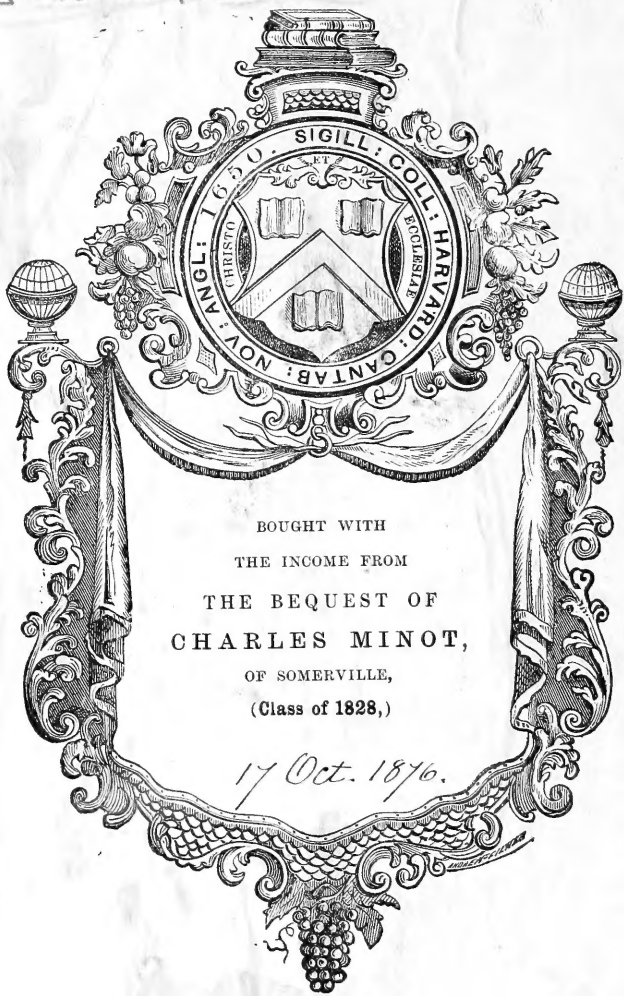


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SLENDER-BILLED CURLEW.

WATER OF THE

BIRD

CHARLES

GEORGE BELL AND

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A HISTORY

OF THE

BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

BY

CHARLES ROBERT BREE, M.D., F.Z.S.,

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SECOND EDITION, ENLARGED.

VOL. V.

"Join voices all ye living souls; ye birds
That singing up to heaven-gate ascend
Bear on your wings and in your notes His praise."
MILTON'S PARADISE LOST.

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LONDON:

GEORGE BELL AND SONS, YORK STREET, COVENT GARDEN.

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1876, Oct. 17.

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BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

GRALLATORES.

Family *SCOLOPACIDÆ*. (*Bonaparte*.)

Genus *NUMENIUS*. (*Linnaeus*.)

Generic Characters.—Bill very long, decurved, slightly compressed; upper mandible grooved for three parts of its length, the point hard and obtuse, and overlapping the inferior mandible; nostrils basal, lateral, linear, opening into the bill through the furrow. Face clothed with feathers. Legs long and slender, naked above the knee; three toes in front and one behind, the anterior united by a membrane as far as the first articulation, the posterior articulated to the tarsus, and touching the ground. Wings moderate, the first primary the longest.

SLENDER-BILLED CURLEW.

Numenius tenuirostris.

<i>Numenius tenuirostris</i> ,	VIEILLOT; Dict. d'Hist. Nat., viii., p. 302. (1817).
“ <i>hastatus</i> ,	CONTARINI; Cat. Uccel. Padova, p. 44. (1843).
“ <i>syngenicos</i> ,	VON DER MÜHLE; Orn. Griechenl., p. 111. (1844.)
<i>Courlis à bec grêle</i> ,	OF THE FRENCH.
<i>Dünnschnäbliger Brachvogel</i> ,	OF THE GERMANS.
<i>Ciurlotello</i> ,	OF THE ITALIANS.

Specific Characters.—Bill slender and comparatively short; under wing coverts pure unspotted white; the spots on the breast shaped like a spear's

head. Length fifteen inches; wing from carpus to tip nine inches and a half; tarsus two inches and a half; middle toe and claw one inch and a half; bill two inches and seven tenths; length of keel of sternum two inches and a half: depth at highest part one inch and one tenth; breadth of sternum superiorly one inch, inferiorly one inch and a fifth.

THE Slender-billed Curlew inhabits chiefly the countries bordering the Eastern Mediterranean. In Sicily M. Malherbe informs us that this bird is the commonest of the three species, and Degland suggests the probability of its breeding in that island as well as in Italy. Count Von der Mühle states, in his "Ornithologie Griechenlands," that it is as plentiful as the Whimbrel in Greece; and he thinks that it builds there, as he has observed single birds seeking food in summer, and has shot young ones in August on the sea-shore. He says it migrates at the end of September.

Dr. Linder Mayer, in his "Vogel Griechenlands," says he does not know the periods of its migrations, as he has only killed it in March: nevertheless it is certain that it breeds in the northern provinces. Dr. Baldamus, in "Naumannia" for 1852, says that it is plentiful, and nests in Greece and the southern provinces of Italy. He killed some specimens some years ago, which were then considered as a chance deviation from the Whimbrel. Lord Lilford, ("Ibis," vol. ii, p. 345,) records its occurrence at Corfu. In Italy, Temminck notices its occurrence near Rome, in Venice, and Pisa. Savi confirms this statement, but that it is very rare in Tuscany; and Prince Charles Bonaparte says, in the "Fauna Italica," that it is not uncommon on the marshes which lie near the banks of the Tiber. In France it has been captured in Piedmont, according to Bonelli. Degland records its occurrence in the neighbourhood of Montpellier, Nimes, and Calais; and M. Gerbe says he saw in the museum at Caen, and in the private collection of Dr. Lesauvage, of that town, several specimens which had been shot on the sea-shores of Calvador.


Naumann includes it among the birds of Germany; and M. Dubois, in his "Oiseaux de la Belgique," records its capture near Louvain, in 1834, which specimen is in the collection of M. Isidore Bovie; and also a second specimen near Ostend, in 1836. M. De Selys-Longchamps, in a long and valuable paper in "Naumannia" for 1856, entitled "Remarks on some of the Birds of Europe," states on the authority of MM. Bovie and Robert, that it once nested in the neighbourhood of St. Froud, in Belgium. The same author also alludes, in his "Faune Belge," to its having been observed in Picardy by M. Baillon.

In Spain, according to Mr. Howard Saunders (*Ibis*, 1871, p. 389), it is not uncommon (by printer's error "common") from March onwards, and Colonel Irby, in his recently published work on the "Ornithology of the Straits of Gibraltar," states that it occurs there in spring and autumn.

Mr. J. H. Gurney, in a note dated July 22nd., 1872, writes to me, "When at Ghent last year, M. La Fontaine, Curator of the Museum there, gave me a specimen of *N. tenuirostris*, which he bought in the flesh in Ghent market, in November, 1866, and which he told me was the only Belgian specimen that had come under his observation. The dark pear-shaped spots on the flanks are remarkably distinct in this specimen."

In many parts of Africa the Slender-billed Curlew is not uncommon,—as Algeria, Egypt, and Nubia. Mr. Salvin ("*Ibis*," vol. i, p. 359,) met with flocks of this bird on several occasions, and he shot one on a plain near El Djan. Canon Tristram states ("*Ibis*," vol. ii, p. 80,) that he saw one shot by a French officer at Oumache, near Biskra. The same naturalist also thinks that he saw it in Southern Palestine.

"The Slender-billed Curlew," says Mr. Harting, "has been often confounded with the Whimbrel, and its occurrence no doubt has been passed over from its general resemblance to that bird. *N. tenuirostris* is, however, altogether a smaller species than *N. phaeopus*, and has not the two dark bars upon the head, which are conspicuous in the latter bird. In this respect it resembles the Common Curlew. The under wing coverts are pure white, whereas in the Whimbrel they are spotted; while the markings on the breast and flanks are distinct and pear-shaped in this species—not streaked as in the Whimbrel."

The following are the dimensions and short description of two birds sent me from Malta by Mr. C. A. Wright:—No. 1.—Length seventeen inches; wing from carpus ten inches and a half; bill from rictus along upper curvature, three inches and a half; circumference at base one inch and four fifths; under wing and tail coverts white; upper tail coverts white, with longitudinal brown markings, shaped thus ; tail white, barred with brown; head streaked with brown; with a circlet of light grey feathers round the eyes; throat white; sides of head and neck finely streaked longitudinally with brown; breast white, thickly streaked with longitudinal marks and cordate spots; back dark brown, the feathers lighter on their edges; upper wing coverts lighter, with dark brown transverse bands; primaries dark brown, the shaft of the first white. No. 2.—Length sixteen inches and four fifths; wing from carpus nine inches

and four fifths; bill three inches and seven tenths. In this specimen the cordate spots on the breast are fewer, and there is a white streak passing backwards along the vertex. In other respects it resembles No. 1.

To shew the uncertainty of the white under wing coverts as a specific distinction I may state that I saw, in January, 1862, in a fishmonger's shop in Colchester, a specimen of the Common Curlew, *N. arquata*, having the under wing coverts pure white, and with cordate and lanceolate markings on the breast, exactly like the specimens just described of *N. tenuirostris*. It measured twenty-one inches and a half long; wing from carpus twelve inches; bill four inches and three quarters.

A third specimen sent me by Mr. Wright is about the same length as No. 1 and 2, namely, seventeen inches, but the other measurements differ remarkably. Wing from carpus only nine inches; the bill is only three inches long, and quite slender, being one inch and a quarter in circumference at its base. It does not materially differ in plumage from the others, and there is an indistinct white line extending backwards across the vertex, as in No. 2.

Notwithstanding these differences in individuals, I may direct attention to the fact, as pointed out to me by Mr. Harting, that all the old-world species of *Numenius* may be divided into two groups; those which have the head barred as in *phæopus*, and those which have the head plain, as in *arquata*.* *Numenius tenuirostris* belongs to the latter group, and this peculiarity, taken in connection with its small size, slender form and bill, and pure white axillaries should distinguish it at all seasons, and at all ages.

Of the habits of this interesting bird, M. Dubois (op. cit.) remarks:—"They live sometimes in the neighbourhood of running water, at others in that of stagnant water, but they rarely frequent the shores of the sea. It is worthy of notice that the flocks daily leave the water to spread themselves out among meadows and uncultivated fields, where they remain until they are obliged to return to the water, without which they could not live, as they drink a great deal, and frequently bathe. They are very shy. Their flesh is esteemed in Italy as a delicacy."

Salvadori, in his "Fauna d'Italia," says of this species:—"This bird is generally compared with *N. phæopus*, whilst it more nearly

* Mr. Harting adds that the new-world species of *Numenius* may be always distinguished from those of the old-world by the rufous colour of the axillaries, and by the prevailing buff or ruddy tinge which pervades the whole of the plumage.

resembles *N. arquata*, but is easily distinguished by its smaller dimensions—by a more slender beak—by the base of the neck, and by the axillary feathers being white; but, as Bonaparte has justly noticed, this is not the principal distinctive character, as these feathers in *N. arquata* are sometimes white without spots. In all parts of Italy this species is met with; but while it is only a bird of passage and rather rare in the northern parts, in the central and southern parts it is common, and passes the winter there. This is the same in Venetia. In Tuscany it is an irregular bird of passage in May, in some years plentiful, in others scarce. During the winter it is common in Sardinia and Romano. In Sicily and in Malta it is the most common species in that season.”

Bonaparte (*Fauna Italica*) says:—“It is most common in the low meadows along the Tiber, but less so than *N. arquata*. It is much more frequent than *N. phæopus*, and remains with us a longer time. The habits of this bird and the Curlew are similar. They are very vigilant. They live in the same low meadows on banks of rivers and shores of the sea. They live upon worms and insects. They run rapidly, and fly in flocks, which spread largely, and rise to a great height with a powerful flight. They then drop on to the ground, but take flight at the least suspicion. They are taken in the meadows they frequent in nets. The note of this bird is similar to that of the Curlew, but briefer, shorter, and more frequently repeated, but more acute. It does not appear to have ever bred in Italy.”

Of its occurrence in Malta, Mr. Wright says, in a private letter, —“It arrives here on migrations in the spring and autumn;” in both seasons I have shot it on Fort Manuel Island, whose low and muddy shores form one of the most attractive resorts for waders of all kinds during their passage. It also passes with others of the *Scelopacidæ* in July. I have noticed considerable variation in the size and length of the bill, (doubtless arising from age.) All those I have shot were single birds, but they are also sometimes observed to pass in flocks.”

They nest in meadows and heaths. They make a slight excavation, which they line with pieces of grass and a little moss. They lay from three to four eggs. These eggs are, according to Degland, “of a milky white, or white, shaded with yellow, marked with brown dots and irregular spots of brown and ash-colour, larger and more numerous at the greater end. In some the spots are confluent.” Great diameter five centimetres and a half, (about two inches and a fifth;) smaller diameter three centimetres seven millimetres to three centimetres eight millimetres, (about one inch and a fifth.)

The adult male has the upper plumage brown; the feathers on the

vertex bordered with russet, those of the neck and nape with whitish ash, and of the back ashy, with a russet tinge; the rump and upper tail coverts pure white, the latter being marked with some longitudinal brown spots; the throat and under wing and tail coverts pure white; the neck in part, and the crop, marked on a whitish ground, feebly tinged with russet, with blackish brown spots, small and more like drops on the throat, increasing in size on the crop and breast, where they are large, distinct, and of a lanceolate form, the ground being the same; these spots are still larger and rounder on the flanks as far as the pure white under wing coverts. Superciliary streak, cheeks, and sides of the neck ash-coloured, with fine brown spots; wing coverts brown, bordered and deeply notched in four or more indentations with white. Primaries brown; the first with the shaft white, those which follow the fourth tipped and spotted with white on their borders. Tail white, irregularly banded with brown; beak blackish brown above, flesh-coloured below at the base; legs lead grey; iris brown.

The female resembles the male, but is larger, with the bill longer, and the brown spots on the breast elongated, and not in drops.

