—

Rhipidura cockerelli cockerelli (Rams.).

Sauloprocta cockerelli Ramsay, Proc. Linn. Soc. N. S. Wales, iv. p. 81 (1879—"Gaudalcanar," *i. e.* Guadalcanar).

Upperside slate-black. Nearly the entire outer webs of the inner secondaries and tips of their inner webs white. All rectrices uniform slate-black. Breast with large drop-like longitudinal white spots. Culmen from base 19–20, wing 86–91 mm.

Hab. Guadalcanar (5 skins examined).

Rhipidura cockerelli septentrionalis, subsp. nov.

Coloration as in *Rh. c. cockerelli*, but culmen only 16·6 to 18 (once 19 mm.), wing 82 to 87 mm. Both in this and the former, as well as in the other subspecies, the males are larger than the females, though the sex-marks on the labels do not bear this out in all cases. There is thus, in our opinion, no overlapping of measurements.

Type: ♀ ad. No. 3537, A. S. Meek Coll., shot 11. xii. 1907.

Hab. Bougainville, the northernmost island of the Solomon group (6 skins examined).

Rhipidura cockerelli interposita, subsp. nov.

Differs from *Rh. c. cockerelli* and *septentrionalis* in the greater extent of the white colour on the inner secondaries, which have the outer webs entirely, the inner largely (about half their length) white. Wings 84–90, culmen 17–18 mm.

Type: ♀, Isabel, 4. vii. 1901, No. 3494, A. S. Meek Coll.

Hab. Isabel and Choiseul Islands (9 skins compared).

Rhipidura cockerelli albina Rothsch. & Hart.

Rhipidura albina Rothschild & Hartert, Nov. Zool. 1901, p. 183; 1905, p. 260.

White on the inner secondaries as in *R. c. cockerelli*, but breast not with distinct drop-like spots; back a little more slaty.

Hab. Kulambangra and apparently Rendova.

First described from a single male from Kulambangra without the lateral pair of tail-feathers and some albinistic white feathers on the head. The wing measured 96·7 mm. (not quite 98 as originally stated !). Afterwards we received three specimens from Rendova with wings only 88–89 mm. These three birds also have a whitish line along the shaft near the tip of the outermost pair of rectrices, which are wanting in the type of *Rh. albina*. Possibly they belong to another smaller subspecies, but without more specimens from Kulambangra it would be hazardous to separate them.

Rhipidura cockerelli lavellæ, subsp. nov.

Breast as in *Rh. c. cockerelli*. Upperside much more greyish slate-colour, not so blackish ; white edges to inner secondaries less wide, occupying less than or at the utmost half the inner web. Outer pair of rectrices with a small whitish spot near the tip. Wings 84–90 mm.

Type : No. 3902, A. S. Meek Coll., 1. iii. 1908.

Hab. Vella Lavella Island, Western Solomon Islands.

Dr. E. Hartert sent the following description of a new race of Paradise Flycatcher :—

The distribution of *Tchitrea affinis* or *T. paradisi affinis* has been accepted as reaching from the foot of the Eastern Himalayas through the Malay Peninsula to Sumatra and Borneo. Without being able to go into further details, I can say with certainty that this is not quite correct, the Bornean form differing from that of Assam, Burmah, and the Malay Peninsula in the following points :—The bill is considerably larger, especially deeper and wider at base ; in the adult male the metallic-blue colour of the head is deeper and of a more purplish tinge. The length of the tail is very variable, but in India and the Malay Peninsula it appears not to reach the tremendous length found in Bornean examples, *i. e.* 459 mm. The shafts in the latter are black or blackish quite or nearly to the end, while in *T. paradisi affinis* they are, as a rule, white for their terminal third and only blackish again for 5 or 7 mm. before the tip. I propose to call the Bornean form

Tchitrea paradisi borneensis, subsp. nov.

Type: ♂ ad. Bejalong, Sarawak, June 1903. In the Tring Museum.

T. p. affinis has been admitted to the list of Philippine birds by Mr. R. C. McGregor on the strength of a specimen in the Frankfurt Museum received from Cuming and said to have come from Luzon. As the species has never again been found in the Philippine Archipelago, we cannot for a moment believe that the locality is correct.

T. p. nicobarica (Oates) is another distinct form, but Oates should not have said that the white male was indistinguishable from that of *T. p. affinis*, as the bill is larger and the head much darker, being purplish black-blue, even more so than that of *T. p. borneensis*, which it resembles more than that of *T. p. affinis*.

T. paradisi ceylonensis Zarudny & Härms from Ceylon is a very distinct form, and it is curious that it never received a name before.

I am not acquainted with *T. procera* Richmond from Simalur Island, west of Sumatra, which seems to be another form of *T. paradisi*.

Mr. H. F. Witherby exhibited the primary-feathers of some Larks, both adult and juvenile, and made the following observations:—

When working out the moult and sequences of plumage of the species of Larks on the British list, I found that in most, if not all, the first (or bastard) primary in the juvenile was considerably longer and broader than in the adult, and its tip was more rounded and not so pointed. I exhibit two first primaries—the one taken from a juvenile and the other from an adult Sky-Lark (*Alauda a. arvensis*). It will be seen that the difference in size and shape is very marked. That of the juvenile measures 20 mm. in length, while that of the adult only measures 13 mm., and is also much narrower and more pointed. I have found a similar difference in varying degree in the following species:—*Melano-*

corypha sibirica, *Calandrella brachydactyla*, *Galerida cristata*, *Lullula arborea*, *Eremophila alpestris*. The only juvenile specimen of *Melanocorypha yeltoniensis* which I have been able to examine had the primaries only partially grown.

It should be noted that, unlike most Passeres, the juveniles of all these Larks moult all their wing- and tail-feathers at their first autumn moult, and the new primaries acquired at this moult are like those of the adult.

The only other species of the British Passeres which, so far as I know, moult their juvenile wing- and tail-feathers in the first autumn are:—*Sturnus vulgaris*, *Pastor roseus*, *Montifringilla nivalis*, *Passer domesticus*, *Passer montanus*, *Emberiza calandra*, *Emberiza melanocephala*, *Emberiza cioides*, *Ægithalus caudatus*, *Panurus biarmicus*. In these the first primary is markedly larger in the juvenile of *Panurus biarmicus* than in the adult, as already pointed out by Dr. Hartert (Vög. pal. Fauna, vol. i. pp. 403–4). I find a similar but less marked difference in *Passer domesticus* and *Ægithalus caudatus* (of which I exhibit specimens), and in *Passer montanus*; there is a slight difference in *Sturnus vulgaris* and *Montifringilla nivalis*, but I can find none in *Pastor roseus* and the three species of *Emberiza*.

Referring to the exhibition made by Mr. R. H. Read at the February meeting of the Club (*ante*, p. 60), Mr. P. F. Bunyard remarked that, although this was of considerable general interest, as an illustration to prove that the eggs of the Limicolæ are difficult to identify, in his opinion it failed in its object.

There were, Mr. Bunyard said, very few eggs shown which with ordinary care and careful comparison could not have been accurately identified. He considered that the statements made by Mr. Read were, broadly speaking, far too sweeping, and he could not recognise the inter-grading, in eggs of certain species, suggested by Mr. Read.

While recognising the importance of eggs being well authenticated, Mr. Bunyard considered that with normal types of the Limicolæ in the British list, 37 out of a total of 59 species could be identified without difficulty.

Mr. Gregory M. Mathews sent the following description of a new subspecies of *Collocalia* :—

Collocalia francica yorki, subsp. n.

Differs from *C. f. terræreginæ* (Ramsay) in lacking the whitish rump, in being darker below, and in having the bill bigger and broader.

Type: Peak Point, Cape York, Queensland. Collected on 10th September, 1913, by Mr. Robin Kemp (No. 18188 in my collection).

(To be added to p. 152 of my 'List of the Birds of Australia.')

Capt. C. Ingram exhibited three eggs of the Cocoa Thrush (*Turdus fumigatus* Licht) from Trinidad, and communicated the following remarks :—

Comparatively little is known of the breeding-habits of the majority of Trinidad birds, and well-authenticated eggs from this island are rare. This is partly explained by the dearth of competent collectors, but also by the density of the vegetation and the extreme variability and uncertainty of the breeding-season, which appears to extend over a large portion of the year. For instance, on December 27th I was shown the nesting-hole of a Dendrocolaptine species containing young about ten or twelve days old, although (as I was locally informed) the nesting-season would not be at its height until about March.

It was only by chance that I discovered the nest of that comparatively rare bird the Cocoa Thrush. I was hunting deer in the early morning of December 29th and had just pulled my horse up at the corner of a forest-track when I noticed a reddish-brown bird settle in front of me. It hurriedly gathered a beak-full of clay from the wet bank and then disappeared again into the bush. This performance was repeated several times, so that I was finally able to follow the bird to a mango-tree growing at the edge of a cocoa-plantation under a very steep, forest-covered slope.

On January 8th I re-visited this tree and was pleased to find that the nest now contained three handsomely-marked

eggs. It was built in a thick tuft of branches sprouting from a recently amputated limb and was so completely hidden from view that, had I not been guided in the first place by the owner, it would have been quite impossible to have found it. The nest was typical of the genus—a mass of moss, leaves, and rootlets welded together with soft clayey mud (which was still wet) and lined with rather coarse roots, tendrils, and dried plant-stems. Wishing to place the identity of the eggs beyond dispute I reluctantly secured the female, which is now preserved in the Natural History Museum.

The eggs are not altogether unlike small, but very richly marked, examples of the Ring-Ouzel (*Turdus torquatus torquatus* L.). The ground-colour is of a clear bluish-green, somewhat heavily splashed and blotched with rusty-brown, especially about the larger end. In one example the blotches are more uniform in size, rather larger, and more evenly distributed over the shell. In this specimen underlying marks of a lilac or purplish-grey hue are also clearly visible. In size the eggs measure 27·2 by 21·4 mm.

The next Meeting of the Club will be held on Wednesday, the 10th of May, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

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Chairman.	*Editor.*	*Sec. & Treas.*

Smithsonian Institution,
JUN 17 1916
National Museum.

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXVI.

The two-hundred-and-thirteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, May 10th, 1916.

Chairman: Dr. F. G. Penrose.

Members present:—E. E. Adams; E. C. Stuart Baker; E. Bidwell; P. F. Bunyard; P. A. Buxton; R. W. Chase; H. N. Coltart; Rev. J. R. Hale; E. Hartert; G. C. Lambert; H. Munt; F. Nicholson; C. Oldham; W. P. Pycraft; R. H. Read; C. B. Rickett; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Sec. & Treas.*); H. F. Witherby.

Guests:—E. Kent; J. K. Stanford; T. Tait; T. M. Till.

The Rev. James Hale exhibited an abnormal clutch of Nightingale's eggs, and made the following observations:—

The eggs that I am exhibiting this evening are the property of Colonel R. H. Rattray, and were taken by him at Tonbridge on May 31st, 1908.

On May 5th Colonel Rattray found a nest containing two eggs, bright blue in colour, at first sight Hedge Sparrow's eggs, but broader and more blunt at the end. But the nest was a typical nest of a Nightingale, both in situation and in

material. Unfortunately, this nest was destroyed and no conclusive evidence obtained that these were genuine eggs of the Nightingale.

Colonel Rattray set to work to find the second clutch, and on May 30th he found it close by the old nest containing three eggs (two blue eggs and one olive egg), which at once showed him that it was a Nightingale's nest and eggs. But to make it absolutely certain, Colonel Rattray, on May 31st, went to the nest as soon as it was light and found it contained the three eggs, as on the day before. He watched the Nightingale go into the nest, and at 12.45 P.M. she left her nest and it contained a fourth egg and this time bright blue, establishing beyond any doubt whatsoever that the blue eggs are genuine eggs of the Nightingale. That a Nightingale should sometimes lay blue eggs is what one would expect, though, so far as I know, it is of rare occurrence.

We find in the eggs of the Pheasant—where the normal eggs are very much like Nightingale's eggs in colour—blue eggs frequently occurring, especially in the eggs laid in captivity.

Messrs. Bunyard, Chase, and Bidwell mentioned other instances of blue eggs of the Nightingale, and a discussion on the coloration of birds' eggs in general ensued, the consensus of opinion being that our knowledge of this subject was very limited, and that it offered a promising field for investigation.

Mr. E. C. Stuart Baker exhibited a pair of very rare Cuckoos (*Carpococcyx renauldi*), collected by Mr. E. G. Herbert in Siam. The only other specimens hitherto known of this fine bird are those in the Paris Museum, named by Oustalet from specimens obtained from Annam.

Mr. E. C. Stuart Baker also made the following statement:—

My attention has been drawn by Mr. T. Iredale to the fact that my name of *Rhipidura albicollis kempi*, published

JUN 17 1916
National Museum.

in the 'Records of the Indian Museum' (vol. viii. p. 275), is preoccupied by Messrs. Mathews and Iredale's name *R. flabellifera kempi* ('Ibis,' 1913, p. 441). I therefore propose to rename the dark form of the White-throated Fantail Flycatcher found in the Mishmi Hills

Rhipidura albicollis stanleyi, nom. n.,

after Mr. Stanley Kemp, in whose honour it was originally named.

Mr. Godfrey Lambert exhibited a small series of Sparrow-Hawks (*Accipiter nisus*) to show the variation of plumage—especially in the males. The series included :—

(1) A male and female in similar plumage.
(2) A male in the first plumage with the general colouring of underparts very pronounced rufous.
(3) A male with colourless underparts.
(4) Specimens intergrading between Nos. 2 and 3.

Mr. Talbot-Ponsonby exhibited a female Sparrow-Hawk in plumage closely resembling that of an adult male.

Dr. Ernst Hartert described another new form of *Pomatorhinus* as follows :—

For some time we had in the Tring Museum a specimen of *Pomatorhinus* from Trang, in the northern part of the Malay Peninsula, which is very closely allied to *P. schisticeps olivaceus* from Tenasserim, but differs in having the thighs, under wing- and under tail-coverts, vent, and flanks less rusty, more pale olivaceous, the thighs almost ashy grey, and the crown of the head a shade more greyish. Having now received, in exchange from Mr. Herbert C. Robinson, a second specimen from Kao Nong, Bandon, which is entirely similar, I do not hesitate to name this form, calling it

Pomatorhinus schisticeps fastidiosus, subsp. nov.

Type: *a.* ♂ ad. Ko-khan, Trang, Malay Peninsula, 8.i.1910, in the Tring Museum.

From the dried skins it appears as if the legs had been of a less brownish, more greyish colour, but, as the colours of the unfeathered parts are not marked, we cannot be sure about this. Possibly the bill is larger, but a series would be necessary to prove this.

Mr. Gregory M. Mathews sent the following notes and additions to his 'List of the Birds of Australia,' 1913 :—

Page 34 :

Neonectris tenuirostris hulli, subsp. n.

Differs from *N. t. brevicaudus* (Gould) in having a whitish throat. Wing 278 mm.

Type ♂ : Collected on the Barrier Reef, Queensland, in November 1882.

Page 66 :

Heteroscelus incanus porteri, nom. n.

for the bird figured and described in my 'Birds of Australia,' vol. iii. pl. 152, p. 212.

Type : Cape York, Queensland.

I have now two other records to add, one from Five Islands, off the New South Wales coast, and one from Lord Howe Island.

Page 68 :

Rhyacophilus glareola picturata, nom. n.

for the bird figured and described in my 'Birds of Australia,' vol. iii. pl. 156, p. 231.

Type : North-west Australia.

Page 70 :

Limnocinclus acuminatus rufescens, nom. n.

for the bird figured and described in my 'Birds of Australia,' vol. iii. pl. 161, p. 256.