My figure is taken from a specimen in winter plumage, kindly sent me by Canon Tristram, and marked "Constantine, Feb. 6th., 1857."

This species has also been figured by Bonaparte, Faun. Ital.; Savi, Ornith. Toscan.; Naumann, Vogel Deutschlands, pl. 218; Gould, Birds of Europe, pl. 304; Roux, Orn. Prov., vol. ii, pl. 218; and Dresser, Birds of Europe.

Numenius hudsonicus.—It is worthy of note that in May, 1872, a solitary individual of this American species was obtained in the Coto de Donana, to the south of Seville, by Lord Lilford, who recorded the fact in the "Ibis" for 1873.



GREEN SANDPIPER.

GRALLATORES.

*Family SCOLOPACIDÆ. (Bonaparte.)*Genus TOTANUS. (*Bechstein.*)

Generic Characters.—Bill longer than the head, straight, rarely decurved, soft at the base, hard and solid at the point, compressed in its whole length, ending in a sharp point; the two mandibles furrowed only at their base; the extremity of the upper mandible slightly bent upon the lower at the point. Nostrils lateral, linear, longitudinally split in the furrow. Legs long, slender, naked above the knee; three toes in front and one behind; the middle toe united to the external one by a membrane as far as the first and sometimes the second articulation. Often there is a rudimentary membrane attached to the inner toe; rarely a half web. Wings moderate; the first primary the longest.

MARSH SANDPIPER.

Totanus stagnatilis.

<i>Scolopax totanus,</i>	LINNÆUS; Syst. Nat., i., p. 245. (1766.)
<i>Totanus stagnatilis,</i>	BECHSTEIN; Orn. Taschenb., p. 292. (1802.)
<i>Tringa guinetta,</i>	PALLAS; Zoogr. Ross. Asiat., ii., p. 195. (1811.)
<i>Totanus tenuirostris,</i>	HORSFIELD; Trans. Linn. Soc., xiii., p. 192. (1820.)
“ <i>lathamii,</i>	GRAY AND HARDW.; Ill. Ind. Zool., pl. 51. (1829.)
“ <i>horsfieldi,</i>	BLYTH; Ann. Nat. Hist., xii., p. 169. (1843.)
<i>Chevalier stagnatile ou</i>	
<i>Chevalier à longs pieds,</i>	OF THE FRENCH.
<i>Teich-Wasseriäufer,</i>	OF THE GERMANS.
<i>Piro-piro Gambe lunghe,</i>	OF THE ITALIANS.

Specific Characters.—Bill long and thin; the bare portion of the tibia as long as the middle toe. Rump white; the middle tail feathers barred transversely with brown zigzags; the outer tail feathers with their outer webs edged with a line of brown and dirty white. Length nine inches, wing from carpus to tip five inches and a half, bill one inch and seven tenths, tarsus two inches, middle toe with claw one inch and one fifth.

THE Marsh Sandpiper, although chiefly inhabiting South-eastern Europe and Southern Siberia, is met with in Central Europe, and occasionally, though rarely, penetrates into France and Spain. It has been killed, according to Degland, at Dunkirk, St. Omer, Abbeville, and Dieppe, in the department of Aube, and in some parts of the south of France. Baillon mentions it as a rare visitor in Picardy. Savi says it comes in small numbers to Pisano in April, but leaves shortly after. Count Mühle says that many are killed in Greece in October and November, but it is always considered there as among the rarer birds. Dr. Lindermayer informs us that it comes into Greece with the equinoctial spring storms in great numbers. It lives in swampy meadows till the middle of May, when it goes farther north. It has not yet been found to breed in Greece. Dr. L. does not consider it so rare a bird as Count Mühle, as he has observed large flocks of them at Phaleros, and he has killed a great number in a single morning. It only frequents the islands on its migration. He did not observe it in autumn. The most northern spot at which it has been met with in Europe is Heligoland, and there it has only occurred once accidentally.

Lord Lilford (“Ibis,” vol. ii, p. 344,) says,—“Abundant in March, April, and the early part of May, on the race-course of Corfu. The habits of the species closely resemble those of the Green Sandpiper, (*T. ochropus*,) but it is less shy, and not so clamorous. I have had excellent opportunities of observing closely the habits of this and many other allied species on the race-course, having sometimes seen within a few yards of the spot on which I lay hidden, *T. glottis*, *T. stagnatilis*, *T. glareola*, *T. ochropus*, *Himantopus melanopterus*, *Tringa minuta*, *Numenius phæopus*, and *Glareola pratincola*.”

It is included by Naumann among the birds of Germany, but it is not mentioned in the “Faune Belge,” nor by Dr. Machado in his list of Andalusian birds, though it may be expected to occur, I think, in Spain. Mr. Saunders has in fact noted the occurrence of this species in the neighbourhood of Barcelona, (*cf.* Ibis, 1871, p. 388.)

I have been favoured by Mr. C. A. Wright, with the following note

of its occurrence in Malta:—"The Marsh Sandpiper, although not common, is pretty well known to the native sportsmen, who have given it a name which implies that it attracts other birds, or that when it is seen other game may be expected. What habit gave rise to its singular local appellation, or what influence it exercises over other species, I cannot say. Probably none at all. A few individuals are shot every year in spring and autumn, and sometimes they appear in small flocks. They are very easily approached, and not readily scared. An instance occurred in 1860 of one allowing itself to be taken by the hand in some short grass, in which it tried to elude its pursuer by running Rail-fashion, instead of taking to flight like other birds of its genus. It was not wounded, and did not appear to be exhausted, as, when set free in a room, it ran about briskly, its neck drawn in close to its shoulders. In April of the same year a flock of about twenty appeared at a marshy place at the head of the Great Harbour of Valetta, and it was not before seven or eight of their number were successively shot at and killed that the rest made off."

On the African shores we find it recorded by Von Heuglin ("Ibis," vol. i, p. 347,) as having been observed at Massaua, in Abyssinia, on the shores of the Red Sea. Mr. Taylor, in the same volume, informs us that a single specimen was taken by him near Denderah, in Egypt; and Captain Loche includes it in his Algerian fauna, but only as a bird of passage. Extending eastward, Dr. Leith Adams says it is very common in Hindostan, and the countries westward; and Colonel Irby, in his notes on the "Birds of Oudh and Kumaon," ("Ibis," vol. iii, p. 239,) remarks that it is there "very common in the cold season. In habits resembles *Actitis glareola*, being more of a Marsh Sandpiper than *A. ochropus* or *A. hypoleucus*, both of which are found on the banks of rivers; the common Sandpiper being seldom seen on muddy marshes."

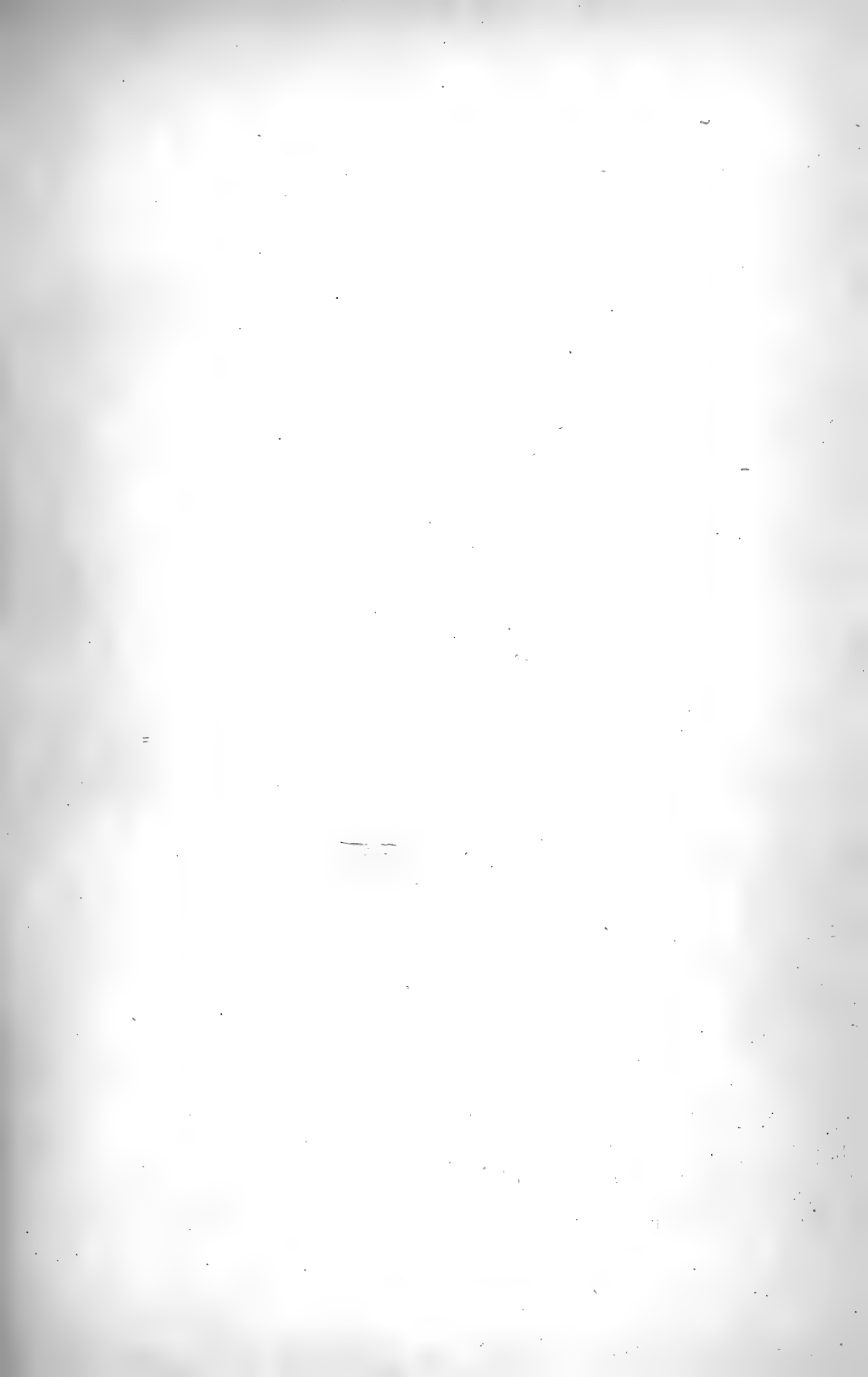
I copy the following from Heuglin's "Vog. Nord-ost Africas:"—"I have met with this bird in all stages of plumage in the north-east of Africa, yet it shows itself generally singly or in pairs, here and there mixing with Sandpipers and Sanderlings. It commonly avoids the sea-coast. On the other hand it frequents brackish water, brooks, old lakes, wild rivulets in the forest regions, and real marsh lands. This bird comes early in autumn into Egypt. We found it at Alexandria even at the commencement of August, and on its return passage (in the opposite direction) as far on as April. In March we found it on Tana Lake, in Abyssinia; in April and May in summer plumage on the streams of Eastern Senaar. It has been

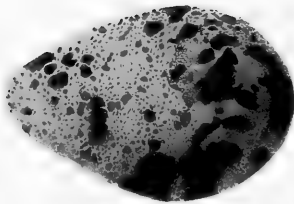
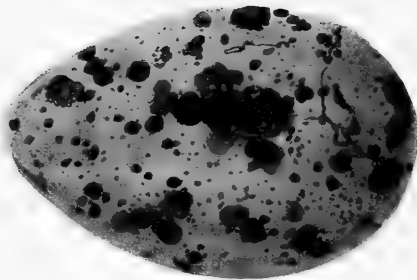
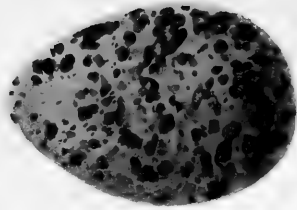
observed tolerably common in winter near the Atbara, and on the lower Blue and White Niles, especially however in the morasses of Eastern Kordofan. Jesse obtained it in March at Zulu, on the Red Sea."

From "Naumannia" for 1850, part 2, page 8, I copy the following remarks by Dr. J. F. Naumann:—"It is seen rarely in Anhalt. It has become more and more rare during the last ten years. Sometimes it has been taken by my brother on the river Wulfen. Once he shot the female, and in 1835 a pair brought out young ones in that locality. They appeared on the shallow water which remained on the morasses after the dry summer. He killed one on the 26th. of June of that year. It was only, however, just fledged, which induced him to spare the others. The brood consisted of four young ones. This is the only example known to me of the appearance of this rare bird in Anhalt. It belongs to the south of Europe, but does not appear plentiful anywhere. It is not common even in Hungary, and in my journey through that interesting ornithological country, I only saw two small flocks. It comes thence solitarily to the south of Germany, but very seldom in the central part, and still more rarely to us in Anhalt."

In the same journal for 1852, p. 82, there is an interesting account of the nidification of this bird, by Baldamus, from which I take the following:—" *T. stagnatilis* is not common in Hungary, and it is very wild. I saw a flight of about twenty the middle of June, and I killed three after many shots. This bird breeds in the middle and northern parts of Hungary. The ranger Knotz, who knew these 'water-runners' very well, assured me of this, and it is placed beyond all doubt by the observations of my young friend, Pélényi, by whom many nests with eggs were found, and who has some excellent observations about this species in his earlier monograph upon Hungarian birds. I found eggs exactly like them in the White Morass, but as I cannot speak with certainty myself, I merely remark that the eggs resemble those of *T. calidris* and *T. glareola* in form, colour, and characteristic markings, yet they are smaller than those of *T. glareola*."

I copy the following from an excellent and exhaustive paper on this bird in the "Field" of November 21st., 1874, by Mr. Harting:—"In appearance the Marsh Sandpiper resembles a miniature Greenshank, but differs from it in having proportionately a more slender bill, awl-shaped, and not recurved at the extremity, and in having the upper portions of the plumage and breast more definitely and clearly spotted with black in summer, and the back more uniformly grey in





1. 1. SANDPIPER.

2. ALLEG.

3. LEK SANDPIPER.





winter, the under surface during the latter season being uniformly pure white. Its dimensions are: Bill, 1.75 inches; wing, from carpus, 5.75; bare portion of tibia, 1.1; tarsus, 2; and middle toe, with claw, 1.2. Like all members of the genus *Totanus*, it has a small web between the middle and outer toe of each foot; in this respect differing from the species of the genus *Tringa*, in which all the toes are cleft to the base. The bill, too, is hard and horny at the tip, instead of being, as in the *Tringidæ*, soft and sensitive.

“The home of the Marsh Sandpiper appears without doubt to be in South-eastern Europe and Southern Siberia, and it is found but rarely on the western side of the continent. In the marshes of the Black Sea it is particularly common in spring, at which season numerous flocks are met with all over South Russia, and many are killed there for sale in the Odessa market. Professor Nordmann thinks that it nests there, for he ascertained that it was found in the middle of May in Bessarabia and in the province of Kherson. In Turkey and Asia Minor it is equally common, numbers being killed there for food during the autumn migration. During the months of March, April, and part of May it is found in Greece in large flocks, at which season also Lord Lilford noted it as abundant in Corfu. In Malta it appears annually in spring and autumn, and according to Malherbe (*Faune de la Sicile*) the lakes of Phare near Messina constitute a regular halting place for this species on its way northward into Italy in the month of April. The vast marsh country of Hungary appears to offer special attractions to this species, for numbers appear to make this the northernmost point of their journey in spring, and remain here to breed. Naumann specifies the Neusiedler Lake and Upper Silesia as breeding quarters; and Dr. Baldamus, who met with it in Central and Northern Hungary in the middle of June, states that a friend of his, by name Pélényi (who has published some excellent observations on this species in his account of Hungarian birds), discovered many nests with eggs there. Dr. Baldamus himself found similar eggs in the White Morass, which could only have belonged to this species. The curator of the Pesth Museum assured Mr. Dresser that the Marsh Sandpiper breeds not unfrequently in some parts of Hungary, and showed him a series of eggs taken in that country, with one of which he presented him. These eggs resemble in miniature the eggs of the Common Redshank, *Totanus calidris*.

“In Germany the Marsh Sandpiper is only an occasional visitant; in fact, after leaving Italy on the west, and Hungary on the north, the further westward and northward we proceed the rarer it becomes;

and, although occasionally met with on passage in Sardinia, it has very seldom been noticed in Spain and France. Dr. Naumann, writing from his own experience in 1850, did not consider it very common in Hungary. He says: 'It comes thence solitarily to the south of Germany, but very seldom to the central part, and still more rarely to Anhalt.' Occasionally it has been killed on the river Wulfen by his brother. Once he shot the female, and in 1835 a pair brought out young ones in that locality. They appeared on the shallow water which remained on the morasses after the dry summer. He killed one on the 25th. of June of that year. It was, however, only just fledged, which induced him to spare the others. The brood consisted of four young. 'This is the only instance known to me,' he observes, 'of the appearance of this rare bird in Anhalt.'

"The most northern point in Europe at which this bird has been procured is, as before stated, Heligoland, where a single example was met with by Herr Gätke on the 7th. of May, 1862. Beyond Europe the Marsh Sandpiper has a very extensive range. In the cold season it is not uncommon in some parts of India, frequenting young rice fields, open marshy spots, and the bare edges of tanks. In China it is less frequently met with, although Mr. Swinhoe procured a specimen at Formosa, and solitary examples have occasionally been forwarded from Borneo, Sumatra, Java, and other islands of the Malay Archipelago. Even in Australia it is not altogether unknown, Mr. Gould having shot a specimen on the banks of the lower Mokai on the 16th. December, 1839.

"Numbers of these birds spend the winter in Africa, and appear to spread over the greater portion of that vast continent; for not only are the flocks met with in Egypt, Nubia, and Abyssinia, immediately south of their summer quarters, but they pass down even to Natal and Cape Colony, while on the west and south-west coast examples have been procured in Ashantee, Gambia, and Damaraland.

"The name of Marsh Sandpiper is well bestowed, for, although the bird is occasionally found by the river side, its favourite haunts are in the marsh, and upon the flat shores of lakes and pools. Its actions are very sprightly, its walk and flight rapid—the latter, according to Naumann, almost swallow-like. On the wing, he says, its movements resemble those of other Sandpipers, and, like them, it only extends its wings fully outwards and downwards when sailing horizontally through the air for a short distance without closing the wings, as it does, for instance, when uttering its call-note in the breeding season. This is very different from its action while shooting

downwards in a slanting direction, at which time it does not make any beat with the wings, but holds them closer to the body than in its usual flight, when the beats are more frequent and powerful. On dropping gently down, and even when standing still, it often stretches its wings straight up for some seconds, thus showing their white under-surfaces before closing them. Its general habits resemble those of the Greenshank, *Totanus glottis*, and its note is not unlike the note of that bird.

“Mr. Thomas Robson, of Ortakeny, who has had frequent opportunities of observing the species in Asia Minor, informed Mr. Dresser, in a note for his “Birds of Europe,” that they wade in inland shallow waters seeking their food, and rest within the edges of marshes with muddy bottoms on one leg, and when disturbed hop out and rise from one leg.

“Professor Nordmann has observed that, if several individuals are surprised at the edge of a pool, and be not approached too suddenly, they will take to the water, keeping close together, and thus save themselves by swimming rather than take to flight. The Marsh Sandpiper, he says, is as good a swimmer as either of our Phalaropes, to which, in habits as well as in other respects, it bears some resemblance.

“An instance has been recorded by Dr. Bree, on the authority of Mr. Wright, of Malta, of one allowing itself to be taken by the hand in some short grass, in which it tried to elude its pursuer by running Rail fashion, instead of taking to flight like other birds of its genus. It was not wounded, and did not appear to be exhausted, for, when set free in a room, it ran about briskly, its neck drawn close to its shoulders.

“From this brief account of its haunts and habits it will be seen that the species is very unlikely to occur in England, since it has rarely been met with in France, and is unknown in Belgium and Holland. Should a straggler through France, however, find its way to our shores, it would necessarily be during the period of migration, in spring, and not in mid-winter, as reported by Mr. Roberts in the case under notice. And, even supposing that a Marsh Sandpiper had reached this country, say in April or May, 1873, it would not have been found here in January, 1874, for its migratory instinct, in the intervening autumn, would have impelled it at that season to travel far southward to its winter quarters.

“I am accordingly forced to conclude that the so-called Marsh Sandpiper which is reported to have been shot near Malton in January, 1874,* but of which no description has been published, and

* See “Zoologist,” 1874, p. 4054.

which was not seen either by the author of the report or the editor of the periodical in which it appeared, has been wrongly identified. If it has been preserved, I shall not be surprised if it proves to be a Green Sandpiper, *Totanus ochropus*. This bird visits us regularly in spring and autumn, and is occasionally met with by snipe shooters in January. Its partiality for marsh dykes, which is well known to those who are familiar with it, may in this instance possibly have suggested a new name."

In regard to the synonymy of this species, Mr. Harting has identified it with the *Totanus tenuirostris* of Horsfield, (see "Ibis," 1874, p. 174,) and he has no doubt also that it is the *Totanus lathamii* of Gray and Hardwicke, and *Totanus horsfieldi* of Blyth.*

The male and female in the breeding plumage have the top of the head and neck ashy, with longitudinal grey and black streaks; scapulars and wing coverts ashy brown, with black streaks, which are longitudinal and in the form of a spear-head along the feather shaft, and are larger on the scapulars and long tertials; primaries dark brown, the shaft of the first, like that of the Whimbrel, white; secondaries lighter brown; rump, throat, abdomen, flanks, under tail coverts, white, more or less spotted on the crop and flanks with greyish brown. Tail white, with the middle feathers transversely barred in zigzag with brown, the end of the two central ones having also a ground of light brown, the outer tail feathers edged with two lines of grey brown on their outer webs. Bill black; legs and feet olive green; iris brown.

In winter the upper parts are grey, each feather margined with white; forehead, chin, the whole of the under parts, and rump pure white; tail feathers white, rayed with brown; bill blackish; legs pale olive green.

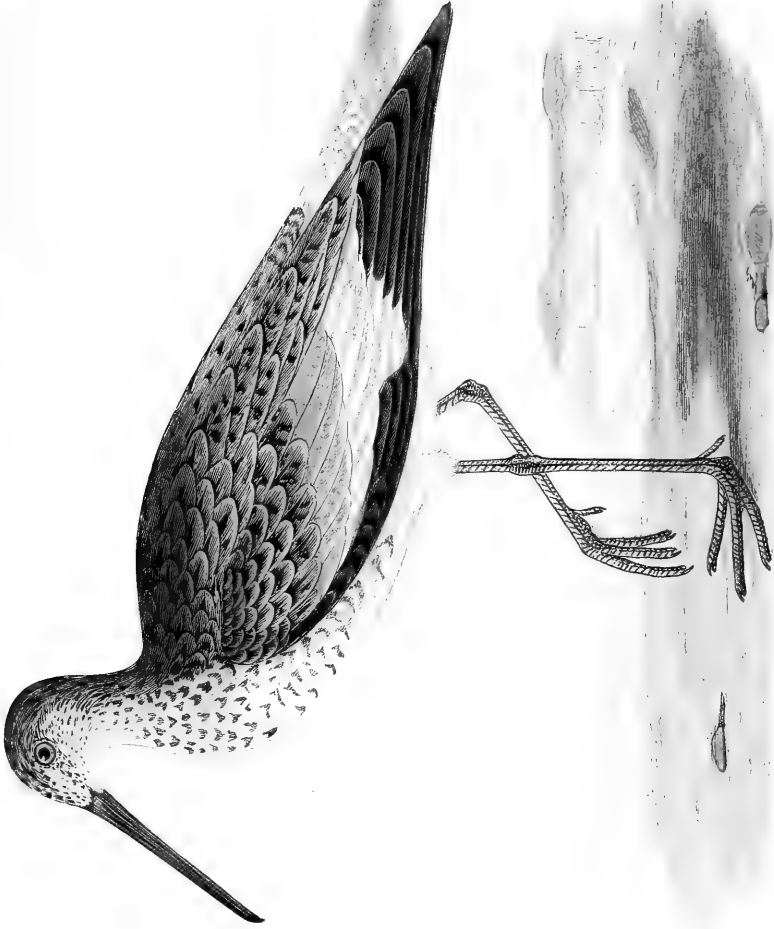
The young before the first moult have the upper parts dark brown, with the feathers fringed with yellowish, and the longest transverse markings on the wing coverts dark brown; inferior parts white, marked with small brown spots on the neck, crop, and cheeks; primaries brown, tipped with whitish; bill brown; legs greenish ash-colour.

My figure and description are taken from a female bird in summer plumage from Malta, sent me by Mr. Harting.

It has also been figured by Buffon, pl. enl. 876; Roux, Orn. Prov., pl. 295, (male;) Bouteille, Ornith. du Daup., pl. 55, f. 3; Gould, Birds of Europe, pl. 314; Dresser, Birds of Europe.

The egg is figured from a specimen in my own collection, which was taken in South Russia by Herr Glitsch.

* See the list of synonyms at the head of this article.



WILLET.

There is a growing feeling among certain naturalists to exclude all American birds from our European lists, and no doubt the avifaunæ of the two continents are sufficiently distinct to justify the principle upon which this feeling is founded. But the rule which obtains with regard to the British fauna, must to a certain extent be applied to the European. If a well-known American species is found occasionally or frequently to visit the old world, we must, I think, undoubtedly place it in the same category as the other border species which visit us from Africa or Asia. Temminck, in both editions of his "Manual," asserts that the Semipalmated Sandpiper occurs occasionally in the north of Europe. Degland notices a specimen killed at Abbeville, and refers to two others which he had seen, also killed in France. Professor Blasius observes ("Naumannia," 1865, p. 840, et seq.) that, according to Count Wallengren, this bird is not unusual in Scandinavia. Professor Nilsson, however, declines to endorse the statement, and fears it may be an error, resting, as it does, upon a single specimen in the museum at Stockholm, "said to have been killed in Upland." I therefore introduce this bird only as an accidental visitor, and not as one which belongs properly to the European fauna.

In America, the Willet or Semipalmated Sandpiper has a range from the coast of Florida to the distant shores and saline lakes in the vicinity of the Saskatchewan, in the fifty-sixth parallel of latitude, where Nuttall says it breeds, as well as in the middle states of the Union. The account of this writer is so graphic and interesting, that I shall give a long quotation from his "Ornithology," vol. ii, p. 145.

"The Willet passes the winter within the tropics, or along the extensive shores of the Mexican Gulf. About the middle of March, however, their lively vociferations, 'pill-will-willet, pill-will-willet' begin commonly to be heard in all the marshes of the sea islands of Georgia and South Carolina. In the middle states they arrive about the 15th. of April, or sometimes later, according to the season; and from that period to the close of July, their loud and shrill cries, audible for half a mile, are heard incessantly throughout the marshes where they now reside. Towards the middle of May, the Willets begin to lay. Their nests, at some distance from the strand, are made in the sedge of the salt meadows, composed of wet rushes and coarse grass, placed in a slight excavation in the tump; and during the period of incubation, with some other marsh birds, the sides of the nest are gradually raised to the height of five or six inches.

“The eggs, four in number, are very thick at the larger end, and tapering at the opposite, and measure over two inches in length, by one and a half in the greatest breadth. They are of a pale, bright, greenish olive, (sometimes darker,) largely blotched and touched with irregular spots of a bright blackish brown of two shades, mixed with a few other smaller touches of a paler tint, the whole most numerous at the larger end. According to Wilson, the eggs are very palatable as food. The young, covered with a grey-coloured down, run off as soon as freed from the shell, and are led about by the mother in quest of their proper food, while the vociferous male keeps careful watch for their safety. On entering these breeding places, the spectator is beset by the Willets flying around, and skimming over his head, with the clamorous cry of ‘pill-will-willet,’ accompanied at times, when much excited and alarmed by an approach to the nest, with a loud clicking note, in the manner of the Avocet. Exhausted with their vigilant and defensive exertions, at times, they utter a sad and plaintive tone, and occasionally alighting, slowly close their long, silvery, parti-coloured wings, as if acting a part to solicit compassion. Among their most common and piratical enemies are the Crows, who roam over the marshes in quest of eggs, and as soon as they appear, are attacked by the Willets in united numbers, who with loud vociferations pursue them off the ground.