Type : North-west Australia.

Page 154:

Cuculus optatus belli, subsp. n.

Differs from *C. o. optatus* Gould, in being lighter in colour and larger in size. Wing 216 mm.

Type: Lord Howe Island.

Typical birds measure in the wing 198 to 208 mm.

Page 157:

Lamprococcyx lucidus australis, subsp. n.

Differs from *L. l. lucidus* (Gmelin) in having more bronze on the upper surface and on the bars on the under-surface. Wing 107 mm.

Type: Queensland, November 1893.

Page 162:

Atrichornis clamosus campbelli, subsp. n.

Differs from *A. c. clamosus* (Gould) in having the black patch on the lower throat only faintly indicated.

Type: South-west Australia (King George's Sound).

Page 175:

Pœcilodryas superciliosa yorki, subsp. n.

Differs from *P. s. superciliosa* (Gould) in being darker and smaller. Wing 68 mm.; typical birds measure, wing 80 to 85 mm.

Type: Cape York, Queensland.

Page 238:

Alphacincla woodwardi didimus, subsp. n.

Differs from *A. w. woodwardi* (Hartert) in being much more rufous on the under-surface, the throat only being grey, the eye-stripe rufous and much more pronounced, and in being much darker above. It is also smaller.

Male wing 114 mm.; wing of type of *woodwardi* being 145 mm.

Type: McArthur River, Northern Territory, 5th September, 1913.

The next Meeting of the Club will be held on Wednesday, the 14th of June, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

F. G. Penrose, *Chairman.* D. Seth-Smith, *Editor.* C. G. Talbot-Ponsonby, *Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXVII.

The two-hundred-and-fourteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, June 14th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. E. Adams; E. C. Stuart Baker; E. Bidwell; C. D. Borrer; A. D. Bradford; P. F. Bunyard; P. A. Buxton; Ernest Gibson; E. Hartert; C. Ingram; H. Langton; H. Munt; F. Nicholson; R. H. Read; W. E. Renaut; C. B. Rickett; H. F. Witherby.

Guests:—J. C. Hartert; E. G. Herbert; R. Philipson.

Mr. Langton exhibited two nests and eggs for identification. The first was supposed to be that of a Blackcap, the other that of a Redpoll. A discussion took place, and the consensus of opinion was that the supposed Blackcap's eggs were those of a Yellowhammer, and the eggs attributed to the Redpoll really belonged to a Linnet.

Mr. Witherby exhibited a Great Tit's egg which was completely covered with some black substance. The egg had been sent to him by Mr. J. H. Gurney with the

following remarks :—"I am sending you an egg from a Great Tit's nest at Great Malton Rectory stained black. The Rev. N. W. Paine informs me that there were eight in the nest, all covered over like this one ; the nest was in a fork of a tree and open to the sky, which may account for some exudations having got into it."

Lord Rothschild read the following note on *Scolopax saturata* Horsf., and its subspecies *rosenbergi* Schleg. :—

When earlier in the Session I laid some notes on this subject before the Club, I most unfortunately entirely overlooked Count Salvadori's explicit paper on the same subject in the 'Ibis' for 1889, pp. 107–112. He there fully and accurately states the differences between *saturata* and *rosenbergi* and enumerates all the known examples, viz., five specimens and the almost destroyed type of *saturata*, and three specimens of *rosenbergi*. Count Salvadori emphasizes the point that all the three *rosenbergi* came from Arfak. Between 1889 and 1916 a large number (some fourteen specimens) of *rosenbergi* have been procured in various parts of the Owen Stanley Range in S.E. New Guinea, but only a very few *saturata* have been obtained in Java and Sumatra. Count Salvadori, being one of the earlier school of ornithologists, does not recognize subspecies and, accordingly, in the article referred to, treats *saturata* and *rosenbergi* as two valid species. In view of the recent discovery of *saturata* in Sumatra, it is more than likely it will be found in one form or another on most of the intervening islands between Java and New Guinea, providing the mountains on these islands reach a sufficient altitude. The fact that on Obi and Halmaheira in the Moluccas a totally different Woodcock, *N. rochusseni* Schleg., has been obtained, is no obstacle to the eventual discovery on some of the other islands of a *saturata* form, as would appear to be Count Salvadori's view, judging by his note on p. 108. Whether, however, we do receive our Woodcock from any of these islands or not, there can be no doubt that *rosenbergi* is the representative of *saturata* in New Guinea ; therefore I consider we are justified

in treating them as two subspecies of a single species. They will, in future, have to stand as *Scolopax saturata saturata* Horsf. and *Scolopax saturata rosenbergi* Schleg.

Dr. Ernst Hartert described a new Shortwing as follows:—

Brachypteryx poliogyna mindorensis, subsp. n.

♂. Colour exactly as in *B. p. poliogyna*, but smaller; wing 63–66 mm. (as against 69–71 in the Luzon form), tail 45–47 (against 51 in the latter). ♀. Forehead, crown, nape, and cheeks more rufous, throat brighter ferruginous than in *B. p. poliogyna*, the blue of the back slightly paler, tail 46 (against 48–49 mm. in *B. p. poliogyna*).

Hab. Mountains of Mindoro, Philippine Islands.

Type. ♀. Mt. Dulangan, 4500 feet, Mindoro, 25. 1. 1896. Collected by John Whitehead. (In the Tring Museum.)

Obs. In the 'Ibis,' 1896, p. 467, Mr. Ogilvie-Grant has already noticed the differences of the female, but he attributes them to immaturity, a conclusion which cannot be upheld. It is, of course, quite right, as Mr. Ogilvie-Grant said, that the female has some of the wing-coverts edged with rust-colour, and this may be due to immaturity, but the rest of the plumage appears to be perfectly mature, and there is no reason to suppose that the uniform more rufous colour of the head or the lighter back is due to immaturity, as it does not appear in the form of edges or spots, nor can the smaller size, especially of the males, which was not mentioned by Mr. Ogilvie-Grant, be due to immaturity. Moreover, every island of the Philippines from which a *Brachypteryx* is known has a specialized form, and the same must be expected on Mindoro, which has so many species and subspecies of its own.

The following Shortwings are now known on the Philippines:—

Brachypteryx poliogyna poliogyna Ogilvie-Grant.
Highlands of Luzon.

Brachypteryx poliogyna mindorensis Hart.
Highlands of Mindoro.

B. poliogyna brunneiceps Ogilvie-Grant.
Negros.

B. poliogyna mindanensis Mearns.
Mountains of Mindanao (Mount Apo).

B. poliogyna malindangensis Mearns.
Mindanao (Mount Malindang). I only know this form from the description, but, judging from the latter, it would only be the representative from the mountain of Malindang, in North-western Mindanao.

Mr. R. H. Read exhibited a series of eggs of British Thrushes, mostly Song-Thrush, Missel-Thrush, and Blackbird—among which were many handsomely marked sets which were much admired.

Interesting eggs of the Song-Thrush were a pure white egg with rust-red and dark red spots which Mr. Read had obtained this year in Sussex, a set of seven spotless blue eggs, a set of three deserted eggs with Cuckoo's egg, and set of two with three Hedge-Sparrow's eggs in the same nest.

Among the Missel-Thrushes' eggs were some heavily blotched and others spotted with bright red from the apple orchards of Somerset.

Among the Blackbirds' eggs were a set of five—four of which were a pure, bright, spotless blue, the fifth being faintly spotted—taken on the ground in Essex, and another set in which the ground-colour was entirely hidden by the red-brown markings. These latter were taken in Scotland close to where Mr. Read found, on the same day, a set of red eggs of the Sedge-Warbler.

Although, generally speaking, the eggs of these three species were readily distinguishable in clutches, yet from each species individual eggs could be selected, both spotless and spotted or blotched, with rust-red markings of which it

would be very difficult, and in some cases impossible, to say to which of the three species they belonged.

Mr. Gregory M. Mathews sent the following notes and additions to his 'List of the Birds of Australia,' 1913 :—

Page 33 :

The type-locality of *Reinholdia reinholdi byroni* Mathews, and

Page 38 :

Cookilaria cookii byroni Mathews is given as Byron Bay, Northern New South Wales. Both these I now consider to be wrong : the first-named comes from Five Islands, south of Woollongong, New South Wales, where I believe it breeds ; the other from Cabbage Tree Island, and, if so, is a synonym of *C. c. leucoptera* (Gould).

Reinholdia reinholdi melanotis, subsp. n.

Differs from *R. r. reinholdi* (Mathews) in being blackish above and in being smaller. The axillaries are blackish-brown, some with white tips. Wing 189 mm.; tail 60; tarsus 39; culmen 31. Feet with the inner toe, first joint of middle, and webs pink, outer toe and rest of middle black; inside and the front three-quarters of the outside of the tarsus pink ; the back edge and lower quarter black ; bill blackish.

Type: Kaipara Beach, near Helensville, Waitemata County, North Island, New Zealand.

Collected by Robin Kemp on the 10th January, 1915.

The species appears to vary from brown to blackish with a bloom.

Page 152 :

Collocalia francica zoonava, subsp. n.

Differs from *C. f. terræreginæ* (Ramsay) in being much darker on the under surface, and in having the light band on the rump brownish white. Wing, ♂, 110 mm.

Type : Johnstone River, North Queensland, 21st June, 1900.

Page 186:

Setosura setosa macgillivrayi, subsp. n.

Differs from *S. s. superciliosa* (Ramsay) in being lighter above, not so spotted on the chest; abdomen lighter buff, and in having a narrower bill.

Type: Leichhardt River, Queensland, 19th July, 1910.

Page 208:

Ashbyia lovensis whitei, subsp. n.

Differs from the type of *A. l. lovensis* (Ashby) in being paler above and not so yellow below.

Type: Mary's Well, 12 miles east of Todmoreden, Central Australia.

Page 217:

Milligania robustirostris moorilyanna, subsp. n.

Differs from *M. r. robustirostris* (Milligan) in being more decidedly buff on the sides of the body, and the buff rump much darker.

Type: Moorilyanna Well, Everard Ranges, Central Australia.

Page 218:

Geobasileus chrysorrhous ferdinandi, subsp. n.

Differs from *G. c. addendus* (Mathews) in being paler above and below, and the yellow rump more pronounced.

Type: Glen Ferdinand, Musgrave Ranges, Central Australia.

Page 232:

Diaphorillas textilis indulkanna, subsp. n.

Differs from *D. t. modesta* (North) in being darker above with a shorter tail and bill.

Type: Indulkanna, Central Australia, 11th July, 1914.

Diaphorillas textilis myall, subsp. n.

Differs from *D. t. modesta* (North) in having the under surface brown (not white) with the shafts white.

Type: Myall Creek, Cariewerels, Gawler Ranges, Central Australia.

Page 245:

Falcunculus frontatus territori, subsp. n.

Differs from *F. f. lumholtzi* Mathews in its smaller size. The tail is blacker with some of the outer webs fringed with yellow. Male wing 85 mm., tail 55; in *lumholtzi* the male measures: wing 95 mm., tail 80.

Type: McArthur River, Northern Territory, 16th June, 1913.

Page 250:

Climacteris erythrops olinda, subsp. n.

Differs from *C. e. erythrops* Gould in having a darker head and back.

Type: Olinda, Victoria, 24th December, 1910.

Page 256:

Pardalotus rubricatus musgravi, subsp. n.

Differs from *P. r. leichhardti* Mathews in having white (not yellow) under tail-coverts, smaller bill, and the yellow rump not so pronounced.

Type: Musgrave Ranges, Central Australia.

Page 274:

Dorothina virescens everardi, subsp. n.

Differs from *D. v. virescens* (Vieillot) in being paler and smaller (*Meliphaga virescens everardi*).

Type: Everard Ranges, Central Australia, 11th August, 1914.

Page 286:

Myzantha flavigula pallida, subsp. n.

Differs from *M. f. flavigula* Gould in being much paler.

Type: Tietkens Creek, Central Australia.

Page 316 :

Neostrepera versicolor centralia, subsp. n.

Differs from *N. v. intermedea* (Sharpe) in being lighter, and in having a bigger bill.

Type : Everard Ranges, Central Australia.

Mr. Mathews also added :—

A Swiftlet new to Australia [*Collocalia fuciphaga* (Thurnberg)].

Collocalia fuciphaga yorki.

Collocalia francica yorki Mathews, Bull. B.O.C. vol. xxxvi. p. 77, 27th April, 1916, Cape York, North Australia.

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(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Inst.
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PREFACE.

The number of attendances at the meetings of the British Ornithologists' Club during the past Session, 1916–1917, was 252, of which 214 were Members and 38 Visitors, an average of 28 per meeting. This shows a considerable falling off from the attendances of previous years, but taking into consideration the number of Members who are either serving in the Army or otherwise engaged in war work of one kind or another, and the fact that very little ornithological work is being done at the present time, it is a matter of considerable satisfaction that it has been possible to hold the meetings at all.

The value and interest of the meetings has been maintained, largely owing to the exhibition of several new forms of birds by our Chairman Lord Rothschild and Dr. Hartert, and to the excellent series of rare eggs shown by Messrs. Stuart Baker, Jourdain, and Bunyard.

The March meeting was, as usual, devoted to an exhibition of lantern-slides of birds and their nests and eggs. There was a good attendance, and the photographs shown were well up to the average in quality and interest.

The paper read by Lord Rothschild at the May meeting on the status of *Lophophorus impejanus* Lath. and *L. refulgens* Temm. is of particular interest and importance.

We have to deplore the death of the following Members since the end of last Session :—

Dr. J. A. Harvie-Brown, well known to the older naturalists amongst us, died on July 26th, 1916, at the age of 72.

Captain Lord Lucas, an excellent naturalist and sportsman, lost his life while flying over the enemy's lines on November 4th, 1916.

T. H. Nelson, a well-known Yorkshire ornithologist and author of 'The Birds of Yorkshire,' died on November 5th, 1916.

Captain F. C. Selous, D.S.O., one of the very best sportsmen and naturalists that ever lived, and a regular attendant at our meetings when at home, was killed in action in German East Africa on January 4th, 1917.

(Signed) D. SETH-SMITH,
Editor.

London, July 1917.

RULES

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

(*As amended, July 12th,* 1916.)

I. This Club was founded for the purpose of facilitating the social intercourse of Members of the British Ornithologists' Union. Any Ordinary Member of that Union can become a Member of this Club on payment (to the Treasurer) of an entrance fee of *One Pound* and a subscription of *Seven Shillings and Sixpence* for the current Session. Resignation of the Union involves resignation of the Club.

II. Members who have not paid their subscriptions before the last Meeting of the Session, shall cease, *ipso facto,* to be Members of the Club, but may be reinstated on payment of arrears *and* a new entrance fee.

III. Ordinary Members of the British Ornithologists' Union may be introduced as Visitors at the Meetings of the Club, but every Member of the Club who introduces a Member of the B. O. U. as a Visitor (to the dinner or to the Meeting afterwards) shall pay *One Shilling* to the Treasurer *on each occasion.*

IV. No gentleman shall be allowed to attend the Meetings of the Club as a guest on more than three occasions during any single Session.

V. The Club shall meet, as a rule, on the Second Wednesday in every Month, from October to June inclusive, at such hour and place as may be arranged by the Committee. At these Meetings papers upon ornithological subjects shall be read, specimens exhibited, and discussion invited.

VI. An Abstract of the Proceedings of the B. O. C. shall be printed as soon as possible after each Meeting, under the title of the 'Bulletin of the British Ornithologists' Club,' and distributed gratis to every Member *who has paid his subscription.* Copies of this Bulletin shall be published and sold at *One Shilling* each.