“During the term of incubation, the female, fatigued with her task, and occasionally leaving her eggs to the influence of the ardent sun, resorts to the shore, and, deeply wading, washes and dresses her plumage, frequently emerging, and performing her ablutions with an air of peculiar satisfaction. Indeed the Willets generally wade more than most of their tribe, and, when disabled from flying by a wound, they take to the water without hesitation, and swim with apparent ease. The peculiar note which characterizes and gives the name to this Chevalier is only uttered by adults; and the call of the young when associated by themselves, appears to be a kind of shrill and plaintive whistle, almost like that of the Curlew.

“The Willet subsists chiefly on small shell-fish, aquatic insects, their larvæ, and mollusca, in quest of which it constantly resorts to the muddy shores and estuaries at low water.

“In the fall, when the flocks of young birds associate together, which may easily be known by the greyness of their plumage, they are selected by the gunners in preference to the older and darker birds, being tender, fat, and fine-flavoured game. In the months of October and November they gradually pass on to their winter quarters in the warmer parts of the continent. Transient flocks of young, bred in

higher latitudes, visit the shores of Cohasset by the middle of August, but, timorous, wild, and wandering, they soon hasten to rejoin the host they had accidentally forsaken."

Mr. Nuttall's description of the various plumages of the bird at different ages and seasons, is so good that I make no apology for continuing my quotation from his notice:—"In the summer plumage the general colour above is brownish grey, striped faintly on the neck, more conspicuous on the head and back, with blackish brown; the scapulars, tertiaries, and their coverts, irregularly barred with the same. Tail coverts white; tail even whitish, thickly mottled with pale ashy brown, that colour forming the ground of the central feathers, which are barred with dusky brown at their extremities; spurious wing primary coverts, a great portion of the anterior extremities of the primaries, the axillary feathers, and under wing coverts black, with a shade of brown; the remaining lower and longer portion of the primaries, and the upper row of under wing coverts, white; the posterior primaries tipped with the same; secondaries and the outer webs of their greater coverts white, marbled with dusky. Wings rather longer than the tail. The lores with a spotted liver brown streak, bounded above by a spotted white one. Eyelids, chin, belly, and vent white; the rest of the under plumage brownish white, streaked on the throat, and transversely barred or waved on the breast, shoulders, flanks, and under tail coverts with clove brown, the bars pointed in the middle.

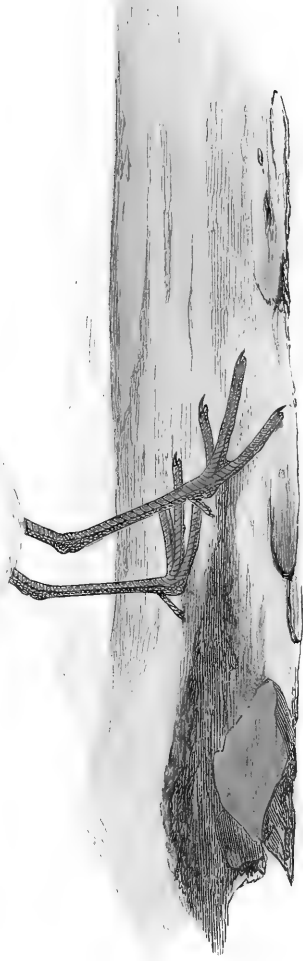
Female coloured like the male, but an inch longer. Legs and feet dark lead-colour, the soles inclining to olive; the toes broadly margined with a sort of continuation of the web. Iris hazel.

Winter dress with fainter spots on the upper plumage, and without the dark waving transverse bars below; only the fore part of the neck and breast of a cinereous tint, marked with small brown streaks.

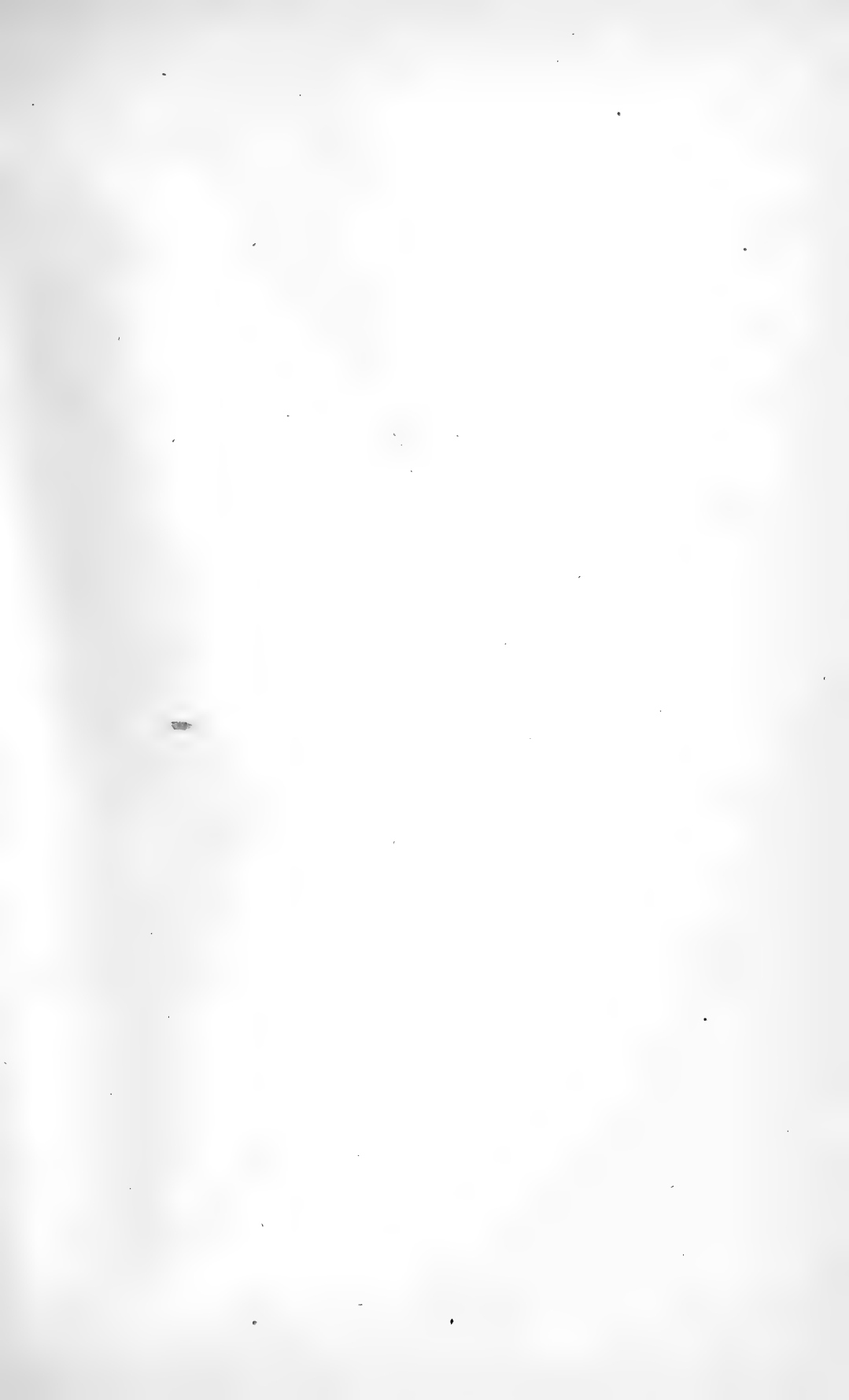
In the young of the year the cinereous prevails above, with a tint of hair-brown on the summit of the head, back, and scapulars; the spots ill defined, and wanting about the head, neck, and breast; the two latter cinereous, very pale on the sides of the neck; rump ash; tail coverts white. Scapularies and tertials edged with brownish white indented spots, with indications of dusky brown bars. Below, except the lower part of the neck, wholly white."

My figures of this bird, a male in summer plumage, and egg are from specimens kindly sent me by Canon Tristram, and received by him from Dr. Brewer, the well-known American oologist.

The species has also been figured by Nuttall, Wilson, Audubon, Gould, and the authors of the "*Fauna Boreali Americana*."



THREE SANDPIPER.



GRALLATORES.

*Family SCOLOPACIDÆ. (Bonaparte.)*Genus TEREKIA. (*Bonaparte.*)

Generic Characters.—Bill very long, slender, recurved; tarsus rather short; feet with the toes anteriorly united by a web, narrow and short between the inner and middle toes.

TEREK SANDPIPER.

Terekia cinerea.

<i>Scolopax cinerea,</i>	GULDENSTADT; N.C. Acad. Sci. Imp. Petrop. xix, p. 473, (1774.)
“ <i>terek,</i>	LATHAM; Gen. Syn. v, p. 155, (1785.)
“ <i>sumatrana,</i>	RAFFLES; Trans. Linn. Soc., xiii, p. 327, (1822.)
<i>Limosa terek,</i>	TEMMINCK; Man. d’Orn. iv, p. 426, (1820.)
<i>Limicola terek,</i>	VIEILLOT; Faun. Franc., p. 306, (1825.)
<i>Xenus cinereus,</i>	KAUP; Nat. Syst., p. 115, (1829.)
<i>Limosa recurvirostra,</i>	PALLAS; Zoogr. ii, p. 181, (1831.)
<i>Limicola indiana,</i>	LESSON; Trait. d’Orn., p. 554, (1831.)
<i>Terekia javanica,</i>	BONAPARTE; Comp. List., p. 57, (1838.)
<i>Scolopax cinerea,</i>	KEYSERLING ET BLASIUS; Wirbelth., (1840.)
<i>Barge terek,</i>	OF THE FRENCH.
<i>Säbelschnäblige Pfuhschnepfe,</i>	OF THE GERMANS.

Specific Characters.—Bill much recurved; tarsus short; middle toe slightly shorter than the tarsus; upper portions of the plumage hair brown, streaked in the breeding season with black; under parts white; a white band across the wing, the under parts of which are pure white. Length eight and a half to nine inches.

THE Terek Sandpiper breeds regularly in northern Europe, and is common in north Russia, wandering on to the borders of the Caspian

Sea and south Russia, from whence, however, I have the eggs. According to Temminck it has been killed in Normandy, and he says there is no difference between these specimens and those which he received from Japan. The same author has recorded its capture near Paris, and states that it strays into Europe amongst flocks of the Common Redshank. It has occurred three times in Italy. In India, China, Sumatra, Borneo, and Japan it is a winter visitant.

Deputy Surgeon-General Stewart writes to me,—“I have found this bird common enough in suitable localities in almost all parts of India. I saw it a couple of years ago mixed with the Sandpipers *T. glareola*, *T. minuta*, and *T. temminckii*, on the sea coast south of Bombay, and I remarked it to be a very tame, rather stupid bird, and I shot several specimens as fast as I could load my gun. All the other birds took flight at the first discharge.”

Jerdon (“Birds of India”) says:—“This neat plumaged little Sandpiper is not very abundant in the south of India, but is more frequently met with towards the north; it frequents the shores of seas, back waters, tanks, and rivers in small flocks. In summer plumage the scapularies become black, edged with brown. It breeds in north Asia, laying four pale olive-yellow eggs, with brown spots. It is extensively distributed over Europe, and Asia to Australia.”

Salvadori (Fauna d’Italia) says of this bird:—“Once only this species has been observed in Italy. On the 9th. of May, 1869, Savi found three individuals in the market of Pisa, taken in the neighbourhood, one male and two females. Two of these were preserved in the University of Pisa, the third is in the Museum of Turin. This species belongs to Asia, and during its emigration it wanders even to Australia, and to central and southern Europe.”

In Mr. Dresser’s “Birds of Europe” are some very practical remarks about this bird by Herr Meves, of Stockholm.

The question of Sandpiper or Godwit, in that gentleman’s opinion, appears to be altogether in favour of the former. I copy his remarks:—“This peculiar wader I would almost call the River Sandpiper. I first observed it the 9th. of July on the river Onega, near Birythewa, and thence down the river, though not numerously, to the town of Onega. They were on the small sandy islands overgrown with willow bushes, or on the banks of the river, where, when I disturbed them, they tried with loud cries to defend their young, which were probably concealed in the grass. Before I fired a shot a male ran before me, only a few paces off, among the willow bushes, and in its manner and movements bore the greatest resemblance to the Common Sandpiper (*Actitis hypoleuca*). The

note, however, was very different, musical, sometimes reminding one of that of the Greenshank, sometimes of the Ring Plover, even at times of *Picus martius*."

"I only procured one young bird, not more than a couple of days old, which had ventured out of its hiding place."

"The reason why this wader has received so many and various generic names, and been so variously placed in systems, arises probably from the fact of more weight being attached to the form of the bill than to its general habits, its egg, and the nestling plumage. In these three latter it is a *Totanus*, and may be placed between *T. glottis* and *Actitis hypoleuca*. The plumage of the nestling greatly resembles that of *A. hypoleuca*, and, except for the two connecting webs and the shorter down on the tail, would be difficult to distinguish from it. The eggs also resemble those of *Actitis* much more than those of *Totanus*. The eggs and downy young of the *Limosæ* (*L. melanura* and *L. rufa*) bear considerable resemblance to those of *Numenius*, (*N. phæopus*, *N. arquata*,) but not the least to those of the 'Terek Sandpiper.' The downy young of *T. glareola*, *T. ochropus*, *T. calidris*, *T. fuscus*, and *T. glottis* bear considerable affinity to each other, the general colour being grey, with large dark spots. The resemblance between the young of the Snipes, *S. major*, *S. gallinago*, and *S. gallinula* is also great, rust brown being the general colour. Their downy plumages approach those of *T. alpina*, *T. maritima*, *Machates pugnax*, etc. Degland and Gerbe say that the bill of this bird is nearly three times as long as the head; and Fritsch states the same. This is not the case, as it is not quite twice the length of the head."

Mr. Swinhoe states ("Ibis," 1813, p. 324), that he could distinguish no difference in size between the sexes.

The following details were taken by him from a freshly killed male:—"Length 9.5 inches; wing 5.15, reaching to end of tail; first quill longest; 0.3 longer than the tip of the tertiaries; tail 2.2, of twelve slightly graduated feathers, outer 0.25 shorter than centrals; feet stretched backwards, slightly exceeding tail, say by 0.2. Bare part of tibia 0.75; tarsi 1.15; middle toe 0.85, its claw 0.2. Legs orange clay-colour; bill recurved from forehead to tip 1.9; from gape 2.05; yellowish olive-brown at base and rictus, blackish-brown on the vent.

"Dissection. Intestine thick, 11 inches long; cæoid appendage 5 inches from anus, 0.5 long, and curved inwards at tip; cæca 0.75 from anus, 1.6 long. Stomach an irregular oval, 1 long by 6 broad. Epithelium firmly fixed, containing dry mud and bits of small black beetles."

In the "Ibis" for 1873, page 68, there is a very interesting account of this bird as met with near Archangel by Messrs. Alston and Harvie Brown, in a paper which bears the modest title of "Notes from Archangel," but which is well worth the attention of ornithologists. They remark, "The Terek Sandpiper is very abundant on the delta of the river Dwina; and we met with it both on the sandy islands of the outer group and on the closely wooded ones near Archangel. We took eggs from the time of our arrival on the 15th. of June to the end of the month, and the young we obtained in all stages. By the 21st. of July the young birds of the year were going in flocks. We were much struck by the arboreal habits of this species, which perches freely upon bushes or low trees, and runs along the branches with great ease, uttering a rapidly repeated cry of alarm, which may be expressed by the words "tluk, tluk, tluk." When first started to running from place to place or dashing in and out amongst the alder thickets, the more musical double note is uttered, whence its Russian name of 'Kuleek'—a name used indiscriminately for all Sandpipers, but most directly for the subject of this notice."

The nest is simply a slight saucer-shaped hollow in the ground, lined with chips of wood and bits of thick reed, and is placed in open marshy parts of the alder thickets, by the sides of "kowrias" or creeks in the sand among bent grass.

The eggs in many instances resemble those of the Common Sandpiper, '*Actitis hypoleuca*,' but are a little larger. They bear no resemblance whatever to the eggs of the *Limosæ*; indeed, all this bird's habits, motions, cry, and quick, darting, erratic flight show its affinities with the Sandpipers and not with the Godwits. The length of bill in different individuals varies greatly, as is the case in *Tringa cinclus*, *Numenius arquata*, and other waders. The young soon take on the dark markings on the back, which are so conspicuous in the adult birds; and these can be traced in the nestling of a few days age. The young birds have the legs and feet of a pale orange colour; in the adult they are of a dull olive green. The full grown birds of the year retain the yellowish margins of the feathers of the upper parts."

They live upon worms, insects, and small shell-fish.

Male and female in winter.—Forehead, cheeks, throat, crop, and all the under parts of a pure white, varied in front of the neck by small ash-coloured streaks; top of the head, all the other upper parts, and the two middle quills of the tail ash-colour, very clear, the shafts of the feathers only being darker. Shoulder edges of the

wings and the primaries black; the secondaries tipped with white; shaft of the first primary white; the lateral feathers of the tail very clear ash grey, and fringed with a slight border of white. Bill curved upwards.

Male and female in breeding plumage.—Forehead, ear coverts, cheeks, front and sides of the neck and crop, marked by small meshes or striæ of dark brown on a white ground; the other inferior parts pure white; all the ashy feathers of the superior parts marked the length of the shaft with brown meshes and one black stria on the shaft; scapularies with a large black patch near the back, and the other feathers some black striæ on the shafts; carpus and border of the wing dark brown, with lighter edgings; all the shafts of the feathers dark brown, giving a lineated expression to the plumage; tail brown, like the scapularies above, lighter below; under tail coverts, extending to near end of tail, white; axillaries white; inner border of carpus, and an inch and half below it, mottled light brown and white.

My figure and description of this bird are taken from a Russian specimen in summer plumage kindly lent me by Mr. Harting, and killed on the Dwina, on the 27th. of June, 1872, by Mr. Alston. The egg, from my own collection, was taken at Archangel, and sent to me by Dr. Meves, of Stockholm.

GRALLATORES.

Family GRUIDÆ. (*Bonaparte.*)Genus GRUS. (*Linncæus.*)

Generic Characters.—Bill as long or longer than the head, strong, straight, compressed, elongated as a cone at the point; the base of the mandible deeply channeled; nostrils in the middle of the beak, or basal, pierced from side to side in the furrow, and closed at the back by a membrane; base of the beak and space round the eyes naked, or covered with small papillæ or feathers. The thigh, above the knee, naked for some distance; three toes in front, the middle one united to the external one by a rudimentary membrane; inner toe free; posterior toe articulated higher upon the tarsus. Wings moderate; the first primary shorter than the second, the latter nearly as long as the third, which is the longest; secondaries nearest the body arched, or in some species very long, and tufted. Tail short.

SIBERIAN CRANE.

*Grus leucogeranus.**Grus leucogeranus,*“ *gigantea,**Ardea gigantea,*

PALLAS; Sib. Reis., 1776.

VIEILLOT; Dict. d’Hist. Nat., 1817.

GMELIN; Syst. Nat., 1788.

Specific Characters.—The face naked, rugose, red; in the young covered with scattered yellowish hairs or yellowish down; plumage white, with the first ten primaries black. Bill and legs red. Length of male three feet ten inches, female four feet six inches.

It is with much hesitation, and only as a doubtful European species, that I introduce this beautiful bird into the present work.

According to Nordmann it is common south of the Volga, and on the western shores of the Caspian Sea; he also says that two individuals were seen by Pallas in April, in the neighbourhood of





SIBERIAN CRANE.

St. Petersburg. Temminck endorsed this statement, but it has never been corroborated by other observers. Writing in 1855, ("Nau-
mannia," p. 480,) Professor Blasius includes it among the doubtful European species; and in a private letter which I received from M. de Selys-Longchamps, dated August 25th., 1861, this distinguished ornithologist expresses his doubts whether it ought to be considered a European species.

The real home of the Great White Crane is Siberia and Persia, from whence, if ever seen in Europe, it accidentally wanders. The Cranes are remarkable for their long flight, and hence this and other allied species may be seen crossing parts of the European continent in their migrations, without becoming entitled to a place in its avifauna. It is a very shy bird, and its identity is often assumed from its large size and white colour, as seen at a distance.

In his interesting "Reisen im Amur-Lande," Dr. Leopold von Schrenck relies upon this kind of evidence, as will be shown by the following extract from his work:—"I believe this majestic Crane has been many times observed in Amur-Land, without its being possible for me to kill it, owing to its extreme caution in keeping out of gunshot. I saw this bird for the first time on the 6th. (18th.) of July, 1855, on a bare sand-bank of the River Amur, in the neighbourhood of Gorin. I recognised it by its large size, much surpassing that of the Great White Heron, and by its conspicuous white plumage. As I tried to steal towards it, it took a long step away, and then stood still again. After a short interval it flew away, with loud cries, like that of a Swan. Another time, on the 15th. (27th.) of September, I saw three of these birds on the shallow shores of an island on the lower part of the Amur, near Ischelmok. Again the size left me no doubt about the birds at which I was looking. They flew off before the boat came within gunshot, with loud cries, and soared away high up in the air, but they again dropped down when we went away."

As this Crane, according to Pallas, is observed throughout the whole of Siberia, and is also found on the Lena, in Dauria, China, and Japan, Dr. Schrenck very naturally remarks, it is most probably an inhabitant of Amur-Land.

In India it is a rare winter visitant to several parts of the north-west provinces. Colonel Irby states ("Ibis," vol. iii, p. 243,) that although he saw it on four different occasions at Sandee, in February, and at Hilgee, on the River Choka, in December, 1859, he could not get within shot. Deputy Surgeon-General Stewart informs me that there was a specimen of this bird procured by the late Dr.

McIntyre, near Mooltum; who stated that it was by no means uncommon in upper Scinde."

From the difficulty of procuring a specimen, I think I cannot give a better reason for my inability to give a figure of this bird, and for availing myself of Mr. Gould's friendly permission to copy the beautiful drawing in his work on the "Birds of Europe."

The male has all its plumage a pure snow white, with the face naked, rugose, red, and garnished with a few hairs; the ten first primaries of a deep black, not passed by the secondaries, which end in long and disunited webs, like those of the Common Crane; beak red; feet and legs lake red; iris white.

The female resembles the male, but is larger.

Degland states that the young of the year have the head covered with yellow-ochre-coloured down; face, beak, and legs olive brown; the rest like the adult, but less pure in colour.

It has been figured by Temminck and Laugier, (pl. col. 467,) and by Gould, *Birds of Europe*, pl. 271.



DEMOISELLE CRANE,



GRALLATORES.

*Family GRUIDÆ. (Bonaparte.)*Genus ANTHROPOIDES. (*Vieillot.*)

Generic Characters.—Smaller than *Grus*. Bill shorter than in *Grus*, depressed at the base, and slightly swollen at the tip; tarsus lengthened; head and neck densely feathered; the feathers of the neck and breast lanceolate and hackled.

DEMOISELLE CRANE.

Anthropoides virgo.

<i>Ardea virgo,</i>	LINNÆUS; Syst. Nat., (1766.)
<i>Anthropoides virgo,</i>	VIEILLOT; Dict. d'Hist. Nat., (1816.)
<i>Grus virgo,</i>	PALLAS; Zoog., (1831.) BREE; 1st. Edition.
<i>Grue demoiselle,</i>	OF THE FRENCH.
<i>Jungfrau-Kranich,</i>	OF THE GERMANS.
<i>Damigella di Numidia,</i>	OF THE ITALIANS.
<i>Karkarra,</i>	IN SOME PARTS OF INDIA.

Specific Characters.—Head entirely covered with feathers, with a long tuft on each side: some of the wing coverts much lengthened. Nostrils basal. Length three feet three inches; beak two inches and a half; tail six inches and a half; tarsus seven inches; middle toe and claw three inches; outer toe two inches and one line; inner toe two inches and three lines; expanse of wing four feet and three quarters.

THE Demoiselle, or Numidian, Crane is found in the south of Russia, in Greece, Turkey, and occasionally in Dalmatia, Switzerland, the south of France, and Heligoland. It is also found in various parts of Africa. Salvadori ("Fauna d'Italia") says that this bird has been killed in Tuscany in one of the marine marshes. It is said to appear sometimes also in Sicily; and though this is not improbable,

I do not know any certain place of capture. Mr. Salvin, ("Ibis," vol. i., p. 355,) saw small flocks in the eastern parts of the marsh of Zana, and Canon Tristram also met with it in the north, ("Ibis," vol. ii, p. 77.) Captain Loche records its occurrence in the south of Algeria, while it is the commonest Crane in Cape Colony. Dr. Leith Adams informs me that it has "several times been shot in Malta during the cold weather. It is not rare in Turkey, plentiful in Persia, and eastward inhabits the continent of Europe, where it is well known by the name of Klung and Karkarra, the latter being an imitation of its cry. This handsome Crane is much sought after by sportsmen. The flesh is excellent eating; and it is also prized on account of the fine black plumes on the neck."

Colonel Irby ("Ibis," vol. iii, p. 243,) also notices its occurrence in India, where he says it is found near the Rivers Choka and Kurnalli, where flocks of several hundreds may be seen on the wing at once, and recognised by their cry when even out of sight. Deputy Surgeon-General Stewart also informs me that it is a common cold weather visitor to the plains of India. "I once saw a flock of twenty or upwards in marshes in the Himalayas near to Gungootrie, the source of the Ganges. Migrates, I presume. It was in April." According to M. Nordmann, these flocks fly in the order represented in the accompanying diagram, and they every now and then change their places like other Cranes.



Nordmann has also given us a most interesting account of the habits of these birds, when they are assembled on the Steppes in large bodies after their flights. They arrange themselves in a circle or in many rows, when they will bow and dance to each other in a most grotesque manner. I will give Nordmann's description in his own words:—"They arrive in the south of Russia about the beginning of March, in flocks of between two and three hundred individuals. Arrived at the end of their journey, the flock keeps together for some time, and even when they have dispersed in couples, they re-assemble every morning and evening, preferring in