Descriptions of new species may be added to the last page of the 'Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at

the discretion of the Editor and so long as the publication of the 'Bulletin' is not unduly delayed thereby.

Any person speaking at a Meeting of the Club shall be allowed subsequently to amplify his remarks in the 'Bulletin'; but no fresh matter shall be incorporated with such remarks.

VII. The affairs of this Club shall be managed by a Committee, to consist of the Chairman, who shall be elected for five years, at the end of which period he shall not be eligible for re-election for the next term, the Editor of the 'Bulletin,' the Secretary and Treasurer, and the Editor of 'The Ibis,' *ex officio*, with three other Members, one of whom shall be changed every year. Officers and Members of the Committee shall be elected by the Members of the Club at a General Meeting, and the names of such Officers and Members of Committee, nominated for the ensuing year, shall be circulated with the preliminary notice convening the General Meeting at least two weeks before the Meeting. Should any Member wish to substitute another candidate, the nomination of such, signed by at least two Members, must reach the Secretary at least one clear week before the Annual General Meeting.

Amendments to the Standing Rules of the Club, as well as very important or urgent matters, shall be submitted to Members, to be voted upon at a General Meeting.

VIII. A General Meeting of the B. O. C. shall be held on the day of the October Meeting of each Session, and the Treasurer shall present thereat the Balance-sheet and Report; and the election of Officers and Committee, in so far as their election is required, shall be held at such Meeting.

IX. Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted must communicate in writing with the Chairman, who will call a Committee Meeting to deal with the matter.

COMMITTEE 1916–1917.

The Lord Rothschild, Ph.D., F.R.S., *Chairman.*
David Seth-Smith, *Editor of the 'Bulletin.'*
C. G. Talbot-Ponsonby, *Secretary and Treasurer.*
E. G. B. Meade-Waldo (*Vice-Chairman*).
W. L. Sclater, M.A., *Editor of 'The Ibis'* (*Vice-Chairman*).
C. B. Rickett.
E. C. Stuart Baker.

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Baker, E. C. Stuart; 6 Harold Road, Upper Norwood, S.E. 19.
Baker, Dr. J. C.; Ceely House, Aylesbury.
Bannerman, David A., B.A.; 6 Palace Gardens Terrace, W. 8.
Barclay, Hugh Gurney; Colney Hall, Norwich.
Baynes, George K.; 1 Fleet Street, E.C. 4.
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Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C. 4.
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Borrer, C. D.; 20 Pelham Crescent, South Kensington, S.W. 7.
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Bradford, Sir J. Rose, F.R.S.; 8 Manchester Square, W. 1.
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CHUBB, CHARLES; British Museum (Natural History), Cromwell Road, S.W. 7.
CLARKE, Major GOLAND VAN HOLT, D.S.O.; Brook House, Hayward's Heath, Sussex.
CLARKE, JOHN P. STEPHENSON; Borde Hill, Cuckfield, Sussex.
CLARKE, Col. STEPHENSON ROBERT, C.B.; Borde Hill, Cuckfield, Sussex.
CLARKE, WILLIAM EAGLE, LL.D., F.R.S.E.; Royal Scottish Museum, Edinburgh.
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COLLETT, A. K.; 5 Stone Buildings, Lincoln's Inn, W.C. 2.
COLLIER, CHARLES; Bridge House, Culmstock, Devon.
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DE WINTON, W. E.; Southover Hall, Burwash, Sussex.
DOBBIE, JAMES B.; 12 South Inverleith Avenue, Edinburgh.
DORIE, WILLIAM HENRY, M.R.C.S.; 2 Hunter Street, Chester.
EARLE, EDWARD V.; 47 Lancaster Gate, W. 2.
ELLIOT, EDMUND A. S., M.R.C.S.; Slade, Mounts, S. Devon.
ELLISON, Rev. ALLAN; Althorpe Rectory, Doncaster.
ELWES, HENRY JOHN, F.R.S.; Colesborne Park, Cheltenham.
EVANS, ARTHUR HUMBLE, M.A.; 9 Harvey Road, Cambridge.
EZRA, A.; 110 Mount Street, W. 1.
FANSHAWE, Captain R. D.; Broxmore, Cavendish Road, Bournemouth.
FINLINSON, HORACE W.; Lancing College, Shoreham-on-Sea, Sussex.
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FROHAWK, F. W.; Stanley House, Park Road, Wallington, Surrey.
GAINSBOROUGH, The Earl of; Exton Park, Oakham.
GARNETT, CHARLES; 97 Whitehall Court, S.W. 1.
GERRARD, JOHN; Silverdale, Worsley, Manchester.

Gibson, Ernest; 25 Cadogan Place, S.W. 1.

Godman, Captain E. S.; Hampsteel, Cowfold, Horsham, Sussex.

Godman, Frederick DuCane, D.C.L., F.R.S.; 45 Pont Street, S.W. 1.

Goodall, J. M.; The Nest, Bembridge, Isle of Wight.

Goodfellow, Walter; The Poplars, Kettering.

Gosse, Capt. Philip, M.R.C.S.; Curtlemead, Beaulieu, Hants.

Gould, F. H. Carruthers; Matham Manor House, East Molesey.

Grant, C. H. B.; Hedingham Cottage, Hampton Road, Twickenham, W.

Grey of Falloden, The Rt. Hon. Edward, Viscount, K.G., P.C.; Falloden, Christon Bank, Northumberland.

Griffith, Arthur F.; 59 Montpelier Road, Brighton.

Gurney, G. H.; Keswick Hall, Norwich.

Gurney, John Henry; Keswick Hall, Norwich.

Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.

Hale, Rev. James R., M.A.; Boxley Vicarage, Maidstone, Kent.

Hartert, Ernst, Ph.D.; The Museum, Tring, Herts.

Hawker, R. M.; Bath Club, Dover Street, W. 1.

Headley, F. W.; Haileybury College, Hertford.

Hellmayr, C. E.; Zoologische Sammlung des Staats, Alte Akademie, München, Germany.

Hett, G. Seccombe; 8 Wimpole Street, W. 1.

Hony, G. Bathurst; 4 Beaufort Road, Clifton, Bristol.

Horsfield, Herbert Knight; Crescent Hill, Filey, Yorkshire.

Howard, H. Eliot; Clarelands, near Stourport.

Howard, Robert James; Shearbank, Blackburn, Lancashire.

Ingram, Capt. Collingwood; Forrest House, Westgate-on-Sea.

Iredale, Tom; 39 Northcote Avenue, Ealing, W. 5.

Jackson, Sir Frederick J., C.B., K.C.M.G.; The Red House, Aldeburgh, Suffolk.

Jones, Major H.; 41 Vineyard Hill Road, Wimbledon Park, S.W. 19.

Jones, Fleet-Surgeon Kenneth H., R.N.; Manor House, St. Stephens, Canterbury.

Jourdain, Rev. F. C. R., M.A.; Appleton Rectory, near Abingdon, Berks.

Joy, Norman H.; Thurlestone, Bradfield, near Reading.

Kelso, J. E. H., M.D.; Edgewood, Arrow Lakes, British Columbia.

Kinnear, Norman B.; Bombay Natural History Society.

Kloss, C. Boden; Kuala Lumpur, Federated Malay States.
La Touche, J. D.; Chinese Customs, Chinwangtao, N. China.
Laidlaw, Thomas Geddes: Bank of Scotland Branch, Duns, N.B.
Lambert, Godfrey C.; Woodcote, Esher, Surrey.
Langton, Herbert; St. Moritz, 61 Dyke Road, Brighton.
Lascelles, Hon. Gerald; Tillington House, Petworth.
Le Souëf, D.; Zoological Society, Melbourne, Australia.
Lings, G. H.; Richmond Hill, Cheadle, Cheshire.
Lodge, G. E.; 5 Thurloe Studios, Thurloe Square, S. Kensington, S.W. 7.
Long, Sydney H., M.D.; 31 Surrey Street, Norwich.
Lowe, P. R., B.A., M.B., B.C.; The Nuns, Stamford.
Lynes, Captain Hubert, R.N.; H.M.S. 'Penelope,' c/o G.P.O., London.
Mackworth-Praed, C. W.; Orielton, Pembroke, S. Wales.
Macmillan, G. A.; 27 Queen's Gate Gardens, S.W. 7.
Macmillan, W. E. F.; 42 Onslow Square, S.W. 7.
Macpherson, Arthur Holte; 21 Campden Hill Square, Kensington, W. 8.
Magrath, Lieut.-Colonel H. A. F.; c/o Messrs. King, King & Co.,' P.O. Box 110, Bombay.
Marshall, A. McLean; Great Chitcombe, Brede, Sussex.
Marshall, James McLean; Bleaton Hallet, Blairgowrie, N.B.
Mason, Col. E. S.; 10 Lindum Terrace, Lincoln.
Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.
Mathews, G. M.; Foulis Court, Fair Oak, Hants.
May, W. Norman, M.D.; The White House, Sonning, Berks.
Meade-Waldo, Edmund Gustavus Bloomfield (*Vice-Chairman*); Hever Warren, Hever, Kent.
Mills, Rev. H. Holroyd; The Rectory, St. Stephen-in-Brannell, Grampound Road, Cornwall.
Munn, P. W.; Stourwood Cottage, Stourwood Avenue, Southbourne, Hants.
Munt, Henry; 10 Ashburn Place, South Kensington, S.W. 7.
Murray, Capt. E. Mackenzie; Woodside, Coupar Angus, Perthshire.
Nesham, Robert; Utrecht House, Poynder's Road, Clapham Park, S.W. 4.
Newman, T. H.; Newlands, Harrowdene Road, Wembley, Middlesex.
Nichols, J. B.; Parliament Mansions, Victoria Street, S.W. 1.
Nicholson, F.; Ravenscroft, Windermere.

Nicoll, Michael J.; Valhalla House, Zoological Gardens, Giza, Egypt.

Ogilvie, Fergus Menteith; The Shrubbery, 72 Woodstock Road, Oxford.

Ogilvie-Grant, W. R.; British Museum (Natural History), Cromwell Road, S.W. 7.

Oldham, Chas.; The Bollin, Shrublands Road, Berkhamsted, Herts.

Parkin, Thomas; Fairseat, High Wickham, Hastings.

Patterson, William H.; 25 Queen's Gate Gardens, S.W. 7.

Pearse, Theed; Courtenay, British Columbia.

Pearson, Charles Edward; Hillcrest, Lowdham, Nottingham.

Penrose, Francis G., M.D.; Rathkeale, 51 Surrey Road, Bournemouth.

Pershouse, Major S.; Cail Park, Bridge of Dee, Castle Douglas, N.B.

Pigott, Sir Thomas Digby, C.B.; The Lodge, Lower Sheringham.

Player, W. J. P.; Wernfadog, Clydach, R.S.O., Glamorganshire.

Popham, Hugh Leyborne, M.A.; Houndstreet House, Pensford, Somerset.

Price, A. E.; 4 Mincing Lane, E.C. 3.

Pycraft, W. P.; British Museum (Natural History), Cromwell Road, S.W. 7.

Ratcliff, F. R.; 29 Connaught Square, W. 2.

Rawson, Herbert Evelyn; Comyn Hill, Ilfracombe.

Read, Robert H.; Camelot, South Parade, Bedford Park, W. 4.

Renaut, W. E.; 1 Sydney Place, South Kensington, S.W. 7.

Richmond, H. W., F.R.S.; King's College, Cambridge.

Rickett, C. B.; 27 Kendrick Road, Reading, Berks.

Rippon, Colonel G.; United Service Club, Pall Mall, S.W. 1.

Rivière, B. B., F.R.C.S.; St. Giles' Plain, Norwich.

Robinson, H. C.; State Museum, Kuala Lumpur, F. M. States.

Rothschild, The Lord, Ph.D., F.R.S. (*Chairman*); The Museum, Tring, Herts.

Rothschild, Hon. N. Charles; Arundel House, Kensington Palace Gardens, W. 8.

Russell, Capt. Conrad; 2 Audley Square, W. 1.

Sapsworth, Arnold Duer; 30 Sussex Place, Regent's Park, N.W. 1.

Sargeaunt, Arthur St. George; Exbury, Padstow, Cornwall.

Sargent, James; 76 Jermyn Street, St. James's, S.W. 1.

Sclater, William Lutley, M.A. (*Vice-Chairman*); 10 Sloane Court, S.W. 1.

Seth-Smith, David (*Editor of the 'Bulletin'*); 34 Elsworthy Road, South Hampstead, N.W. 3.

Seth-Smith, Leslie Moffat, B.A.; Tangley, Caterham Valley, Surrey; and Kampala, Uganda.

Seton, M. C. C.; 13 Clarendon Road, Holland Park, W. 11.

Sharman, Frederic; 47 Goldington Road, Bedford.

Smalley, Frederic W.; Cove Hall, North Cove, nr. Beccles, Suffolk.

Sparrow, Lt.-Col. R.; Rookwoods, Sible Hedingham, Essex.

Stanford, E. Fraser; 9 Cumberland House, Kensington Court, W. 8.

Staples-Browne, Capt. R. C.; Bampton, Oxon.

Stares, J. W. C.; Portchester, Hants.

Stenhouse, J. H., M.B., R.N.; Royal Naval Hospital, Plymouth.

Studdy, Colonel Robert Wright; Waddeton Court, Brixham, Devon.

Styan, F. W.; Ben Craig, Bayham Road, Sevenoaks.

Swann, Geoffrey; 11 Onslow Crescent, S.W. 7.

Swann, Harold; 9 Evelyn Gardens, S.W. 7.

Swinhoe, Colonel C.; 4 Gunterstone Road, W. Kensington, W. 14.

Swynnerton, C. F. Massy; Gungunyana, Melsetter District, S. Rhodesia.

Talbot-Ponsonby, C. G. (*Secretary & Treasurer*); 5 Crown Office Row, Temple, E.C. 4.

Terry, Major Horace A.; Compton Grange, Compton, Guildford.

Ticehurst, Claud B., M.A., M.D.; Grove House, Lowestoft, Suffolk.

Ticehurst, N. F., F.R.C.S.; 24 Pevensey Road, St. Leonards-on-Sea.

Townsend, R. G.; Buckholt, Dean, Salisbury.

Trevor-Battye, Aubyn B. R.; Ashford Chace, Petersfield, Hants.

Tyrwhitt-Drake, Hugh G.; Cobtree, Sandling, Maidstone.

Upcher, Henry Morris; Sheringham Hall, Sheringham, R.S.O.

Vaughan, Matthew; The Limes, Marlborough, Wilts.

Vaughan, Commdr. Robert E.; 6 Chalfont Court, Upper Baker Street, N.W. 1.

Wallis, H. M.; Ashton Lodge, Christchurch Road, Reading.

Wardlaw-Ramsay, Colonel R. G. (*President B. O. U.*); Whitehill, Rosewell, Midlothian.

Whitaker, Joseph I. S.; Malfitano, Palermo, Sicily.

White, S. J.; Merok, Chiltern Road, Chesham Bois, Bucks.

Whymper, Samuel Leigh; Oriental Club, Hanover Square, W. 1.
Wild, Oliver H.; 29 Viewforth, Edinburgh.
Wilkinson, Johnson; Vermont, Huddersfield, Yorkshire.
Williamson, W. J. F.; Kingsdon, Bangkok, Siam.
Wilson, Charles Joseph; 34 York Terrace, Regent's Park, N.W. 1.
Witherby, Harry F.; 326 High Holborn, W.C. 1.
Witherington, G.; 19 Sumner Place, S. Kensington, S.W. 7.
Wollaston, A. F. R.; 15 Montpelier Square, S.W. 7.
Woodhouse, Cecil, M.D.; Chetnole House, Sherborne, Dorset.
Workman, William Hughes; Lismore, Windsor, Belfast.
Wynne, R. O.; Foulis Court, Fair Oak, Hants.

[Members are requested to keep the Secretary informed of any changes in their addresses.]

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXVIII.

The two-hundred-and-fifteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, October 11th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker; E. Bidwell; S. Boorman; C. D. Borrer; P. F. Bunyard; R. W. Chase; C. Chubb; G. H. Dawson; Rev. A. Ellison; E. Gibson; E. Hartert; T. Iredale; Sir H. J. Johnson; Rev. F. C. R. Jourdain; G. C. Lambert; H. Langton; G. H. Lings; G. A. Macmillan; W. E. F. Macmillan; H. Massey; G. M. Mathews; E. G. B. Meade-Waldo; Chas. E. Pearson; Capt. A. E. Price; F. R. Ratcliff; C. B. Rickett; W. L. Sclater; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treas.*); H. M. Wallis; H. F. Witherby.

Guests:—F. H. Bather; Alfred Ezra; H. S. L. Fry; C. J. Hartert; Capt. Reeve.

Before the ordinary meeting took place, the first Annual General Meeting of the Club was held at the Zoological Society's House in Regent's Park, when the following business took place:—

(1) Mr. E. C. Stuart-Baker was elected a Member of the Committee in the place of Mr. E. Bidwell who had resigned.

(2) Mr. C. G. Talbot-Ponsonby was elected Honorary Secretary and Treasurer in the place of Dr. P. R. Lowe who had resigned.

(3) The resolution of Mr. Clifford Borrer with regard to the non-admission of ladies to the Club, which had been carried at an Ordinary Meeting of the Club in April last, was put to the meeting for confirmation and, with slight amendments, carried.

(4) Alterations to the rules (already confirmed by the Club) were reported to the meeting.

At the conclusion of the usual Dinner, the Chairman read his Annual Address, as follows:—

"Brother Members of the B. O. C.,—

"It is with very mixed feelings that I address you at this opening of our new session. It is the third opening meeting which has found us involved in this terrible and devastating war. Not only must we grieve with our country, which is undergoing such loss and destruction, but the war is causing us personally great losses and damage.

We have to mourn many valued friends and members, and, Ornithology being eminently a pursuit of peaceful surroundings, we also must regret the injury done to our favourite science. Since the opening of last session (1915–1916) we have lost in the war Colonel H. H. Harington, Captain E. F. Penn, Colonel Charles Stonham, and Colonel B. R. Horsbrugh; we have lost also by death Sir A. W. Rücker, Mr. Guy L'Estrange Ewen, Mr. P. T. L. Dodsworth, Colonel E. A. Butler, Mr. H. E. Dresser, Mr. J. A. Harvie-Brown, Major F. W. Proctor, and Mr. Robert Warren. In America Ornithology has had the great loss of Professors D. G. Elliot and W. W. Cooke.

Owing to the war very little exploration and collecting has been carried out, but in Siam and Thibet the collectors of our friends Messrs. Williamson and Stuart Baker continue to do good work. Messrs. Robinson and Kloss have

been making explorations and collections in Java and Siam; and the Tring Museum is receiving collections from the higher mountains of the islands of the Louisiade group made by the Eichhorns, relations of A. S. Meek, who himself unfortunately is on the sick-list. The Eichhorns are about to explore the Hydrographer Range of Mountains in British New Guinea. In Africa Dr. Van Sommeren is making fine collections in East Africa; while Captain Louis Thompson is doing good work in the northern part of the newly obtained S.W. African Protectorate.

"In Great Britain Mr. A. H. Evans's 'Birds of Britain' is a useful handbook of a popular nature. Mr. Ogilvie-Grant is to be congratulated on the completion of the Report of the two New Guinea Expeditions. The forthcoming monograph of the Bustards by Mr. Grant and Major Jones promises to be an epoch-making book on the subject. Many interesting articles have appeared on the birds observed by our members and others at Gallipoli, in Mesopotamia, at Salonika, and on the western front during the progress of the campaign. 'British Birds' continues to flourish, and Mr. Gregory Mathews's 'Birds of Australia' has reached the completion of the fifth volume. Mr. Ridgway has issued the seventh volume of his very important 'Birds of North and Middle America,' containing the Cuckoos, Parrots, and Pigeons; it is to be regretted that he splits up the American members of the genus *Columba* into a number of smaller genera. The first volume of Mr. Chubb's 'Birds of British Guiana' is a most useful book.

"My present address is very short and uninteresting, but I must ask you to forgive its deficiencies as, owing to the war, there is so little ornithological news."

The Chairman exhibited a specimen of the Carolina Crake which he had purchased with the collection of the Rev. H. H. Slater, of 'Transit of Venus' fame, and which bears on the label the following inscription:—"*Crex porzana*, Spotted Crake. ♂, Norfolk, 1877."

Lord Rothschild, F.R.S., described a new Flycatcher from Australia, as follows :—

Micrœca flavigaster lætissima, subsp. nov.

Differs from *Micrœca flavigaster flavigaster* by its longer wing, much paler underside, and slightly less brownish crown of the head; from *M. flavigaster læta* by the much paler underside and somewhat duller colouration of the upperside; this would have to be said also of *M. f. terræreginæ* Mathews, which is very closely allied to, if at all separable from, *M. f. læta*. Wing of six specimens of *M. f. lætissima*, 78–83 mm.

Hab. Queensland (Bowen, Cardwell, Mulgrave).

Type in the Tring Museum : ♀. Cardwell, Queensland.

Dr. Ernst Hartert exhibited and described two new subspecies of birds as follows:—

Corydon sumatranus brunnescens, subsp. n.

Similar to *C. sumatranus sumatranus* from Sumatra and the Malay Peninsula, but upperside, breast, and abdomen dark sepia-brown, instead of dull black.

Hab. Borneo.

Type in the Tring Museum: ♂ ad. Baram, Borneo, September 1891. A. Everett coll.

Compared ten Bornean with fourteen specimens from the Malay Peninsula and Sumatra.

Dioptrornis semicinctus, sp. n.

Differs from both *D. fischeri* and *toruensis* by the almost uniform light grey underside, the middle of the abdomen not being white. The eye is surrounded by an incomplete circle of white, interrupted in front and behind the eye ; in *D. fischeri* the white circle is complete and wider, in *D. toruensis* it is absent. The lateral tail-feathers in the type of *D. semicinctus* have tiny white tips, but it is possible

that this is a sign of youth, though the plumage is not spotted like young *Dioptrornis*, but like that of adult birds. "Iris hazel. Bill: base grey, tip black. Feet black." Wing 82·5 mm.

Hab. Eastern Congo Free State.

Type in the Tring Museum: ♀. Kabakaba, Eastern Congo Free State, 5. ix. 1906, No. 408. C. F. Camburn coll.

Mr. P. F. Bunyard exhibited a series of eggs and nests of the Linnet (*Acanthis cannabina*), Lesser Redpoll (*Acanthis linaria carbaret*), and Yellow Hammer (*Emberiza citrinella*), and made the following remarks :—

"At the June meeting of the Club Dr. Langton asked me to identify two nests with eggs, one of which he thought belonged to the Lesser Redpoll and the other to the Garden Warbler. I had no difficulty, however, in identifying them as belonging to the Linnet and Yellow Hammer; but, as some Members disagreed with my decision, I promised to bring up a series of each, with nests, in order, if possible, to convince them and to strengthen my identification. Dr. Langton has been kind enough to again bring up his nests and eggs, and now that they are placed side by side with my own exhibit it will be seen that the eggs of the Lesser Redpoll are on the average much smaller than those of the Linnet, and also that the ground-colour of the latter is much paler and of quite a different shade, the greenish tinge being more or less absent; the nests of the two species differ considerably, those of the Redpoll being much the smaller, and the diameter of the interior at least half an inch less.

"The nest of the Linnet very rarely contains feathers or vegetable down, whereas that of the Redpoll nearly always does. In the series of Yellow Hammer there are two clutches very much like those which Dr. Langton exhibits and which he thought were Garden Warbler's, the nest, however, is obviously not a Garden Warbler's."

On behalf of Mr. Tom Carter, Mr. G. M. Mathews sent the following description of new subspecies of Australian birds. (The pages quoted refer to Mr. Mathew's 'List of the Birds of Australia,' 1913) :—

Calamanthus campestris hartogi, subsp. n. (Page 203.)

Crown of head tawny rufous, with dark brown central stripes. Nape and mantle pale rufous grey, with dark brown central stripes. Conspicuous white stripe from beak above to behind eye; chin, throat, and breast white, with conspicuous long black streaks, very prononnced and broad on chest. Abdomen and flanks pale yellowish white, long black stripes on flanks and only few on abdomen. Primaries and secondaries dark brown with pale rufous edges. Bill purple-brown; irides reddish yellow; feet and legs dark yellow.

Type: Dirk Hartog Island, West Australia. In the Austral Avian Museum, Fairoak, Hants.

Sericornis maculatus hartogi, subsp. n. (Page 222.)

Head and back brown, getting lighter towards the tail. Lores black; stripe from beak over and behind the eye white, also a stripe below the eye. Throat and breast white with small black central stripes. Abdomen and flanks white. Primaries and tail brown, the latter with a subterminal black band and edged with white. Bill pale purple; irides pale straw-colour; feet and legs brownish purple.

Type: Dirk Hartog Island, West Australia. In the Austral Avian Museum, Fairoak, Hants.

Stipiturus malachurus hartogi, subsp. n. (Page 229.)

Crown of head and nape rufous, with dark brown central stripes. Chin and long way down throat pale lavender-blue. Stripe over eye *bright* light blue. Cheeks striped white. On sides of throat, chest, and along flanks bright tawny fawn, which expands across chest, forming a band below the lavender-blue. Centre of abdomen white. Mantle, back,

and rump ash-grey, with dark brown central stripes. Scapularies dark brown, centres with fawn edges. Primaries light brown, with narrow edging of fawn. Tail dark brown, with blackish shafts. Length $6\frac{1}{2}$ inches; tail 4 to $4\frac{1}{4}$ inches. Bill purple-brown. Irides reddish. Feet and legs yellow. Both sexes have five large rectal bristles.

Type: Dirk Hartog Island, West Australia. In the Austral Avian Museum, Fairoak, Hants.

The female is smaller, but the tail is the same length. Lores, chin, throat, breast, and flanks bright fawn. Crown of head, nape, and whole of mantle and back yellowish grey, with dark brown central stripes. Abdomen yellowish white. Scapularies, primaries, and tail as in the male. The soft parts also as in the male.

The next Meeting of the Club will be held on Wednesday, the 8th of November, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

ROTHSCHILD, *Chairman.* D. SETH-SMITH, *Editor.* C. G. TALBOT-PONSONBY, *Sec. & Treas.*

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXIX.

The two-hundred-and-sixteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, November 8th, 1916.

Chairman: Mr. Thomas Parkin.

Members present:—E. C. Stuart Baker; E. Bidwell; C. D. Borrer; P. F. Bunyard; A. Ezra; J. Gerrard; G. Gurney; C. Ingram; Rev. F. C. R. Jourdain; G. C. Lambert; H. Langton; H. Munt; C. E. Pearson; F. R. Ratcliff; R. H. Read; C. B. Rickett; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); H. F. Witherby.

Guests:—W. Reynolds; W. Rowan; G. V. Webster; H. Wistler.

Mr. E. C. Stuart Baker exhibited the eggs of *Propasser edwardsi* and *Carpodacus erythrinus roseatus*, and made the following remarks:—

"The eggs of *Propasser edwardsi* which I now exhibit are the first of this species, I believe, which have ever reached England in a perfect state. In 1915 I received fragments of eggs of this beautiful Finch, together with some rough skins of the parent-birds, which, though too fragmentary to be worth keeping, were quite sufficient to enable me to identify the species. Four clutches were

received this year—one completely smashed *en route*, one with but one egg whole, and the two now shown. These two clutches differ considerably, one being almost pure blue and the other well spotted. They agree well with the eggs of *P. rhodopeplus* exhibited by Mr. S. L. Whymper last year. They were taken between Gyantse and Yatung at a height of 12,000 to 14,000 feet.

"Of the clutches of *P. e. roseatus* which I show, one is interesting from the fact that all the eggs are absolutely pure white. The two clutches were taken by Capt. C. H. T. Whitehead in the Kunam Valley, and in each case the parent-bird was shot off the nest, and the skin is now in the British Museum."

Mr. Clifford Borrer exhibited a clutch of four eggs of the Nightjar (*Caprimulgus e. europæus*), taken in Norfolk in June 1916. These eggs were found in one nest, and in the opinion of the exhibitor were undoubtedly the product of one female.

The eggs had been previously shown at the recent Oological Dinner, and commented on in 'British Birds' for the current month *. Mr. Borrer contended that, apart from the extreme unlikelihood of two females laying in one nest, sufficient evidence could be found from a scientific examination of the eggs themselves to justify his opinion.

At Mr. Borrer's request, Mr. Bunyard had brought up his unique series of Nightjars' eggs, in order that members might have an opportunity of comparing this reputed "four" with almost all the known types of normal sets.

Mr. Stuart Baker exhibited a series of *Caprimulgus* eggs, and drew attention to two clutches of four, taken by himself, and which were interesting when considered in connection with the clutch of four shown by Mr. Clifford Borrer, and which he (Mr. Baker) believed to be the product of two birds. One of Mr. Baker's clutches was found in one nest-hollow, but they were palpably the eggs

* 'British Birds,' vol. x. pp. 139–141.

of two birds. The other four, which were shown as two pairs close together, were found in two nest-hollows separated by a few inches only, and these two pairs were being incubated by two hens, both of which were flushed within a couple of yards of the exhibitor's feet.

Mr. Baker referred to some notes he made nearly thirty years ago in the 'Journal of the Bombay Natural History Society,' in which he commented on the curious fact that both sexes of *Caprimulgus albonotatus* would accept the attentions of more than one of the opposite sex, and suggested that possibly Mr. Borrer's Nightjars' eggs were the result of two females paired to one male.

Mr. P. F. Bunyard exhibited a remarkable series of eggs of the Nightjar, including a first and second laying from the same bird, to prove his identification in regard to the clutch of four exhibited by Mr. Clifford Borrer. Mr. Bunyard said that after very carefully comparing them with his series, he had not the slightest hesitation in saying that they were from the same bird. Numbering the eggs 1, 2, 3, and 4, numbers 1, 2, and 3 were of exactly the same type. Number 3 was perceptibly different in shape from numbers 1 and 2 ; the ground-colour, however, was identical, as was also the colour of the surface and underlying pigment. Number 4 was somewhat smaller, and probably the last egg laid, as the pigment was also less dense and there was less gloss. As regards the state of incubation, though the eggs arrived partly blown, there was sufficient evidence left to enable Mr. Bunyard to form the opinion that the four eggs were in two stages of incubation, numbers 1 and 2 being four or five days in advance of the others.

In the series exhibited by Mr. Bunyard all forms were well represented and the collection contained many unique varieties, some of which had already been described in 'The Ibis' and 'Bulletin.' The rare greenish-ground form, the one to which Mr. Borrer's clutch belonged, was described by him in the 'Bulletin,' No. cxlv. p. 24. The fact of

Mr. Borrer's eggs belonging to this form helped considerably in their identification.

Mr. Bunyard also exhibited a series of eggs of the Stone-Curlew (*Œdicnemus œdicnemus*) for comparison with those of the Nightjar, and called attention to the similarity existing between the two species in regard to the variation and arrangement of markings.