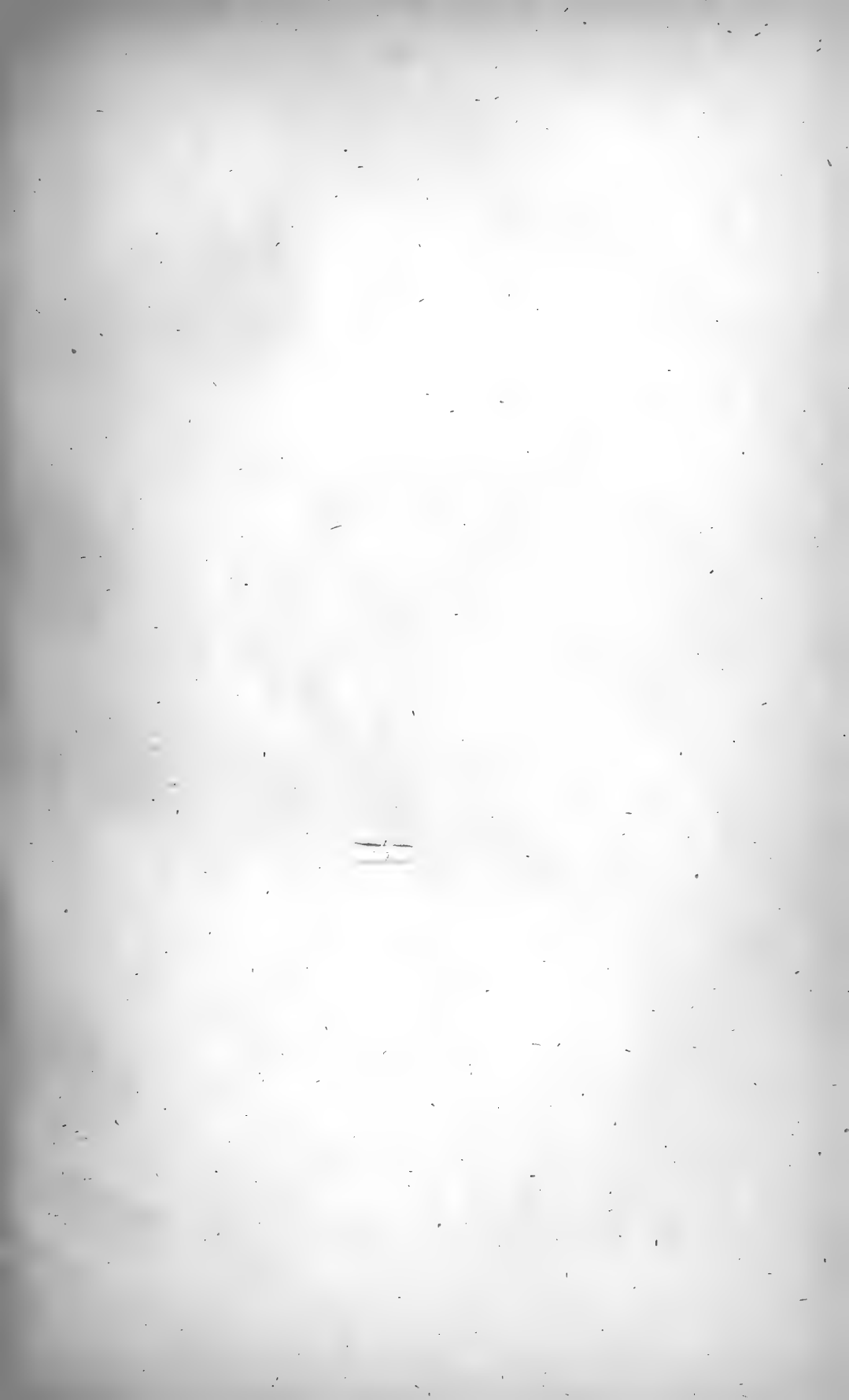
calm weather to exercise themselves together, and amuse themselves by dancing. For this purpose they choose a convenient place, generally the flat shore of a river. There they place themselves in a line, or in many rows, and begin their games and extraordinary dances, which are not a little surprising to the spectator, and of which the account would be considered fabulous were it not attested by men worthy of belief. They dance and jump around each other, bowing in a burlesque manner, advancing their necks, raising the feathers of the neck tufts, and half unfolding the wings. In the mean time another set are disputing in a race the prize for swiftness. Arrived at the winning-post they turn back, and walk slowly, and with gravity; all the rest of the company saluting them with reiterated cries, inclinations of the head, and other demonstrations which are reciprocated. After having done this for some time, they all rise in the air, where, slowly sailing, they describe circles, like the Swan and other Cranes. After some weeks these assemblies cease, and from that time they are constantly seen walking in loving pairs together, male and female."

In support of this statement Canon Tristram says, ("Ibis," vol. ii, p. 76,) "A small flock of this graceful and interesting bird, might generally be seen quitting one margin of a salt-pond, as we approached the opposite edge. My acquaintance being so distant, I can only add my testimony to the truth of their attachment to the Terpsichorean art from the habits of four kept in the courtyard of General Yussuf, at Blidah, which I have seen performing a stately minuet or concert for an hour together."

The Demoiselle Crane lives upon insects, lizards, and serpents. It builds a nest of dry herbs and sticks, in which it lays two eggs, which are very like those of the Common Crane in colour and shape. I copy the following on the subject from Bädeker's work on European eggs:—"The Numidian Crane, whose true home is in Asia and Africa, is also found in the south of Russia, the Crimea, and neighbourhood of the Black Sea and the Volga. It breeds in broken places of the high steppes, and upon the islands in great swamps. It builds its nest in the same manner as our Common Crane, and, like it, lays only two eggs, which are also very similar, both in form and colour and markings, to those of its congeners. They are, however, smaller. We possess a solitary example of a dark olive green colour, slightly marked with brown spots. It is very similar to a Bustard's egg in colour, but has the characteristic shell of the Crane. These eggs also become varied by both species interbreeding." It builds in the Crimea, where, in fact, it is stated by Pallas to be the Crane of the country.

The following account of this bird's breeding in the Dobrudsha is from Mr. A. S. Cullen:—"This bird arrives in the Dobrudsha in about the second week of April. It makes its appearance in flocks of from twenty to thirty and upwards, and the form of these flocks very much resembles those of the Common Crane, and they almost always fly very high, especially when passing wooded country; but when crossing the plains they fly lower, and occasionally come within gunshot. For the first week after their arrival flocks of these birds mingle with those of the Common Crane, and resort to any fields of newly-sown grain that they can find, and to these they often do great damage. Regularly once or twice during the day they repair to some lake or pond of fresh water to drink. In the evening the fields are deserted, all the birds going to the nearest lakes or marshes, where, I believe, they remain all night. About the second week after their arrival the flocks break up into pairs, which disperse themselves all over the country. Very soon after the birds have paired, they begin to lay. Eggs may be found from about the third week in April to very nearly the end of May; but much depends on the state of the weather. The nest of the Demoiselle Crane is, without exception, made on the *ground*, usually amidst some kind of young grain, but often amongst grass on fallow land, and now and then, though more rarely, amongst stubble. The nest—if indeed such it can be called—is made by the birds pulling up or treading down the grain, grass, or stubble for the space of about two feet, and scratching the shallowest possible hollow in the middle of the bare patch thus formed. A few small straws and stones are often found in and about this hollow, but whether they are brought there by the birds, or found there by them, which is very probable, I cannot say with any certainty.

"I believe, myself, however, that they are placed there by the birds. The eggs, which are never more nor less than two in number, are *always* placed side by side, in the hollow already described, with their small ends pointing in the same direction. The male assists the female in hatching the eggs; indeed, I have every reason to think that he sits as much as the female. To the uninitiated in the habits of this bird, its eggs are very difficult to find. When an intruder approaches the spot where the eggs lie, he at first sees nothing except perhaps a solitary bird standing on one leg as if sleeping. Should he not be a very good observer, as he draws nearer he will probably only notice a pair of birds walking rapidly away, plucking the grass as they go, apparently feeding eagerly, and he will most likely account for the sudden appearance of the second





DEMOISELLE CRANE.

bird by concluding that it had been sitting on the ground resting, and will not think anything about the matter, and pass on. Very few persons indeed would at all suspect that the birds had a nest. Often, nay, almost always, when the birds have placed some distance between them and their nest, they will take flight, and to all appearance desert the spot altogether, but no sooner is the intruder's back turned, than there they are again in a wonderfully short space of time. One of the birds, I believe the male, always keeps watch over the other, except in the middle of the day in very hot weather, when the bird, which acts as sentinel, deserts its post and goes to the nearest pond or lake to drink. It does not, however, remain away very long.

“Should the bird whose place it is to watch while the other sits be absent, the sitting bird when disturbed is not quite so guarded in its movements, and will allow a much nearer approach. When the eggs are first laid the birds will leave them as soon as an intruder comes in sight, but as the incubation advances they become less shy, and will not leave their eggs so readily.

“I cannot say whether the bird which watches stands close to or a little distance from the nest. I rather incline to the latter opinion. If a Crane be observed chasing other birds away from any particular spot, it is a sure sign that it has a nest not far off. This bird will give chase to Eagles and great Bustards without the least fear should they venture near its nest. For all kinds of Harriers and Seagulls it has a great dislike. I have been told by the Tartars that, should a dog by chance go near the nest of this bird, both the birds will attack him, striking him with their beaks and wings, and making a great noise all the time. I myself have never had an opportunity of witnessing such an interesting encounter, but I am certain that this bird has sufficient courage for one. The Demoiselle Crane is easily domesticated when taken young.”

The adult male has the crown of the head ash-colour; the rest of the head, upper part of the neck behind, and the throat black. The lower part, with the rest of the body, ash grey, the scapularies, upper and lower wing and tail coverts being of the same colour. From the posterior angle of each eye is suspended a small plume of white feathers, of about three inches and a half long, very flexible, which hang behind, and move with each movement of the bird's head. The bottom of the inferior part of the neck is covered with black feathers, which are lengthened, and terminate in very flexible points, some of which are nine inches long, and hang over the crop. The primaries are ash-coloured on their basal, and black on their distal

extremities; the secondaries are of an ashy blue, those nearer the body being long and pointed, and, when the wing is closed, reach to the end of the primaries. The tail consists of twelve feathers, bluish ash, terminated with blackish. Iris brilliant red. The beak is green at its origin, yellow towards the middle, and red at its extremity. The naked part of the thigh, tarsus, feet, and claws black.

In the female the colours are less pure, and the tufts on the side of the head shorter.

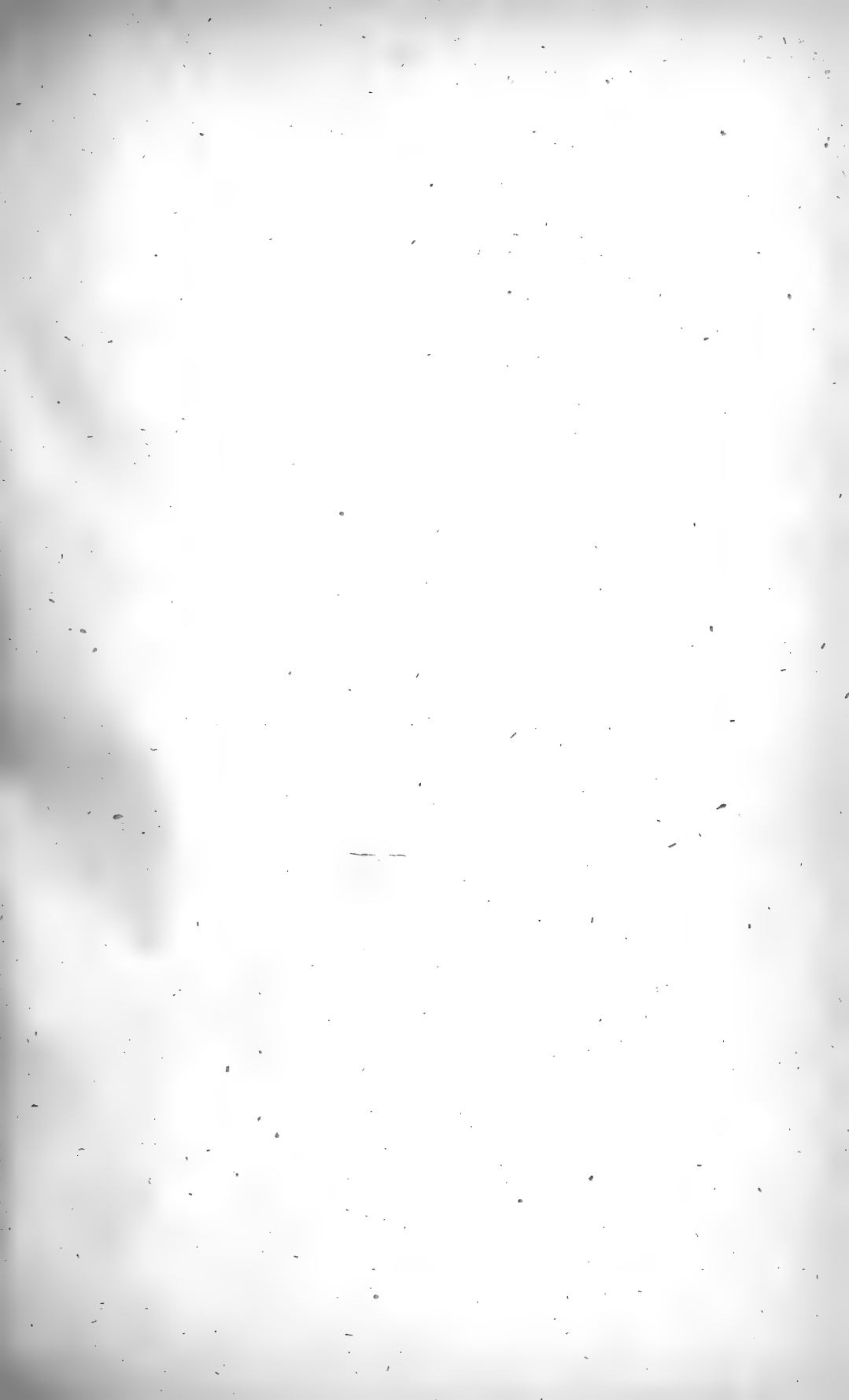
My figure of this bird is after Gould (pl. 272), for although I have skins in my collection sent to me from the Dobrudsha, I do not feel justified in altering the excellent figure in the first edition.

It has also been figured by Edwards, pl. 134; and Buffon, pl. enl. 241.

The egg is in my own collection from the Dobrudsha, sent me by Dr. Cullen.



BALEARIC, OR CROWNED CRANE.





GRALLATORES.

Family GRUIDÆ. (Bonaparte.)

Genus GRUS. (Linnæus.)

BALEARIC, OR CROWNED CRANE.

*Grus pavonina.**Ardea pavonina,*

LINNÆUS; Syst. Nat., 1766.

Anthropoides pavonina,

VIEILLOT; Gal. Ois., ii., pl. 257, 1816.

Balearica pavonina,

VIGORS; (ex BRISSON) Zool. Journ.

*Oiseau Royal and Balearique
couronné,*

OF THE FRENCH.

Specific Characters.—On the head a brush-like crown of strong bristles. Sides of the face covered with a naked skin in the form of ear-lobes; a pendulous membrane under the chin. Length from end of bill to tip of tail two feet nine inches, to end of toes three feet eight inches.

It is with much hesitation that I have admitted this bird into the European list, and I only do so as a doubtful species. It is true we have many accounts of its having been taken at Malta and the Balearic Islands, from whence indeed the generic name of *Balearica* was given to it by Brisson, who stated that in his day (1760) it was common in those islands. Latham, writing twenty years after, says he is at a loss to imagine how the name originated, as most assuredly the bird was not then found in the Balearic Islands. Swainson, a most accurate writer, says in his "Classification of Birds," p. 173, that specimens were brought to him in Malta, "from the little island of Lampedusa, where they are by no means scarce."

Degland admitted it into the European list, and gave Sicily as an additional locality; while Bonaparte, in his "Conspectus of European Birds," introduced it as the representative of the genus *Balearica*, being found in the islands of the Mediterranean.

In a private letter, Canon Tristram informs me that of his own knowledge one specimen had been killed on the island of Pantellaria, between Tunis and Sicily, and belonging to the latter. On the other hand we find Keyserling and Blasius and Schlegel refuse to admit it into the European list; and M. de Selys-Longchamps, in a private letter to me, expresses a doubt of its European title. I think, however, the proof of its occasional wandering from its African home into European territory preponderates, and I therefore introduce it into my book.

The most recent occurrence of the Balearic Crane in Europe probably is that noticed by Mr. Robert Gray, of Glasgow, who states ("Ibis," 1872, p. 201) that one killed at Dalry, Ayrshire, on the 17th. September, 1871, is in the collection of Mr. Christy Horsfall.

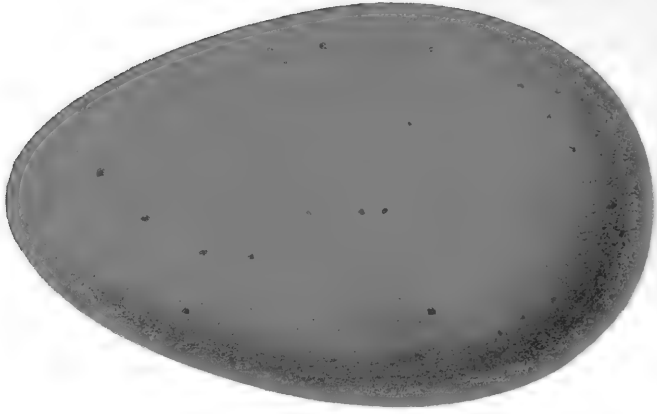
The bird is readily distinguished from the rest of the family by its short beak and the peacock-like tuft on the top of the head. It has a trumpet-like voice, and is easily domesticated. It is thus described by Lieutenant Alex. von Homeyer, in "Cabanis' Journal," for September, 1859, in a paper describing the Birds in the Zoological Society of Frankfort:—

"It is not so graceful a bird in its habits as the Numidian (Demoiselle) Crane, but it is more lively and cheerful. The specimen in the garden is a young bird, and dances and springs, often with out-stretched wings.

"In June and July it often called out in an upright position, without bending its head or opening its beak, with a full, loud, and ringing voice, 'rag, rag, rag,' at least twenty times together, which note may easily be imitated by a strong tenor voice. I seldom heard it during the autumn months;—the cry of fear when seized hold of is a loud and unpleasant shriek, 'argargargarg' repeated in rapid succession. The voice of *G. virgo* is quite different, and is very difficult to represent by words; the loud tone is sharp and joyous, and may be represented somewhere between *tivr* and *terr*.

"*B. pavonina* liked to stand on one foot in a basin filled with water, nearly three fourths of a foot deep, and would remain so during the night, which, in a March temperature, did not seem natural."

Doderlein ("Avifauna del Modenese e della Sicilia") says of this bird:—"It is indigenous to Africa and the Balearic Islands, according to Swainson, Malherbe, and Bonaparte; is seen sometimes in the remote island of Lampedusa, and on the western and southern coasts of Sicily. As, however, we have no positive date of this fact,



1. BALEARIC CRANE.
2. ROSY FLAMINGO.



it will be necessary, until we have further proofs, not to admit this bird into the fauna of Sicily. Perhaps Schembri has not placed it among the Maltese birds because it has been absolutely denied as a Sicilian bird by Benoit."

It feeds on worms, insects, and small fish. I am unacquainted with its breeding habits, but I dare say they differ but little from those of the other members of the family.

The adult male has the crown of the head, from the front of the occiput, covered with soft black feathers like velvet; the sides of the head are bare of feathers, the white skin shaded above and below with red; the shape of this denuded part being like that of a kidney or ear-lobe; on each side of the throat hangs a kind of wattle, larger in some individuals than others, and of a red colour; on the occiput is a tuft, composed of hair or rather bristles arising close at the base, and spreading out on all sides in a globular form, of about four inches in length. The neck, back, rump, scapularies, crop, abdomen, flanks, upper part of the thighs, and the upper and lower tail coverts, are of a bluish ash; the feathers which on the lower part of the neck are long, terminate in a point, and rest on the crop; some of these feathers are seven inches long. All the under and the lesser upper wing coverts are white; the greater coverts nearest the body are russet, the farthest removed blackish; primaries black; secondaries maroon, those nearest the body very long, and when the wing is closed extend nearly as far as the longest primary. The tail is composed of twelve blackish feathers. The iris grey white; beak grey brown. The naked part of the thighs and feet are blackish ash-colour; claws blackish.

The female is black where the male is blue ash, the wattles on the throat are wanting, and the long pectoral feathers less conspicuous.

The following are Brisson's measurements:—Length from tip of beak to end of tail two feet nine inches; from beak to end of claws three feet eight inches; beak from point to the oral angle two inches and a half. Tail five inches; bare part of thigh four inches and a half; tarsus eight inches ten lines; middle toe three inches and a half; outer two inches seven lines; interior two inches four lines; hinder toe one inch. Expanse of wings five feet six inches, and when closed they extend just to three fourths of the length of the tail.

My figure is taken from a living specimen in the Zoological Gardens, Regent's Park.

The species has also been figured by Brisson, vol. v, pl. 41, and Buffon, pl. enl. 265.

The egg is copied from Thienemann. Mr. Layard (*Ibis*, vol. v., 1869, p. 376,) says, "The egg of Balearic Crane, figured by Dr. Bree, in his 'Birds of Europe,' gives a very fair idea of the egg sent by Mr. Arnott; only the spots are more concentrated and fewer, and the ground is green."

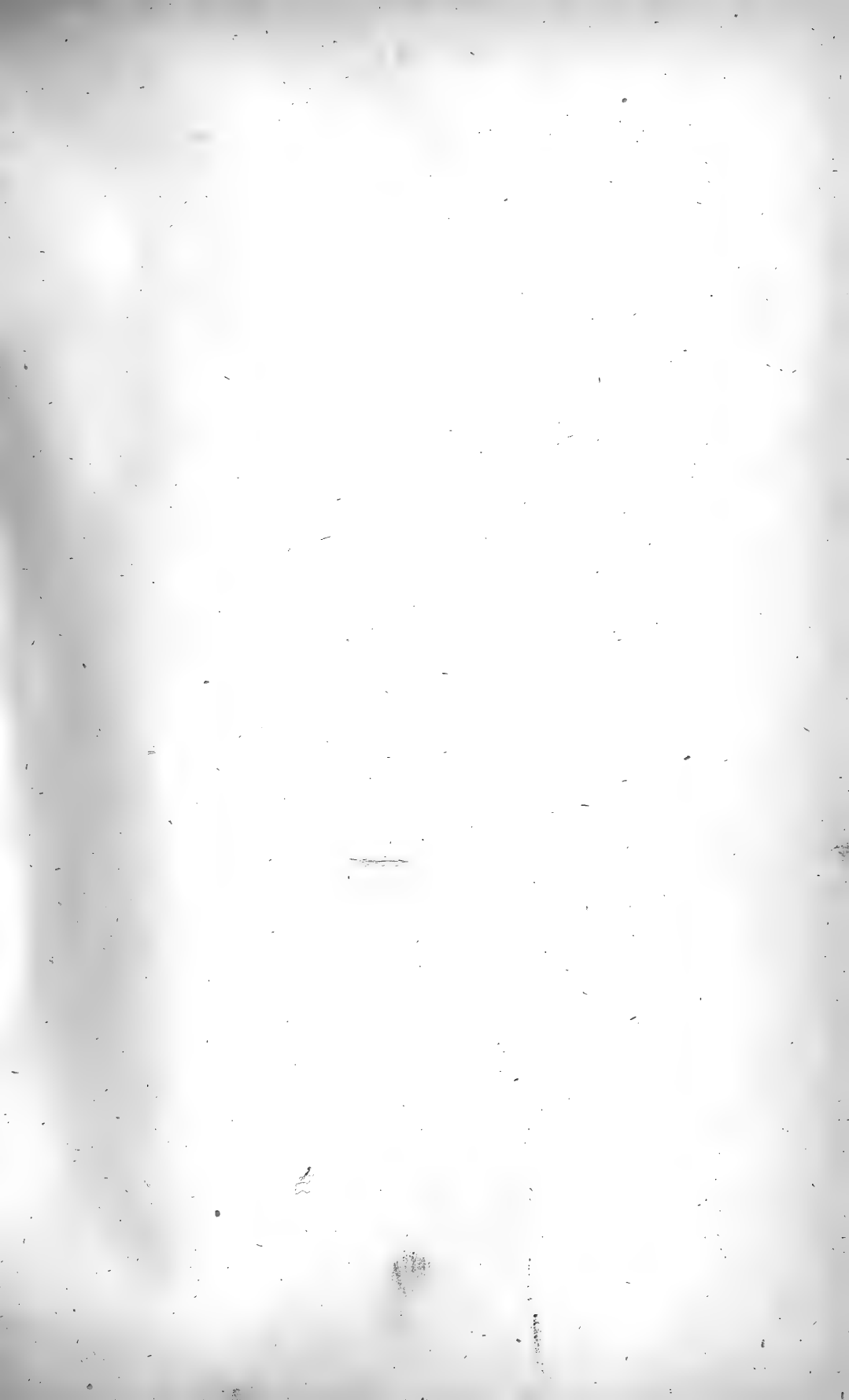
Grus antigone, Keyserling and Blasius (*Ardea antigone*, Linn., *Grus orientalis indica*, Brisson, *Ardea torquata* Latham, *Grus torquata et antigone*, Vieillot,) is reported by M. Nordmann to have been seen occasionally in Russia. I do not, however, think it ought to be included in the European list. It is a larger bird than *G. leucogeranus*, standing upwards of five feet. It has the head and upper half of the neck naked, and in plumage is bluish grey, with the first primaries black.

In India, *G. antigone* is found in great numbers in the cold season. Unlike the Common Crane, it appears in pairs like *G. leucogeranus*. An interesting description of its habits and nidification is given by Colonel Irby, (*Ibis*, vol. iii., p. 242.)

It forms an immense nest of grass and rushes in the centre of large jheels, in which, in June, it lays two eggs, some of which are spotted with red at the larger end, while others are pure white. They are very tame, easily reared by the hand, and very amusing in their habits. "The flesh is like that of the goose, and makes capital soup; the liver is considered a delicacy."



OSY FLAMINGO.





GRALLATORES.

Family PHÆNICOPTERIDÆ. (*Bonaparte.*)

Genus PHÆNICOPTERUS. (*Linnæus.*)

Generic Characters.—Beak thick, strong, deeper than broad, toothed, conical near the point, naked at the base; superior mandible bent abruptly, and curved at the point, upon the lower mandible; lower mandible much deeper and thicker than the upper. Nostrils longitudinal, in the middle of the beak, pierced from side to side, situated in a furrow, and covered by an opercular membrane. Legs very long; the three anterior toes united nearly to the claws by a membrane hollowed out in front; the hind toe very short, and articulated on the tarsus at a point opposite to the articulation of the middle toe; claws broad, short, obtuse; wings moderate; tail short; neck very long.

ROSY FLAMINGO.

Phænicopterus antiquorum.

<i>Phænicopterus antiquorum,</i>	TEMMINCK; Man. d'Orn. ii, p. 587, (1820.)
“ <i>ruber,</i>	LINNÆUS; (in part) Syst. Nat. i, p. 139, (1766.)
“ <i>roseus,</i>	PALLAS; Zoogr. Ross. As., ii, p. 207, (1831.)
“ <i>europæus,</i>	SWAINSON; Classif. B., ii, p. 364, (1837.)
<i>Flammant rose,</i>	OF THE FRENCH.
<i>Europaischer Flamingo,</i>	OF THE GERMANS.
<i>Fenicottera,</i>	OF THE ITALIANS.

Specific Characters.—General plumage rosy; wing coverts bright rosy red; primaries black. Length four feet; wing from carpus to tip fifteen inches; length of neck twenty-four inches; length of beak four inches; bare part of tibia nine inches; tarsus twelve inches; middle toe three inches and a half.

THE Flamingo is a well-known bird in the south of Europe. The European species, which is found also in North Africa, was

confounded by Linnæus and others with the true *P. ruber*, which is confined to the New World.

The Rosy Flamingo, as I venture to call it, is found principally on the coasts of Spain, Italy, and France, which abut on the Mediterranean, as well as in the Ural, on the Volga, on the Kirghis Steppes, and throughout India and Ceylon. It is found accidentally in Sicily and Calabria. It has also been met with on the banks of the Rhone, and in Provence; rarely on the Rhine. According to Temminck it passes the winter in great numbers in the marshes and swamps between Cagliari and Capoterra. Some years it is common in Sardinia, and others not seen there at all. It leaves Europe in March, and may then be found along the North African coast.

Lord Lilford (*Ibis*, vol. ii, p. 348,) mentions its occurrence in the Ionian Islands, in Tunis, Sardinia, and the south of Spain, and states that he has been assured it occurs in great numbers in the island of Cyprus. Dr. Antonio Machado, in his "Catalogo de las Aves Observada en Algunas Provincias de Andalucia," says it is frequent on the banks of the Guadalquivir, and very common in the neighbourhood of Donana;—it migrates in spring. Count Mühle says it is not improbable that this bird does come into Greece occasionally, as it is common on the Adriatic coasts. Lindermayer does not support this supposition, although he alludes to the capture of one straggler, about which, however, the evidence does not appear to be very clear. In Malta Mr. C. Wright says:—" *P. roseus*.—Very common on the inland lakes and lagoons all along the coast of Barbary; is only a chance visitor to this island, doubtless from the want of extensive sheets of shallow brackish water, in which it delights. It is not, however, unfrequently met with crossing the Mediterranean, although it is not annually seen in Malta. Perhaps it has oftener been observed here in June than at any other time of the year. The last one I know of was taken in May, 1860."

On the Asiatic coasts the Rosy Flamingo is very abundant, more particularly in the vast and impenetrable marshes on the eastern shores of the Caspian Sea, in Persia and Arabia. Dr. Leith Adams writes to me, "It is not uncommon on the great rivers or the inland lakes of Hindostan. There is a small and large variety, evidently distinct races, inasmuch as they are found in separate flocks; the difference in the length of the legs of the two is never under four inches. The smaller is the least common."