The Rev. F. C. R. Jourdain suggested that the four eggs of *Caprimulgus* might be two clutches, laid by the same bird after an interval. He had known of eight and six Woodcocks' eggs in two nests and also fourteen eggs in one nest of the Nuthatch, and in each case internal evidence showed that the first-laid clutch had been affected by frost and that the hen had laid again in the same nest.

Mr. W. Rowan considered that the four eggs of the Nightjar were the product of the same female, arguing from an embryological standpoint. He pointed out that amongst mammals it frequently happened that one or two extra ova above the normal number were shed from the ovary and fertilized, and that, as far as he knew, there was no reason why the ovaries of birds should not be subject to the same phenomenon.

Mr. Robert H. Read exhibited a fine series of Chaffinches' eggs. The central set consisted of eight eggs from an orchard in Kent, although the nest contained nine when Mr. Read found it. The first two eggs had been laid and then buried by a further lining of the nest. Then three more had been laid and the nest deserted for some time, as all these five eggs were quite stale. Then four more eggs were laid, which were quite fresh when found. All nine eggs were evidently laid by the same bird. Among the others were the only two sets of six ever found by the exhibitor, a very handsome, heavily blotched set found by him near London, a set of small eggs taken by him in

Sweden, and several sets of pure spotless blue and blue with cloudy lilac blotches and fine black spots.

In the same tray were five sets of Bullfinches' eggs, including a set with pure white ground and bright rust-red markings resembling some varieties of Great Tits' eggs taken by Mr. Read in Somerset. Another set were white with only faint markings, whilst a third set were pure white without any markings.

The next Meeting of the Club will be held on Wednesday, the 13th of December, 1916, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

THOMAS PARKIN, *Chairman.* D. SETH-SMITH, *Editor.* C. G. TALBOT-PONSONBY, *Sec. & Treas.*

Smithsonian Institution
JAN 23 1917

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXX.

The two-hundred-and-seventeenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, December 13th, 1916.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Adams; E. C. Stuart Baker; E. Bidwell; C. D. Borrer; A. D. Bradford; P. F. Bunyard; E. V. Earle; A. Ezra; E. Hartert; Sir H. J. Johnson; Rev. F. C. R. Jourdain; G. C. Lambert; H. Munt; C. E. Pearson; A. E. Price; C. B. Rickett; M. C. Seton; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); H. M. Wallis; H. F. Witherby.

Guests:—Hugh Adams; A. H. Borrer; Lt. F. W. Dewhurst; Bertram Jones; W. Rowan.

Lord Rothschild, F.R.S., and Dr. Ernst Hartert gave a short review of the forms of *Lalage karu* inhabiting the Papuan subregion, as follows:—

1. **Lalage karu karu** (Less.).

Lalage karu Lesson & Garnot, Voy. 'Coquille,' Ois., Atlas, pl. 12, livr. 3 (1827), text p. 633 (1830, New Ireland).

♂ Ad. Upperside black with a greenish steel-blue gloss (as in all the other subspecies). Throat uniform, breast whitish,

narrowly barred with dark grey; abdomen mostly ochraceous buff; more or less widely unbarred along the middle; under tail-coverts similar, but generally deeper in colour. Wings (seven specimens) 95–103 mm. ♀. Upperside brown. Throat with indications of bars; breast and sides of abdomen with black bars. Wings (four) 95–100 mm.

Hab. New Ireland, New Britain, Duke of York and Rook Islands.

2. Lalage karu obscurior, subsp. nov.

Bill larger than in *L. k. karu*. ♂ with the throat more or less distinctly barred, breast slightly more greyish, the ochraceous-buff colour of abdomen and under tail-coverts darker. Wings (two) 95 and 96 mm. ♀. Upperside darker brown, bars on underside somewhat wider; abdomen darker ochraceous than in *L. k. karu*. Wing 95 mm.

Hab. Fergusson and Goodenough Islands.

Type (Tring Museum): ♀. Fergusson Island, 20. ix. 1894. A. S. Meek coll.

3. Lalage karu polygrammica (Gray).

Campephaga polygrammica Gray, Proc. Zool. Soc. London, 1858, p. 179 (Aru).

Bill even smaller than in *L. k. karu*. ♂. Throat barred or unbarred. Breast still more greyish than in *L. k. obscurior*; abdomen barred right across, the ochraceous of the same dark tint as in *L. k. obscurior*. Wings (nine) 91–98 mm. ♀. Upperside darker than in *L. k. karu*, but apparently not so brown as in *L. k. obscurior* (of which, however, only one ♀ could be compared). Wings (eight) 88–96 mm.

Hab. Aru Islands and British New Guinea to the Kumusi River and Milne Bay.

4. Lalage karu microrhyncha Ogilvie-Grant.

Lalage karu microrhyncha Ogilvie-Grant, Ibis, Suppl. 1915, p. 118 (Mimika River).

Mr. Ogilvie-Grant separated specimens collected by the B. O. U. Expedition on the Mimika River on account of their bills being still smaller than in *L. k. polygrammica*.

5. **Lalage karu keyensis**, subsp. nov.

Bill slightly larger than in *L. k. polygrammica*. ♂ ad. Barring on breast somewhat duller, as a rule not so well defined; abdomen and under tail-coverts not so deep ochraceous as in *L. k. polygrammica*. Wings (three) 95–99 mm. ♀. Abdomen decidedly paler than in *L. k. polygrammica*; upperside not so dark, more slaty. Wings (three) 89–94 mm.

Hab. Add, Great and Little Key, Key Islands.

Type (Tring Museum): ♀. Tual, Little Key, 14. ix. 1897. Heinrich Kühn coll.

6. **Lalage karu pallescens**, subsp. nov.

Bill about as large as in *L. k. obscurior*. ♂. Throat unbarred, abdomen widely unbarred along the middle, the ochraceous buff very pale; under tail-coverts very pale. Wings (twelve) 98–106 mm. ♀. Like the male easily distinguishable by the very pale abdomen and under tail-coverts. Wings (thirteen) 97–102 mm.

Hab. St. Aignan and Sudest Islands in the Louisiade group. (None received from Rossel Island.)

Type (Tring Museum): ♂ ad. Sudest, 26. ii. 1916. No. 7269. Meek collection. Collected by Eichhorn Bros.

Lord Rothschild made the following remarks on *Tyto arfaki*, Schleg.:—

A great deal of Part 4 of vol. v. of Mr. Mathews's 'Birds of Australia' contains criticisms and repudiations of the criticisms of Mr. Hartert and myself of the supposed subspecies of Owls described by Mr. Mathews. While in many other cases Mr. Mathews recently relegates most, or all, of his formerly created new names to the rank of synonyms, he believes that all his subspecies of *Tyto novæ-hollandiæ* are

tenable. I do not wish to criticize Mr. Mathews's recent remarks, but leave it to others to decide which of us has better understood these forms, especially as it is very difficult to discuss these questions, because Mr. Mathews does not explain on what material he based his ideas, while we have clearly stated on what we worked. There is, however, one point I wish to remark upon. In his No. 323, under the heading called *Megastrix tenebricosa* (under the plate it is *M. multipunctata*) *, the author declares that we did not know Schlegel's "*Strix arfaki*," and that our birds from S.E. New Guinea must be separated from the latter because they do not agree with the description and are therefore "atypical," and because they were collected over a thousand miles from Arfak. He calls the bird from British New Guinea "*perconfusa*," evidently meaning to imply that we had thoroughly confounded it. In my opinion this name must be added to the synonyms, and is, therefore, quite appropriate, though in another sense. There is, in my opinion, nothing in Schlegel's description that need be objected to as not fitting the south-eastern birds. He separated his single specimen because he found it to be smaller than some Australian examples, the white spots "larger and more regular orbicular," and "the light sooty-brown colour of the face strongly inclined to white." The first supposed difference is evidently due to the type being a male, while the Australian ones appear to have been females. The wing of the type-specimen is said to measure 243 mm., *i. e.* only 12 mm. less than in our south-eastern males; the size of the white spots and the amount of white in the face are quite variable. Salvadori measures the wing of an Arfak specimen with 280 mm. Last, but not least, we have two skins of the typical Arfak preparation, bought from Mr. van Duivenbode, unfortunately, by an oversight, not mentioned in our list of Papuan birds. These agree

* There is in that number, it seems, only one plate on which the name agrees with that used in the text, and a similar confusion prevails in many other portions of this, in many ways, admirable work.

perfectly with south-eastern specimens, and their wings measure 250 and 255 mm., thus comparing well with the latter. That those from S.E. New Guinea were found over a thousand miles from Arfak is no argument. We in Tring have probably done more than most other ornithologists to show that the different parts of New Guinea have many different subspecies, and that especially most of those from S.E. New Guinea differ from those of Arfak. On the other hand, we also know that many are absolutely indistinguishable. It is therefore impossible to say that a bird from S.E. Papua *must* be different from one of Arfak, but what we have to do is to compare them, and then say whether they are distinguishable or not.

Mr. Clifford Borrer exhibited :—

(*a*) An unusually small immature Dusky Redshank, shot at Blakeney in Norfolk, 1st Sept. 1916.

(*b*) Skins of two Blackbirds shot on the Norfolk coast in the month of November. Mr. Borrer drew attention to certain alleged differences between these migratory Blackbirds and the ordinary resident birds. The Chairman, however, and some of the members present considered that the specimens were merely backward birds of the year, which were assuming adult plumage.

(*c*) On behalf of Mr. W. Rowan, Mr. Borrer also exhibited a clutch of five (originally six) eggs of the Oystercatcher, taken in Norfolk in 1916. These eggs were of a rather uncommon dark brown grounded type, and almost undoubtedly laid by the same female. Mr. Rowan stated that he had watched the nest for six weeks (the eggs were infertile), and was quite clear in his own mind as to this point.

The Rev. F. C. R. Jourdain, M.A., exhibited a clutch of eggs of

Porzana cinerea brevipes Ingram, Bull. B. O. C. xxix. p. 21.

These were taken on May 20, 1904, at S. Dionisio, Vulcan Island, Bonin Group, 24° N. and 141° E. Ground-colour creamy, very numerous fine freckles and spots of two shades of sienna-brown, also purple-grey shell-marks. Measurements: (1) 29·2 × 22·5 mm.; (2) 30·9 × 23·0 mm.

Mr. Jourdain also exhibited a typical egg of the European Guillemot (*Uria troille troille*), side by side with a typical specimen of the Californian race (*U. troille californica*), in order to show the much larger size of the eggs of the latter race. The egg was selected from a series of ten, all of which were much larger than normal eggs. The exhibitor remarked that this was another case in which subspecific characters are as apparent in the eggs as in the birds themselves.

Mr. C. E. Pearson exhibited a clutch of four eggs of the Common Moorhen, two of which were quite unspotted, one intermediate, and one normal. They were taken from the old nest of a Magpie, 20 feet from the ground, and the parent Moorhen was seen to leave the nest.

Mr. P. F. Bunyard exhibited clutches of eggs, with nest-feathers and down, of the Pacific Eider (*Somateria v-nigra*), the King Eider (*S. spectabilis*), and Steller's Eider (*Henieonetta stelleri*) :—

Somateria v-nigra: a clutch of five from the mainland near Herschel Island, taken by the Rev. C. Whittaker, June 10, 1905.

Description. Pale olive-green, much paler than those of either *S. mollissima* or *S. spectabilis*, and slightly smaller than the former. Texture of shell more finely grained and without the deep pittings found on those of *S. mollissima*. The soapy-like deposit *, characteristic of the eggs of the Common Eider, is also absent.

Feathers in nest, self-coloured, pale sooty-brown, paler at

* 'Oologia Neerlandica,' A. A. Van Pelt Lechner.

the base, resemble those of *S. mollissima*, but slightly darker, and on an average smaller and narrower. No barred feather present as, usually, in the nest of *Heniconetta*.

Down. Same colour as the feathers; some pieces, however, are greyish white immediately above the quill, as is the case with that of *S. mollissima*, but in size that of *S. v.-nigra* is much smaller.

Weight. Average five eggs, 8·892 g.; *S. mollissima*, average 19 eggs, 10·343 g.

Mr. Bunyard remarked that the above material led him to consider that the evidence was sufficient to prove that *S. v-nigra* was at least entitled to subspecific rank, the two forms differing in their eggs, down, and nest-feathers to nearly the same extent as in the case of the White-fronted and Lesser White-fronted Geese.

Somateria spectabilis : clutch of five with down and feathers from Admiralty Bay, Alaska, June 15, 1898.

Feathers. Self-coloured, reddish brown, darker at the terminal and lighter at the basal portions, longer and narrower than those of *S. mollissima* and *S. v-nigra*.

Down. Same colour as feathers, darker and smaller than that of *S. mollissima* and *S. v-nigra*.

Heniconetta stelleri : a clutch of seven eggs with down and feathers taken by A. G. Buxton in Alaska, June 26, 1898.

Description. Feathers pale brown with two distinct bars of blackish brown on the terminal portion. Down blackish brown, smaller and darker than that of the other species.

The exhibitor remarked that Dresser, in his 'Eggs of the Birds of Europe,' had not mentioned the barred feathers, which in the nest he (Mr. Bunyard) had examined predominate. Mr. Bunyard's remarks were illustrated by mounted specimens of the down and feathers of the above-mentioned species, and he believed that that of *S. v-nigra* had not been previously described, nor the *feathers* of *S. spectabilis*.

Mr. Bunyard also exhibited some interesting varieties of eggs of the Lesser Whitethroat and Goldcrest, which he described as follows :—

Motacilla curruca: a clutch of five from Banham, Norfolk, taken by Mr. L. W. Leader on June 25, 1909, who flushed the bird from the nest.

Description. Ground-colour pinkish white, surface-pigment rufous, underlying markings lead-grey, markings evenly distributed. These eggs do not bear any of the characteristics of the type-eggs, but resemble the erythristic form of the Common Whitethroat (*Sylvia communis*) but are smaller.

I believe this to be the first record of erythrism occurring in the eggs of this species.

Regulus regulus : a clutch of nine eggs from Harfham, Norfolk, taken by Mr. L. W. Leader.

Description. Ground-colour pure white, surface-pigment dark reddish brown, the markings being mostly confined to the large ends in the form of minute specks.

I have not seen, or heard of this variety having previously occurred.

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(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

Smithsonian Institution
MAR 12 1917
National Museum

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXXI.

The two-hundred-and-eighteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, January 10th, 1917.

Chairman: Mr. Henry J. Elwes, F.R.S.

Members present:—E. C. Stuart Baker; E. Bidwell; H. B. Booth; C. Borrer; A. D. Bradford; P. F. Bunyard; P. Buxton; E. V. Earle; A. Ezra; F. H. C. Gould; Rev. J. R. Hale, C.F.; Sir H. J. Johnson; Rev. F. C. R. Jourdain; G. C. Lambert; H. Munt; C. B. Rickett; A. D. Sapsworth; W. L. Sclater; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); S. L. Whymper; H. F. Witherby.

Guests:—H. R. Munt; W. Rowan.

The Chairman referred to the great loss which the Club and the Union had suffered by the death of Capt. F. C. Selous, D.S.O., killed in action in German East Africa at an age when very few men were physically capable of active military service in a tropical climate.

He personally had never known any man who so well combined the character of the best type of Englishman with the highest qualities of an explorer, big game-hunter, field naturalist, and author. His private character as a man endeared him to all who knew him, Boers as well as British. His unrivalled strength of constitution and physique and

his indomitable courage and determination had enabled him to survive dangers and hardships such as few men had endured, and his absence at their meetings would be regretted for many years to come. He thought that his memory should be perpetuated by some permanent memorial, in which he believed many members of the Union would desire to take part, in conjunction with other Societies to which Capt. Selous belonged.

Two forms suggested themselves for such a memorial. First, the erection of a mural tablet with a portrait in bas-relief, to be erected in the Hall of the British Museum of Natural History, should the Trustees give permission. Secondly, the foundation of a Selous Memorial Medal, to be awarded annually, or at such periods as might be decided, to men who had distinguished themselves in the same fields of activity as Selous himself.

This proposal was unanimously agreed to by the members present.

Mr. S. L. Whymper exhibited two mounted specimens of the Red Grouse which were of a pale cinnamon-brown colour. They were shot by Col. A. E. Whitaker on his moor at Auchnafree, Perthshire, a few years ago, and were at first believed to be a cross between Partridge and Grouse, but close examination does not confirm this view. There was a covey of these curiously marked birds about, but only these two were secured. The partial absence of feathers on the legs of one of the birds was noticeable, and both were rather small. The exhibitor remarked that Grouse, when even slightly affected by disease, were inclined to lose the feathering to some extent.

Mr. E. C. Stuart Baker exhibited some clutches of eggs of the Common Sandpiper, *Tringa hypoleuca*, containing an abnormal number of eggs—in two clutches six and in two others five. Together with these the Rev. F. C. R. Jourdain exhibited two other clutches containing five eggs.

In a discussion which arose upon this exhibition, in which several members took part, the exhibitor stated that all six

of the clutches shown, together with two others which had passed through his hands, had been collected in Kashmir, either in the vicinity of Gulmurg and Gandarbal or close to Srinagar, the chief town of that State. In many parts of Kashmir the Common Sandpiper bred in great numbers, and these abnormally large clutches probably only represented about one per cent. of those taken or seen *in situ* during the last twenty-five years.

He went on to remark: "The causes which govern the variations which occur in the number of eggs normally laid in a single clutch by species, genera, and families of birds are very complex, and no less complex are the laws which cause abnormal increases or decreases.

"Underlying the whole we have, of course, Nature's dominant law that reproduction must be on a scale sufficiently large to ensure continuation of the species, and counterbalancing this the never-ending competition between individuals, between species, and between families.

"But Nature's motive power to all this is *food*, and undoubtedly *food* decides what number of eggs a bird shall lay, though food is itself dependent on many conflicting conditions—both climatic and geographical. In some cases these conditions are more or less permanent, in others they are temporary only; in some cases they obtain over vast areas and in many they are purely local.

"To touch even the outskirts of this vast question is not possible in the time at our disposal, but there are perhaps one or two rules, well known to those who study oology in its wider branches, which are fairly consistent in their working and to which I would briefly refer. The first of these rules is the very constant one, that birds in high temperate latitudes lay more eggs in a clutch than they do in tropical countries. At first sight one might urge that this appears to be a direct contradiction of the theory that food is the principal factor governing the production of eggs, for food is surely more plentiful on the average in tropical than in temperate climates. A little thought, however, shows that the contrary is obvious.

"It is true that food *is* more plentiful on an average

throughout the year in tropical and semitropical countries, but this plenty is found more or less at all times and seasons, and the energy which impels procreation is never in danger of complete exhaustion, whilst at the same time it never reaches the concentrated height it does in countries in which, for a great part of the year, continued effort is needed for self-support, so that there is no surplus energy available for the production and bringing up of a family.

"In the Arctic Circle and countries adjacent we have a short, hot summer, during which insect and certain forms of vegetable life are most extraordinarily abundant; birds feed freely and with little exertion, and attain a super-vitalized condition, with the contingent result that we have bigger clutches of eggs laid by them than are laid by individuals of the same species in more temperate countries. But we must remember this also: if we have larger clutches, due to the short fevered summer, we also have fewer clutches laid by the same female, for, once the season is fairly advanced, there is not much chance of her finding time to lay a second. First clutches which are destroyed can often never be replaced; therefore Nature demands larger clutches to balance the limitation in the breeding-season.

"When we get into tropical countries we find the reverse process is in existence. The breeding-season is of much greater length, and many birds breed off and on practically throughout the year. Numerically large clutches are unnecessary, for if they are destroyed they can be replaced, and even if the second is lost, yet a third is possible, for food in plenty is obtainable and no excessive exhaustion is entailed in procuring it.

"But though in the Tropics this rule of small clutches holds good, yet in such countries local conditions cause local and temporary variations far more marked than in the higher latitudes. Thus a long drought may dry up marshes and rivers in the vicinity of which water-birds normally breed in thousands. With no water there are no fish, the birds are underfed, poor in vitality, and with no surplus energy. In consequence, they either do not breed at all or make a short migration to some adjacent

locality in which an abundance of food shall once more create an excess vitality with the corresponding desire for procreation.

"So, too, in some tropical countries elevation is a very potential factor in determining how many eggs shall be laid. Indeed high elevation takes the place of high latitudes, and similarity of climatic conditions produce similar effects. Thus in the higher elevations of the Himalayas we find Thrushes, Flycatchers, Accentors, etc., laying nearly as many eggs as they do in northern Europe, though not nearly as many as they do in the extreme north. On the other hand, in southern India the representatives of these same birds frequently lay only two eggs instead of four or five, as in other parts of the world.

"Then, too, other factors which are connected with food create temporary and local disturbances which may cause an increase in the number of eggs laid by one species and yet have the contrary effect in others. Thus in north-west India a plague of locusts will mean that all the Raptores which prey thereon will breed with great freedom, whilst those birds whose food is destroyed by these same locusts will be weak and anæmic, and breed less freely and successfully than in normal years. So, too, an unusual flood will bring water-birds an abundance of food and will entice birds to breed which never normally did so in the district so flooded, whilst those birds which breed in the grass-lands of ordinary years are prevented from breeding at all."

The Rev. F. C. R. Jourdain mentioned that though he had been resident for twenty years in a district where the Common Sandpiper bred freely, and at least eighty nests must have come to his knowledge during that period, not one contained more than four eggs. It was a remarkable fact that in such a limited area in Kashmir, and in such a comparatively short time, Colonel Buchanan should have taken two sets of six and four of five eggs each.

Mr. Jourdain remarked that while the food supply was apparently the dominant factor governing the number of eggs laid in some cases, other factors, such as the shortness

of the breeding-season in high latitudes and the length of the Arctic days, also entered into the question. As an example of the former he quoted the case of the Short-eared Owl, *Asio flammeus*, which normally lays five to seven, and exceptionally eight eggs, but, during vole plagues, has been known to lay from ten to thirteen eggs. The consensus of opinion among Scandinavian ornithologists is that the Rough-legged Buzzard, *Buteo lagopus*, also lays up to six and even seven eggs in Lemming years, and at other times three or four eggs only. On the other hand, such birds as the Wheatear, Meadow-Pipit, and Reed-Bunting lay larger clutches in Iceland and north Norway than in England, and purely northern species, such as the Brambling, Fieldfare, Snow-Bunting, and Lapland Bunting, lay larger clutches than their southern representatives. In these cases climatic and geographical conditions must be the dominant factors.

Mr. E. C. Stuart Baker also exhibited some interesting series of Cuckoos' eggs to show the evolution which was in course of determining the colour of their eggs. To demonstrate this, eggs of *Cuculus micropterus, Cuculus optatus*, and *Cuculus intermedius* were exhibited in boxes so arranged that it was easy to see that each Cuckoo had certain birds which it regularly selected as foster-parents for its eggs and with whose eggs its own agreed more or less perfectly. Other boxes showed eggs placed with those of foster-parents with which they were in striking contrast, and which the exhibitor believed were those of birds not selected as foster-parents except under compulsion.

Mr. Michael J. Nicoll sent for exhibition two new birds from Egypt which had been presented to the National Collection by the Egyptian Government, Zoological Service, and which he described as follows (communicated by Mr. W. L. Sclater) :—

Sylvia norrisæ, sp. nov.

Adult male in breeding-plumage. Crown, ear-coverts, and lores deep glossy black, the rest of the upper parts hair brown ; quills brown, edged on the outer webs with pale

brown; tail greyish black, outer pair of rectrices white on the terminal half, as is also the entire outer web; second pair broadly, and third pair slightly, tipped with white. Chin and throat white; the rest of the underparts white, washed on the breast and flanks with pinkish brown. Under wing-coverts white, washed with pink. Tarsi and toes yellowish brown; eyelid orange-red.

Juvenile. Ochreous brown above; underparts white, washed on the breast and flanks with buff.

Female. Unknown.

Measurements of type. Wing 55 mm.; tail 52; tarsus 20; bill 9.

Five adult males examined, including the type.

In the formation of the wing this species comes nearest to *Sylvia m. melanocephala*, the second primary being intermediate between the seventh and eighth. It differs markedly in coloration from all forms of *S. melanocephala*, being brown on the back instead of slate-grey.

The eggs are greenish white, spotted all over with pale olive-brown and with underlying blotches of pale lilac. Measurements, 17 × 13 mm.

Habitat. As far as is at present known, this species is only found on a small islet on the north side of Lake Birket Karūn in the Fayoum, Middle Egypt. It is resident there and nests in the tamarisk bushes. In March 1912 I heard as many as ten males singing on this islet and found a nest containing four eggs. It was equally abundant there in November 1909 and in 1913.

I propose the above name for this new bird, after my wife.

Type in the British Museum: ad. ♂. "23rd March, 1912, north side of Lake Karūn, Fayoum." No 2227. Coll. M. J. Nicoll.

Prinia gracilis natronensis, subsp. nov.

Upper parts grey-brown, paler on forehead and rump, crown and mantle streaked with dark brown. Wings brown with paler edges to the flight-feathers. Tail brown barred subterminally with blackish brown and tipped with white,

with the exception of the central pair, which are wholly brown. Chin and throat white; rest of underparts white, washed on flanks and abdomen with pale buff. Bill black; tarsi and toes horn-brown. Wing 46 mm.; bill 12; tarsus 18.

Habitat. Wadi el Natron, Lower Egypt, where it is resident. (The Wadi el Natron is a small oasis about 30 miles west of the Nile.)

Type in British Museum: No. 1253. Coll. M. J. Nicoll, 22. iii. 1910. Wadi el Natron, Lower Egypt.

This new subspecies comes nearest to *Prinia gracilis gracilis* (Licht.), but has a much larger bill and longer wings.

The typical form was described from Nubia, and is also found in Dongola and at Shendi, while of recent years I have found it in the Fayoum, Middle Egypt, where it is resident.

The whole of the Delta is inhabited by *P. g. deltæ* Reichenow, a more olive-coloured form which also inhabits Palestine and southern Asia Minor.

The next Meeting of the Club will be held on Wednesday, the 14th of February, 1917, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W.; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

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(Signed)

H. J. Elwes, *Chairman.* D. Seth-Smith, *Editor.* C. G. Talbot-Ponsonby, *Sec. & Treas.*

Smithsonian Institution
APR 14 1917
National Museum

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXXII.

The two-hundred-and-nineteenth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, February 14th, 1917.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. E. Adam : E. C. Stuart Baker ; G. Baynes ; E. Bidwell ; S. Boorman ; H. B. Booth ; A. D. Bradford ; P. F. Bunyard ; A. Ezra ; F. H. C. Gould ; E. Hartert ; G. C. Lambert ; E. G. B. Meade-Waldo ; C. E. Pearson ; C. B. Rickett ; A. D. Sapsworth ; W. L. Sclater ; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*) ; S. L. Whymper ; H. F. Witherby.

Guest :—W. R. Lyon.

Dr. Ernst Hartert exhibited two new subspecies of Venezuelan birds, which he described as follows :—

Synallaxis terrestris bolivari, subsp. nov.

Differs from *S. terrestris striatipectus* Chapm., from Quebrada Secca, Caripé, Los Palmales, and La Tigrera, (eight specimens compared) in the State of Bermudez, *i. e.*, much further east than Caracas and Valencia, by having the whole upperside more olivaceous, less rusty.

Apparently also slightly smaller: wings 55 (♀) to 58 (♂) mm., while in *S. terrestris striatipectus* I measure 56–62 mm.

Hab. Silla de Caracas and Cumbre de Valencia in Northern Venezuela (2 ♂, 3 ♀).

Type: ♂ ad. Silla de Caracas, near Caracas, 19. i. 1914. No. 2090. S. M. Klages coll. (in the Tring Museum).

Vireo josephæ mirandæ, subsp. nov.

Distinguished at first glance from *V. josephæ josephæ* (18 specimens compared, two of which from the Cumbre de Valencia—*cf.* Hellmayr, Archiv f. Naturg. vol. lxxviii. 1912, p. 49) by its paler back, rump, and upper tail-coverts, and especially the paler, more sulphur-yellow breast, abdomen, and under tail-coverts. Wings 64·5–68 mm.

Hab. Cerro del Avila, north of Caracas, 2000 m. (2 ♂, 3 ♀).

Type: ♂ ad. Galiparo, Cerro del Avila, 15. xii. 1913. No. 1178. S. M. Klages coll. (in the Tring Museum).

These two birds are named in memory of the two national Venezuelan heroes, Simon Bolivar and Miranda.

Mr. W. L. Sclater exhibited a very remarkable variety of a Parrot, apparently *Pœocephalus meyeri*, which had been collected by Lieutenant Angus Buchanan at Longidd, German East Africa. It was almost entirely of a canary-yellow, washed with rosy pink, exhibiting a few normal dusky grey feathers on the head and back. The collector had shown it to the late Captain F. C. Selous, who was much interested in it.

Regarding the subject of abnormal clutches of eggs discussed at the last meeting, the Chairman read the following extract from a letter from Sir T. Digby Piggott:—

"I read with much interest the remarks of Mr. Stuart Baker on the abnormally large clutches of Sandpipers' eggs he exhibited. In confirmation of his conclusions that great abundance of food is the cause of increase in number of

eggs in the clutch, I think it may interest the members of the B. O. C. to be reminded that during the plague of voles in 1891–92 the Short-eared Owls which congregated in large numbers in the plague centres laid very largely increased clutches of eggs. If I recollect rightly, the normal clutch consists of from 4 to 6 eggs, while during the plague 8 to 10 eggs were common in Dumfriesshire, and many considerably larger were reported.

"The following questions, put at Sir Herbert Maxwell's committee, go to prove this :—

" Question 225 put to a shepherd : ' How many eggs does each Owl lay ' ? Answer : ' From 9 to 13. There were 5 pairs of Owls with me (*i. e.*, on my beat), and they have reared about 50 young ones. These 5 had from 8 to 13 eggs, and 2 are sitting for the second time.'

" The same question to another witness. Answer : ' As many as 10 to 12 were frequently reported, and in most instances the birds are now sitting or rearing a second brood.' "

Two or three Members present stated that they had known of clutches of from 8 to 10 eggs in normal years in the Orkneys.

Dr. Ernst Hartert asked if any members present had made observations about the effect of the severe frost on bird-life. Near Tring many birds had suffered considerably when the ground became frozen and they could not get their natural food. The Redwings seemed to have all perished, and many Song-Thrushes, Fieldfares, Blackbirds, and Mistle-Thrushes had been found dead. Also a number of Starlings had been picked up, though the majority of the latter seemed to have survived. In all cases it was, of course, not the cold (as the public seemed to believe very often), but the want of food that killed these birds. They were nearly all emaciated.

Mr. P. F. Bunyard said that he had heard of several Kingfishers being captured by hand in Surrey as a result of balls of ice being formed on their feet.

Mr. Carruthers Gould said that during the great frost he walked over the fields between East Molesey and Esher in order to observe the effect of the cold upon bird-life. He picked up a dead Heron, which appeared to have been starved and showed no sign of injury. In a ditch overhung by bushes and not quite frozen over he flushed a Greater Spotted Woodpecker and Kingfisher. The Redwings and Fieldfares had come in close to the cottages and fed upon the scraps thrown out by the cottagers, and picked over the horse-droppings in the road.

The same Member stated that, as a result of the abnormally cold weather, Lapwings were offered in Leadenhall Market at 3*d.* each, but they were all in very poor condition, and he had never seen so many Blackbirds, Thrushes, Redwings, and Fieldfares offered for sale in the market.

Mr. H. B. Booth said that in his opinion many birds had some fore-knowledge of approaching severe weather. In the dales of West Yorkshire this was most noticeable immediately before a sudden and sharp spell of frost and snow, particularly towards the end of the year when the majority of certain species hurriedly left the neighbourhood, presumably for the coast. The species affected were chiefly Song-Thrushes, Skylarks, and Meadow-Pipits, but a sudden decrease was noticeable in several other species. These were facts proved by actual observation and not merely superstitious myths of the country people, though it was noticeable that such superstition at times seemed to be founded on fact. Thus on December 13th last a flock of about twenty Wild Geese, probably Pink-footed, settled in a certain large field in broad daylight, a very rare occurrence, although it is not unusual for Geese to fly over this particular district. The local farmers shook their heads and prophesied very bad weather, a forecast which proved to be only too true, the recent severe weather having been the worst for twenty-two years.

The birds had had a very bad time in West Yorkshire, more especially the Redwings. Red Grouse had been driven from the moors and were in large flocks quite close to the

villages in the dales. Lapwings and Golden Plovers had disappeared from the low-lying fields near the river, where large flocks usually spend the winter ; Wood-Pigeons and Stock-Doves had largely, though not entirely, left the district.

On February 11th, which might be considered as the climax of the frost, and just before the thaw commenced, about sixty frozen-out Mallard were seen in the middle of a large field, and all the Snipe and most of the small birds in the neighbourhood appeared to have congregated on the Ilkley sewage-works, regaling themselves on the offal in the sewage and on the still unfrozen sludge.

The next Meeting of the Club will be held conjointly with the Annual Dinner of the B. O U. on Wednesday, March 14th, 1917, at PAGANI'S RESTAURANT, 42-48 Great Portland Street, W., at 6.45 p.m.

The Meeting will be devoted to an exhibition of Lantern Slides by Members, and the Editor especially requests that those who wish to show slides will kindly send him particulars as early as possible, so that their names may be included in the Agenda.

Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

Smithsonian Institution
APR 27 1917
National Museum

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXXIII.

The two-hundred-and-twentieth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, March 14th, 1917.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. E. Adams; E. C. Stuart Baker; E. Bidwell; S. Boorman; A. D. Bradford; P. F. Bunyard; R. W. Chase; Col. S. R. Clarke; H. J. Elwes; A. Ezra; The Earl of Gainsborough; E. Hartert; G. B. Hony; T. Iredale; Rev. F. C. R. Jourdain; H. Langton; G. H. Lings; H. Massey; G. M. Mathews; E. G. B. Meade-Waldo; H. Munt; G. R. Paton; C. E. Pearson; A. E. Price; F. R. Ratcliff; R. H. Read; C. B. Rickett; W. L. Sclater; M. C. Seton; D. Seth-Smith (*Editor*); F. W. Smalley; J. Stares; C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); H. M. Wallis; H. Whistler; H. F. Witherby; G. Witherington; S. L. Whymper.

Guests:—J. Coode Adams; G. S. Clarke; C. E. G. Crocker; G. Evans; C. E. Fagan; J. Forbes; C. Hampton Hale; C. M. Hawkins; Sir H. H. Howorth; A. Turner; F. M. White.

Hon. Lady Members of the B. O. U.:—Miss Dorothy Bate; Miss Maud Haviland; Miss A. C. Jackson; Miss E. L. Turner.

Mr. W. L. Sclater, who, in the absence of the President, had acted as Chairman of the Anniversary Meeting of the British Ornithologists' Union, occupied the Chair at the conjoint dinner of the B. O. U. and B. O. C. Having proposed the Health of His Majesty The King and that of "Absent Ibises," Mr. Sclater vacated the Chair in favour of Lord Rothschild, President of the Club.

Lord Rothschild and Dr. Ernst Hartert described a a new subspecies of *Myzomela* as follows:—

Myzomela eichhorni interposita, subsp. nov.

Differs from *M. eichhorni eichhorni* from Kulambangra and Gizo in the shape of the glossy red patch on the throat, which is much more elongated in both sexes, at least 5 mm. longer in the male. Otherwise there is no difference either in coloration or size.

Hab. Rendova and New Georgia in the Solomon Islands.

Type: ♂ ad. New Georgia, 15. iii. 1904. No. A 1465, A. S. Meek collection. 8 ♂, 4 ♀ compared with 15 of *M. e. eichhorni*.

In our articles on the Solomon Islands collections in 'Novitates Zoologicæ' we had united this form with *M. eichhorni eichhorni*, thinking that the shape of the spot might be altered through the preparation of the skins, but a close examination shows that this is not the case. In the shape of the red patch *M. eichhorni interposita* agrees with *M. eichhorni atrata* from Vella Lavella. It is curious that Kulambangra and Gizo should have different forms from New Georgia and Rendova, but there are a number of instances.

Miss E. L. Turner exhibited some very fine lantern-slides illustrating the following subjects :—

Series showing the growth of a nestling Blue Tit from one to sixteen days old.

Series showing various attitudes of the Peacock.

Short-eared Owl sunning.

Dipper, various attitudes.

Ringed Plover.

Great Black-backed Gull nesting.

Lesser Black-backed Gull.

Herring-Gulls.

Kittiwakes.

Common Gulls.

Nest of Shoveller Duck showing eggs covered, eggs exposed, and the duck sitting.

Spotted Flycatcher.

Grey Wagtail.

Tree-Creeper.

Robin.

Crossbill.

Ducks in the snow.

Goosander, drake and duck.

Mr. E. C. Stuart Baker showed a large series of very beautiful slides illustrating the nests, eggs, and nesting-sites of a number of Indian birds. Many of the photographs had been taken by Colonel Rattray and the others by himself.

Mr. J. H. Owen, who was unfortunately unable to be present, kindly sent for exhibition a remarkable series of some fifty slides illustrating the nest, eggs, and young of the Sparrow-Hawk which had been taken by himself with the help of some of the boys at Felsted School. The various stages of growth of the young birds, the parent birds bringing food and sheltering the nestlings during

storms, and different attitudes of both adults and young were very clearly illustrated, and the exhibition was much appreciated by the members present.

Mr. D. Seth-Smith showed a series of slides from photographs taken in the London Zoological Gardens of nestling-birds, notably *Cygnus melanocoryphus*, *Rhea americana*, *Chloephaga melanoptera*, *Larus hemprichi*, *Rhynchotus rufescens*, *Nothura maculosa*, and *Calopezus elegans*.

The next Meeting of the Club will be held on Wednesday, the 11th of April, 1917, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. ; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, South Hampstead, N.W., and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

Smithsonian Institution
MAY 15 1917
National Museum

No. CCXXIV.

The two-hundred-and-twenty-first Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, April 11th, 1917.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker; E. Bidwell; S. Boorman; P. F. Bunyard; H. N. Coltart; A. Ezra; E. Gibson; E. Hartert; Rev. F. C. R. Jourdain; G. C. Lambert; H. Langton; H. Munt; C. E. Pearson; C. B. Rickett; W. L. Sclater; D. Seth-Smith (*Editor*); H. F. Witherby.

Guest:—C. W. Praed.

Dr. Ernst Hartert made the following remarks on the genera *Myrmecocichla* and *Phylloscopus*, which he illustrated by the exhibition of specimens in the Tring Museum:—

Reichenow, in his great work on the 'Birds of Africa,' iii. p. 706, united *Myrmecocichla nigra* and *arnotti* as individual aberrations of one form. That this is wrong was long known to me, and it has been clearly pointed out by Ogilvie-Grant, 'Ibis,' 1908, p. 299. The chief difference is, that the adult female (and the young) of *M. nigra* is uniform brown (not black), and that the male is not known to have a white

crown. In *M. arnotti* the crown of the ♂ varies from quite black to quite white, while very often the forehead and a superciliary only are white; the ♀ of *arnotti* is black and has the throat more or less white, often also the chest.

The distribution of *M. nigra* may be said to extend from the Congo to Benguela and eastwards to Uganda and Lakes Albert and Tanganyika, also the country between Kagera and Kivu.

The typical *M. arnotti* inhabits Benguela and South-West Africa, and extends thence along the Zambesi to the Zoutpansberge and Griqualand East.

The form from Eastern Africa, where it inhabits the southern portion of the Central African lake districts, *i. e.* Bukoba, the districts between Kageru and Kivu, east to Nguru, is easily distinguished by its smaller bill and feet; generally the wings are also shorter, and the females seem to have the ear-coverts nearly always white, often tinged with buff or brown; while the ear-coverts are often, nay, mostly, black in *M. arnotti arnotti*.

The young of both forms of *M. arnotti* are dull, not glossy, but brownish black, though not brown as the adult female and young of *M. nigra*. Wings of males of the East African form 94–100 mm. (against 100–111 in Damara Land, 99–112 in Angolan males), females 93–99 (against 100–105 in Damara Land and Angolan specimens).

The East African form must bear the name

Myrmecocichla arnotti leucolæma Rchw.

It was described in Orn. Centralbl. 1880, p. 181, from an adult female from Nguru. At that time the author believed it to be a distinct species, while later on he considered it to be the same as *M. nigra* and *arnotti*. It is clearly neither the one nor the other, but a subspecies of *arnotti*.

Possibly the Angolan form can again be separated, but, considering the great individual variation in the extent of the white markings as well as in size, I am not quite sure about this question.

In the Vög. pal. Fauna, i. p. 522 (Feb. 1909), I gave the distribution of *Phylloscopus trochiloides* as Himalaya and Kuatun in Fokien (China), in winter Bengal to Assam, Burmah, Tenasserim, and South China. Since then Mr. E. C. Stuart Baker found the species breeding in the Khasia Hills, south of the Brahmaputra, and separated the race of that region as *Ph. trochiloides harterti* (Bull. B. O. C. xxxi. p. 36, 1913). The principal difference of this subspecies is the smaller size, the other characters described by its author being rather variable and not constant. With a series of specimens to hand, I come now to the conclusion that the birds from Fokien are also rather different from *Ph. trochiloides trochiloides*. I therefore call them

Phylloscopus trochiloides fokiensis, subsp. n.

They differ from both *Ph. tr. trochiloides* and *harterti* by the brighter and more yellow forehead, sincipital and superciliary lines, also of the edges of the rectrices, and, generally, the underside. The yellow wing-bars are narrow, but about as bright as in *harterti* (where they vary a good deal), the white edges to the inner webs of the two outer rectrices are very narrow, but distinct. Wings : ♂ 59–60, ♀ 56–58 mm.

Type : ♂ ad. Kuatun, Fokien, 15. iv. 1897. J. De La Touche coll. (in the Tring Museum).

These forms have their closest ally in *Ph. davisoni*, from Manipur and Burmah, which is still smaller than *harterti*. In Fokien breeds another species with quite bright yellow underside, *Ph. ricketti* (described as *Cryptolopha* !), and a paler form on the mountains of Hainan, the *Ph. goodsoni*.

Mr. H. F. Witherby exhibited a Tree-Pipit collected by the late Colonel H. H. Harington in the summer of 1914, in the Kaghan Valley, Hazara, North-west India. Mr. Witherby remarked that this bird, as well as other skins in the British Museum Collection from high ground in Kashmir in summer, differed from the typical *Anthus*

trivialis, and he proposed to separate this local breeding-form as

Anthus trivialis haringtoni, subsp. n.

♂ and ♀ ad. differing from *Anthus trivialis trivialis* and *A. t. maculatus* by the bill being much broader, especially at the base, and altogether coarser and less fine; in summer-plumage the black streaks on the breast are wider and much more pronounced and extend further down the flanks than is usual in *A. t. trivialis*, though occasionally examples of the typical form have equally broad streaks; the under-parts of *A. t. haringtoni* are thus much like those of *A. t. maculatus*; the upper-parts in summer-plumage are broadly streaked with black-brown, as in *A. t. trivialis*, and have no tinge of green. Bill-length from the skull to the tip, ♂, 14–16 mm.; width at the base of nostrils 5·5–6.

Hab. Breeding in high ground (9,000–12,500 ft.) from Hazara to Gilghit and apparently south to Dhurmsalah.

Type. ♂ ad. Gittidas, Kaghan Valley, 11,000 ft., 2. vii. 1914. In H. F. Witherby coll. Collected by the late Col. H. H. Harington.

Obs. "The typical *Anthus trivialis trivialis* passes through the Punjab at the migration periods, and possibly passes through, or very near, the breeding-grounds of *A. t. haringtoni*. The specimens in the British Museum obtained by the late Capt. C. H. T. Whitehead in the Kaghan Valley in July 1908 at 12,000 ft., and others from Gilghit, Aliabad Serai, and Dhurmsalah are referable to the new form. An example in juvenile plumage from Gilghit (22. vii. 1879, 9500 ft.) has the wide bill of *A. t. haringtoni*. The type of *Anthus agilis* Sykes from the Deccan, in the British Museum collection, has the fine bill and fine breast-streaks typical of *Anthus trivialis trivialis*. Seven specimens in the same collection, taken by Severtzoff in Turkestan and labelled by him *Anthus microrhynchus* (*cf.* 'Ibis,' 1876, p. 180, and 1883, p. 63), are also typical *A. trivialis*."

Mr. E. C. Stuart Baker observed that Mr. Witherby's

discovery of this new subspecies was particularly interesting, because it practically showed that *Anthus trivialis* and *A. maculatus* were not subspecies of the same bird, but were good species ; for the new subspecies *haringtoni* had been found breeding together with *maculatus* in Kashmir and Garhwal. He remarked that he had received eggs together with the parents collected both by Jowalla and by Crump for Col. A. E. Ward. Other collectors who had taken eggs of this subspecies were Cols. Buchanan and Rattray.

The Rev. F. C. R. Jourdain exhibited a series of eggs of Japanese-breeding Cuckoos, and remarked that special difficulties attended the identification of the eggs of these birds, and that it was only by the accumulation of evidence derived from oviduct eggs and field-observations that any certainty could be reached as to their origin. Of the eggs of the species exhibited, those of *Cuculus intermedius intermedius*, ranging from deep red to pale brick-red, were undoubtedly correctly assigned ; and the same may be said of the large pale blue eggs of *C. fugax nisicolor*, usually laid in the nests of *Erithacus cyaneus*, which has similarly coloured eggs. With regard to the others, there was still some uncertainty. Eggs sent as *C. canorus* (i. e., *C. canorus telephonus*) showed an extraordinary assimilation to the markings of the Buntings and Chats in whose nests they were laid, but similarly marked eggs were sent to Mr. Stuart Baker as the eggs of *C. micropterus*. There seems to be considerable doubt as to whether the latter species has ever occurred in Japan, so that probably these eggs are rightly ascribed to *C. c. telephonus*.

A blue egg found in the nest of *Uragus sanguinolentus* was ascribed to *C. saturatus* (*C. optatus*) by the sender, but differs widely from authentic eggs of this species. Mr. Stuart Baker suggested that it might be the blue type of *C. c. telephonus*. The eggs of the fosterer are in this case of extreme interest, as they are believed not to have been received in England before.

Mr. P. F. Bunyard exhibited a clutch of six and a single egg of the Hooded Merganser, *Lophodytes cucullatus*, from Michigan and Iowa, N.A., and made the following remarks :—

"Sufficient attention does not appear to have been drawn to the remarkable eggs of this species, and no one seems to have taken the trouble to weigh them. From an oological point of view, they are, I believe, distinct and quite unlike the eggs of any other species, and widely separated from those of closely allied forms both in the thickness of the shell and the arrangement of the pores or pittings. The thickness and general appearance remind one of china ; the pittings are widely separated, coarse and deep, not unlike those of the eggs of the Ostrich.

"For their size (53·95 × 43·73 mm., *Jourdain*), the weight is perhaps even more remarkable, as the following will show:—Maximum, 10·147 gr.; minimum, 8·359 gr. ; average of seven eggs, 9·221 gr.

"I also exhibit an egg of the White-fronted Goose, *Anser albifrons*, for comparison in size, and which weighs 10·040 gr., and though very much larger than the heaviest egg of *L. cucullatus* weighs 0·107 gr. less.

"Howard Saunders states that the down is dark-coloured and not white—obviously an error, as all the down I have examined is greyish white" *.

Mr. W. L. Sclater exhibited, on behalf of Lieut. C. G. Finch-Davies of the 1st S.A.M.R., a pair of Francolins obtained by him at Tsumeb in the South-West African Protectorate (formerly German South-West Africa).

These birds were interesting, as they were intermediate in plumage between *Francolinus gariepensis jugularis* Büttikofer (Notes Leyden Mus. xi. 1889, p. 76 : Gambos, in the upper

* [The paragraph in Saunders' *Manual*, p. 478, is as follows:—"As far as our present knowledge goes, the Hooded Merganser invariably makes its nest in the hollows of trees; and lines it with down, which, according to Mr. G. A. Boardman, is dark-coloured and not white, as the down of birds which nest in holes usually is."—Ed.]

Cunene region of Southern Angola) and *F. g. pallidior* Neumann (Bull. B. O. C. xxi. 1908, p. 45 : German South-West Africa).

Moreover, although in this group of Francolins the sexes are usually alike in plumage, the male in this case is more richly coloured and nearer to the more northern *F. g. jugularis*, while the female is paler and more like the southern *F. g. pallidior*. Whether this is a constant sexual distinction in this form, or whether it is accidental, remains to be seen.

Tsumeb, where the birds were obtained by Mr. Finch-Davies, is quite in the north of the Protectorate, not very far south of the Cunene river.

Dr. Langton exhibited a curious variety of the Common Bullfinch, proved to be a female by dissection, in which the underparts were strongly tinged with pink.

The next Meeting of the Club will be held on Wednesday, the 9th of May, 1917, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. ; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C. 4.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, N.W. 3, and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

Smithsonian Institution
JUN 18 1917
National Museum.

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCXXV.

The two-hundred-and-twenty-second Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, May 9th, 1917.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. C. Stuart Baker; P. F. Bunyard; A. Ezra; Ernest Gibson; E. Hartert; G. C. Lambert; E. G. B. Meade-Waldo; H. Munt; A. E. Price; C. B. Rickett; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); H. M. Wallis; H. F. Witherby.

Guests:—Dr. E. Hopkinson; Dr. Percy Rendall; H. R. Munt.

The Chairman exhibited a large water-colour picture showing the varieties of the Monaul, and read the following paper:—

On the Status of *Lophophorus impejanus* Lath. and *L. refulgens* Temm. By Lord Rothschild, F.R.S.

Up to the year 1884 three species of Monaul Pheasant were recognised—The "Common Monaul" of India, with a rufous tail, fiery neck, and metallic bronze-green interscapulium and

large white patch on the rump, identified as *Lophophorus impeyanus* Bonn. ; L'Huys' Monaul from Thibet and West China, with a metallic green-blue tail, coppery bronze neck and interscapulium, and a white rump the lower feathers of which are tipped with blue, *L. l'huysii* Verr. & G. St.-Hil. ; and, lastly, Sclater's Monaul from the Mishmi Hills, Assam, which has a fiery neck, green-blue interscapulium, a rufous tail broadly tipped with white, and a white rump, *L. sclateri* Jerd.

In 1884 Colonel Marshall described as new a Monaul from the Chamba Valley, Kashmir, under the name of *Lophophorus chambanus*. The chief differences from *L. impeyanus* auct. were the metallic blue-green, *not black*, breast, and the total absence of white on the rump. As, however, the amount of green on the breast of the three specimens varied much, and moreover Colonel Marshall procured true black-breasted, white-rumped Monauls in the Chamba Valley, he ought to have hesitated before describing it.

In 1893 Mr. Ogilvie-Grant, in the twenty-second volume of the 'Catalogue of Birds,' expresses the opinion that Marshall's *Lophophorus chambanus* is the true *L. impejanus* of Latham, and the common white-rumped bird must stand as *L. refulgens* Temm. In the same year, Mr. E. Oustalet described two skins of Monauls presented to the Paris Museum by the feather-dealer Mantou under the names of *Lophophorus impeyanus* var. *mantoui* and *L. impeyanus* var. *obscurus*, stating (Bull. Soc. Zool. France, 1893, p. 19) that he considered them "local races," *i. e.* "subspecies." Oustalet's *L. i.* var. *mantoui* differs from *L. impeyanus* auct. =*refulgens* Temm. by the interscapulium being of a beautiful metallic purplish blue, while his var. *obscurus* has all the metallic parts of the plumage sooty-black strongly washed with steel-green. These two birds were obtained by Mr. Mantou in London, and I at once caused all the consignments of Monaul skins sent to London during the next few years to be regularly searched for abnormal specimens. In this manner I have collected a large series (some 18–20 specimens) of abnormal Monaul skins, and these

prove what I have already pointed at, that *L. impejanus* Lath. = *chambanus* Marsh., and *L. refulgens* Temm. = *impeyanus* auct. are one and the same bird.

My series, as depicted on the picture before the meeting, apart from the two *melanistic* aberrations, shows two distinct lines of variation. The one varies by the black of the breast being gradually overspread and swamped with intense metallic blue-green, while the white on the rump is reduced in proportion till the extreme forms show an entire absence of black on the breast and white on the rump. The second line of variation only affects the colours of the neck and interscapulium. Here we find a complete transition from the normal fiery neck and bronze-green interscapulium through every shade of metallic green-bronze, coppery-bronze, metallic maroon-red, and coppery-purple, to the metallic purplish blue of Oustalet's var. *mantoui*.

The two melanistic varieties are very striking, and have arisen in quite different ways. The one called by Oustalet var. *obscurus* is an ordinary melanism, and has been produced by the saturation of the whole of the metallic plumage with sooty-black pigment. The second one appears, however, to have been produced somewhat differently, the only part of the metallic plumage which has been changed by suffusion is the interscapulium, which is velvety-black; the rest of the metallic plumage is deep purple, evidently the result of the elimination of the green and green-blue pigments. The rufous in the tail has been eliminated and replaced by metallic steel-green.

I think this series of aberrations proves that we must go back to our standpoint before 1884, and that there are only three species of Monaul known, viz., *Lophophorus sclateri*, *L. l'huysii*, and *L. impejanus*, the latter being a very variable species. I exhibit normal males of these three species.

Dr. Ernst Hartert exhibited specimens of *Textor niger*, and made the following remarks:—

At a meeting of this Club, in June 1902 (Bull. B. O. C.

xii. p. 77), I called attention to the peculiar penis-like appendage in the males of the African genus *Textor*, and pointed out the desirability of obtaining specimens in spirit. Nobody seems, however, to have taken an interest in the subject, but the late W. J. Ansorge made some interesting remarks on labels of specimens. When I showed this supposed penis in 1902, I thought it really was a penis, but I am now convinced that it is not. First of all, the organ in question is not—like the penis of the Ostrich, Swans, and Ducks—a protuberance of the anus, but an independent appendage *in front of the anus*. Moreover, it is evidently *not perforated*, and a supposed penis that is not perforated cannot very well be a penis. A careful examination of a good many skins reveals no apparent perforation, and Dr. Ansorge, who was an observant collector and a doctor, made the following remarks on labels: "Notice the peculiar hard, stiff, flesh-coloured projection with black tip in front of the anus. It is 23 to 25 mm. long, but has apparently no perforation." On another label: "Notice the curious penis-like projection in front of the anus. It measures 23 mm., but *has no perforation*." Though in its full length of 20 mm. and more it is only found in males, the organ is not quite absent in females. The female, to use Ansorge's words, "has only a tiny clitoris-like projection before the anus."

The question naturally arises, since this supposed penis is not a penis, what is it and what may be its use? It is an extraordinary thing that there should grow on the belly of a bird a hard and stiff projection without any real object. Lesson, in 1831, said that the male introduced its penis "dans le cloaque de la femelle," but this was most likely only imagination. The Kafirs of the Transvaal say that the appendage is used for carrying sticks to the nest and to hang on to the latter. Both assertions are most likely fairy tales, as the powerful beaks and very strong feet are better instruments for these purposes. It is a pity that Transvaal ornithologists are not, so far as I am aware, investigating the peculiarity of the so-called penis of *Textor*. The latter

is altogether a peculiar bird, building huge collective nests in which a number of pairs have their separate nests.

Mr. D. Seth-Smith exhibited a freshly-laid egg of *Apteryx mantelli* weighing 11½ ounces, from the Zoological Society's Gardens.

The next Meeting of the Club will be held on Wednesday, the 13th of June, 1917, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. ; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C. 4.

[N.B.—Members who intend to make any communication at the next Meeting of the Club are requested to give notice *beforehand* to the Editor at 34 Elsworthy Road, N.W. 3, and to place in his hands not later than at the meeting MSS. for publication in the Bulletin.]

(Signed)

Rothschild,	D. Seth-Smith,	C. G. Talbot-Ponsonby,
Chairman.	*Editor.*	*Sec. & Treas.*

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB

Smithsonian Institution
JUL 19 1917
National Museum

No. CCXXVI.

The two-hundred-and-twenty-third Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W., on Wednesday, June 13th, 1917.

Chairman: The Lord Rothschild, Ph.D., F.R.S.

Members present:—E. E. Adams; E. Bidwell; S. Boorman; P. F. Bunyard; R. W. Chase; Col. S. Clarke; A. Ezra; J. Gerrard; E. Gibson; E. Hartert; C. Ingram; G. C. Lambert; H. Munt; F. G. Penrose; C. W. M. Praed; R. H. Read; C. B. Rickett; W. L. Sclater; D. Seth-Smith (*Editor*); C. G. Talbot-Ponsonby (*Hon. Sec. & Treasurer*); H. M. Wallis; H. F. Witherby.

Guests:—W. Rowan; R. W. Roylance.

Mr. R. W. Chase exhibited a clutch of three Golden Eagle's Eggs taken in Sutherlandshire, of abnormal shape, being very elongated and narrow, the measurements were as follows:—(1) 88·3 × 52·8 mm.; (2) 80·5 × 52·5 mm.; (3) 81·5 × 54·8 mm. Two of the eggs were of a dirty-white colour without markings, the other streaked and mottled with reddish brown; also two had a number of nodules on the shells at one end, the other showing a curious corrugation in the smaller end.

Mr. Chase also showed a clutch of three eggs of the Black-headed Gull taken in Cumberland, of the rich dark brown type, but unusually small, the measurements being

as follows:—(1) 34×26·8 mm.; (2) 34·5×25·7 mm.; (3) 35·8×26·5 mm. These eggs contained no yolk. The exhibitor said that he had taken many small eggs of this species, but it was unusual to find a pigmy clutch so regular in size and markings.

Dr. Ernst Hartert read the description of the following new subspecies of Desert-Lark:—

Alæmon alaudipes boavistæ, subsp. n.

Differs from *Alæmon alaudipes alaudipes*, which varies from a warm sandy buff to greyish on the upperside, in having the whole upperside darker, more brownish, especially the interscapulium and rump, and the bill generally shorter.

Hab. Cape Verde Islands; Boavista Island.

Type. ♂ ad. Boavista (*Boyd Alexander Coll.*).

Mr. Witherby exhibited an example of *Anthus campestris minor* (R. Blasius) collected by the late Col. H. H. Harington at Peshawar on April 16, 1914. The bird was a female and had been obtained by Col. Harington from a nest with four eggs. The measurements of this example were: wing 76 mm., tail 54, tarsus 27, bill from skull 16, as against a wing-measurement of from 81 to 89 mm. in the female of the typical form. The bird was in worn plumage, but its upper parts, wings, and tail were rather darker than in typical examples in similar plumage; the sides of the throat and upper breast were distinctly streaked with dark brown. Dr. Hartert (Vogel pal. F. i. p. 269) had considered this form doubtful, but few birds, definitely ascertained to be breeding, had been collected in North-west India.

Mr. Witherby also exhibited, by courtesy of the authorities of the Natural History Museum, two Black-*throated* Wheatears collected by the late R. B. Woosnam in the Elburz Mountains on April 14th, 1907. Both these birds were remarkable in having the black of the sides of the neck extending to the shoulder and joining the black of the wings,

instead of being divided by white as in normal examples of the Black-throated Chat. Under the name *Saxicola gaddi* Sarudny and Loudon had described (Orn. Jahrb. 1904, p. 219) a Black-*eared* Wheatear from Western Persia, in which the black of the ear-coverts extended down the neck to the shoulder.

In agreement with Dr. Hartert and others, Mr. Witherby considered the Black-eared and Black-throated Wheatears as dimorphisms of the same species. He submitted that this view was considerably strengthened by the fact that certain individuals of both the black-eared and black-throated forms—at all events, in part of their range—had the above-described extension of black to the shoulder. As was well known, not only were the Black-throated and Black-eared Wheatears alike in habits and range, but the characters differentiating the eastern and western subspecies were the same in each. Those who still considered the Black-eared and Black-throated Wheatears distinct species must, he thought, now admit as two further species "*Saxicola gaddi*" and the black-throated birds he exhibited, since they could not be considered as subspecies, as they inhabited part of the same region as typical *Œ. h. melanoleuca*.

He himself considered them as a third *variety* of *Œnanthe hispanica melanoleuca*.

The Chairman said that further proof of the specific identity was the fact that in *Œnanthe lugens* the female sometimes in old age put on a black throat like the male, and also that the Algerian race of our common *Œnanthe œnanthe*, viz. Seebohm's Wheatear (*Œ. œ. seebohmi*) always had a black throat in the male.

Mr. C. G. Lambert exhibited a Song-Thrush's nest containing five eggs of the Thrush and one of the Cuckoo, taken at Bookham in Surrey.

Dr. Hartert remarked on the striking increase this year in the number of Lesser Whitethroats in the neighbourhood of Tring.

Mr. R. H. Read remarked upon the scarcity of Song-Thrushes this year—a result, he thought, of the very cold winter.

Mr. Chase said that in the Midlands Thrushes, Blackbirds, Moorhens, and several other species had become quite rare since the winter, while summer migrants were unusually plentiful.

Mr. Witherby stated that it had been definitely ascertained by ringing that a considerable proportion of Song-Thrushes, Lapwings, and Woodcock, and a smaller proportion of Blackbirds bred in Great Britain migrated to Ireland (see Brit. Birds, vol. x. p. 215), but unfortunately the weather conditions in Ireland had been equally disastrous (see Irish Nat. 1917, p. 89).

Dr. Hartert said he feared that the Gold-crest and the Long-tailed Tit had become practically extinct at Tring.

It was suggested that at one of the earlier meetings in the next Session the subject of the diminution of resident birds, caused by the cold winter, and the alleged increase of summer migrants should be further discussed, when more data might be available.

The next Meeting of the Club will be held on Wednesday, the 10th of October, 1917, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. ; the Dinner at 6.45 p.m. Members of the Club intending to dine are requested to inform the Hon. Secretary, Mr. Talbot-Ponsonby, at 5 Crown Office Row, Temple, E.C. 4.

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Chairman.	*Editor.*	*Sec. & Treas.*

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