In Africa, Canon Tristram informs us that it has an aversion to marshes or lakes which are partially surrounded by trees. He

observed a large flock feeding on the open chott of Waregla. Captain Loche includes it in his Catalogue of Algerian Birds; and Mr. O. Salvin, in his interesting paper in the "Ibis," vol. i, p. 361, entitled "Five Months' Bird-nesting in the Eastern Atlas," has the following note about the Rosy Flamingo:—"It seems to be an almost universal rule throughout the world, that where there are salt lakes there Flamigos are found. It certainly is the case in Tunis and the Province of Constantine, in Eastern Algeria; no permanent salt lake of any extent is without them. Every one who has visited Tunis must remember the vast numbers that are to be seen in the lagoon of El Bahiera, and the lake on the north-western side of the town, and will recall to mind the magnificent sight of a thousand or more of these beautiful birds rising from the water at one time, the whole mass, from the colour on their expanded wings, looking like an animated rosy cloud. They are extremely difficult of approach; and I only succeeded in shooting one, which proved to be a splendid male. On dissecting the bird I found in the gizzard nothing but the vegetable matter which grows at the bottom of these lagoons; I am therefore led to suppose that this forms the principal part of its food, and not the worms which burrow in the mud, as Mr. Darwin suggests, (Naturalist's Voyage, new edition, p. 66.)

"We found the bird equally abundant at Djendeli throughout the month of May, but obtained no certain clue to its breeding localities or nesting habits; the Arabs could tell us nothing, and we were unable to discover anything ourselves."

It is much to be regretted that Mr. Salvin did not obtain the desired information about the breeding habits of this bird, as authors differ on the subject.

Latham says, (Synopsis, vol. iii, p. 301,)—"They breed in the Cape Verd Isles, particularly in that of Sal. The nest is of a singular construction, made of *mud* in shape of an *hillock*, with a cavity at top; in this the female lays generally two white eggs, of the size of those of a Goose, but more elongated. The hillock is of such a height as to admit of the birds sitting on it conveniently, or rather standing, as the legs are placed one on each side at full length. The young cannot fly till full grown, but run very fast."

On the other hand, M. Crespon, as quoted by Degland, gives a different account:—"It nests in the swamps, and according to some authors, it forms its nest in the form of a broken cone, with mud and slime and grass; but according to M. Crespon, it does not make any mound, but lays its eggs on a slight elevation,

generally on a narrow path between two ditches. The nests are always in great number, and on the same line. Its eggs, two in number, are elongated, of a very dull white without spots, and a rough chalky surface; great diameter eight centimetres nine millemetres, small diameter five centimetres and a half. The calcareous matter of these eggs is very friable, and chalky in appearance.

“It lives in societies on borders of the sea and salt marshes, and is frequently found on the shores of the Mediterranean, from Hyères to Perpignan, and in great number on the waters of Camargue and Aigues-Mortes.

“It is shy and defiant, and very difficult to approach. When a flock reposes or feeds, some individuals act as sentries, and at the least danger a cry which may be compared to the sound of a trumpet, is uttered, and the whole flock rises in the air, observing the same order as the Grey Crane.”

Savi gives the following account of the nidification of this bird, (“*Ornithologia Toscana*,” vol. ii, p. 365:)—“They nest in societies in the open lagoons near the sea; each couple builds up a conic mound of grass and mud, which is concave at the top. They deposit their eggs in this cavity, and then sit astride the mound, and thus hatch their eggs. The eggs are white, as large as those of a Goose, and two in number.”

Temminck and other modern writers describe the mode of nesting in the same way as Latham and Savi.

Doderlein (op. cit.) says:—“Innumerable flocks of the Flamingo pass over into Europe every year to find a temporary home near the large lakes of Sardinia, Spain, and southern France, while some isolated individuals pass on into Savoy, Liguria, Tuscany, Greece, and even into Germany, Belgium, and to the shores of the Rhine and the Baltic Sea. But it is on the great salt lakes of Egypt, Tripoli, Tunis, Algeria, and Morocco that this bird has its home, where it remains all the year and breeds. In Sardinia they arrive every year in great flocks towards the middle of August, and differently from other birds they do not depart till the end of March or beginning of April. In April, says La Marmora (‘*Voyage to Sardinia*,’) from above the ramparts, which serve as a promenade to the inhabitants of Cagliari, these magnificent birds may be seen arriving from Africa in a triangular flock, like a line of fire marked in the sky advancing in the most perfect order. At the sight of the neighbouring water they slacken their pace, and for an instant appear to be resting in the air. Then, with a slow and circular movement, they describe a conical inverted spire and drop to the ground, where they present a new

spectacle disposed in a uniform and symmetrical line, representing a small army in the order of battle. In Sicily they appear nearly every year in their passage, and remain a short time in the marshes."

My figure of the egg of the Rosy Flamingo is from a specimen kindly sent me by M. de Selys-Longchamps, the distinguished author of the "Faune Belge," and well known not only for his devoted zeal in the cause of natural science, but also for his kind and munificent liberality to its professors and students. The egg was obtained from Marseilles, formerly a well-known locality for this bird.

Lieutenant-Colonel Irby, (in his "Ornithology of the Straits of Gibraltar,") has the following:—"The movements of the Flamingo are certainly very irregular and perplexing, and no doubt influenced by the amount of water in the brackish lagoons which they frequent. Most of these lagoons, being formed of rain water, are brackish from the salt contained in the earth, and in very dry seasons hold hardly any water.

"In very wet seasons the birds breed in the Marismas of the Guadalquivir, and are said to nest very late (about June.) The exact manner of nesting is at present unknown to ornithologists; and he who first finds and describes it will have 'a feather in his cap.' The eggs which I have seen are elongated, and of a white colour with a chalky surface. Flights of Flamingos are frequently seen passing near Gibraltar as early as the 4th. of February, and as late as the 1st. of May; and they again appear in September, when immature birds are met with. I have seen flocks of thousands in the Morisma near the Isla Menor, and by the aid of a stalking horse managed to shoot five at a shot. Usually they are extremely wild and shy, except during actual passage, when they alight to rest at the mouth of rivers. The note is not unlike that of the Grey-lag Goose, (*Anser cinereus*,) and more than once at night I have mistaken their call for that of the Geese."

Mr. Savile Reid, of the Royal Engineers, has the following in his "Notes" about this bird:—"Small flocks annually pass over Gibraltar in the spring. I saw two lots in 1870; and this year, (1872,) on the 2nd. of April, José stalked a flock of about thirty in the Guadaranque, and killed thirteen of them. I skinned three or four of the best. The largest was five feet ten inches from tip of bill to toe, four feet three inches from beak to tail. They were in good plumage. The eye of these birds is remarkably small, the tongue being large and thick. We tried Flamingo both roasted and *entrée*, but it was not a success."

On July 2nd. there is the following note:—"Malaguens came in with three young Flamingos, which he had shot in the first river. They must have come over from Seville, where they breed. I do not think they can have been bred in this neighbourhood, though it is quite possible. They were cleanly shot, and I preserved two of the skins. The plumage is very unlike that of the adult birds—the rosy tint only shewing itself on the upper wing coverts very faintly—the under wing coverts pale rose-colour; head, neck, back, and scapularies more or less dusky; the feathers of the latter, with dusky shafts; breast dusky white; upper and under tail coverts white; wing coverts mottled with brown and brownish black; primaries brownish black; secondaries and tertiaries the same, but edged on the inner web with white, the white increasing towards the body; beak bluish purple, pinkish at the base of the upper mandible; legs and toes dull bluish purple. An adult male in my collection, sent to me from Gibraltar by Mr. Reid, has wing primaries and secondaries black, and the upper and lower wing coverts and some feathers on the flanks a *bright rosy red*. All the rest of the body a pure white, with a rosy tinge. The legs are yellow,—the beak having the distal third at tip black, the rest bluish grey."

Female rather less than the male, and of a lighter rosy colour than the male, but the wings of the same colour.

The young, after the first moult, are of an ashy grey, with black spots on the secondary quills; beak greyish, with the point brown; legs livid; iris bright yellow. As they grow older the colours become deeper; and at "*l'age moyen*" they are of a light rose like the female; but the red on the wings is less lively, the beak, except at the point, and the legs are of a livid russet.

My figure is taken from a specimen in my collection, killed at the mouth of the Guadaranque, near Gibraltar, and sent to me by Mr. Reid.

It has been figured by almost all writers on European ornithology.

THE WEST AFRICAN FLAMINGO, *Phœnicopterus erythræus*, Verreaux. —In his "Fauna d'Italia" Dr. Salvadori writes:—"This species is found in Sardinia, together with *P. roseus*, and is not less common. I have seen various examples in the Museum of Cagliari, and one in very beautiful plumage in the laboratory of the same museum. Various ornithologists, among whom are Bonaparte and Blasius, have included this species among the birds of south Europe; and I believe that to this species should be referred the specimens which I found

in Sardinia, different from the ordinary one by lesser dimensions and much brighter colouring. Gerbe, in his recent 'Ornithologie Européenne,' vol. ii, page 333, has expressed the opinion that specimens attributed by me to *P. erythræus* do not really belong to this species, but are smaller specimens of *P. roseus*.....I confess I am much impressed with the difference between the individuals of Sardinia and those of Africa; the more so as according to Verreaux, (Rev. Zool., 1855, p. 221,) *P. erythræus* is also found in Algeria, and it is not impossible that it should appear in Sardinia with *P. antiquorum*.

"Another question arises, are the species distinct? Professor Schlegel, who received from Verreaux one of his type specimens, replies negatively; and in this opinion Drs. Hartlaub and Finsch appear to agree, while G. R. Gray admits Verreaux' species to be distinct, (see 'Ibis,' 1869, p. 438.) With this diversity of opinion it may be better to wait for further observations, noticing in the meanwhile the existence in Sardinia of Flamingos much smaller and more brightly coloured than the ordinary bird."

THE SACRED IBIS.—*Ibis religiosa* was admitted with doubt in my former edition, but as no instance of its capture in Europe has since occurred, I think it better to erase its name from the list of European species.

GRALLATORES.

Family RALLIDÆ. (*Bonaparte.*)Genus PORPHYRIO. (*Brisson.*)

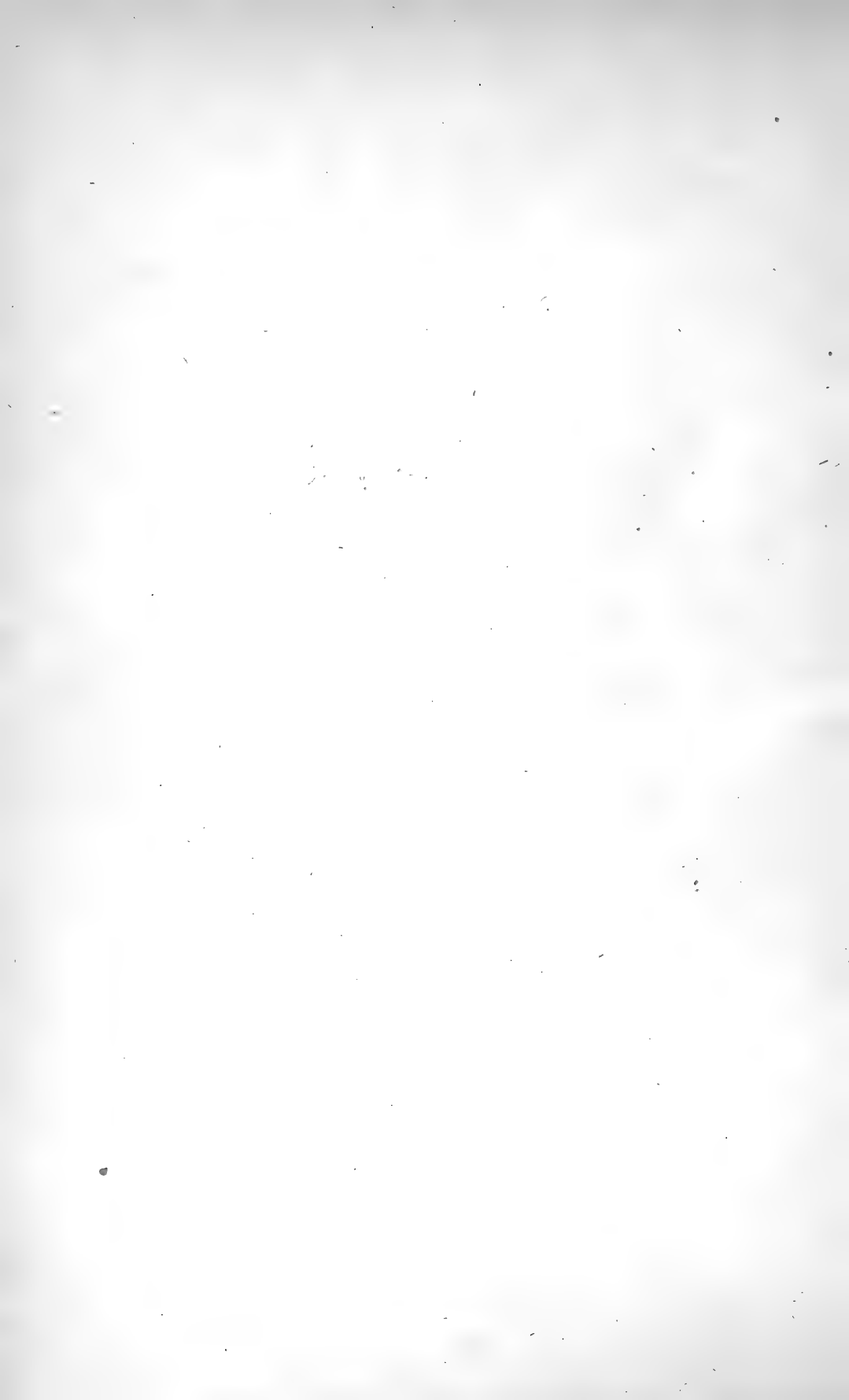
Generic Characters.—Beak strong, hard, thick, conic, nearly as deep as long, shorter than the head; upper mandible depressed and dilated, so as to occupy at its origin the entire forehead and part of the vertex. Nostrils lateral, round, situated at the end of the basal third of the upper mandible, and pierced from side to side through the substance of the beak. Legs long and strong; toes very long in some species, the anterior entirely divided, and all of them fringed by a slight narrow membrane. Wings medium size; the first primary shorter than the second, third, and fourth, which are each longer than the other.

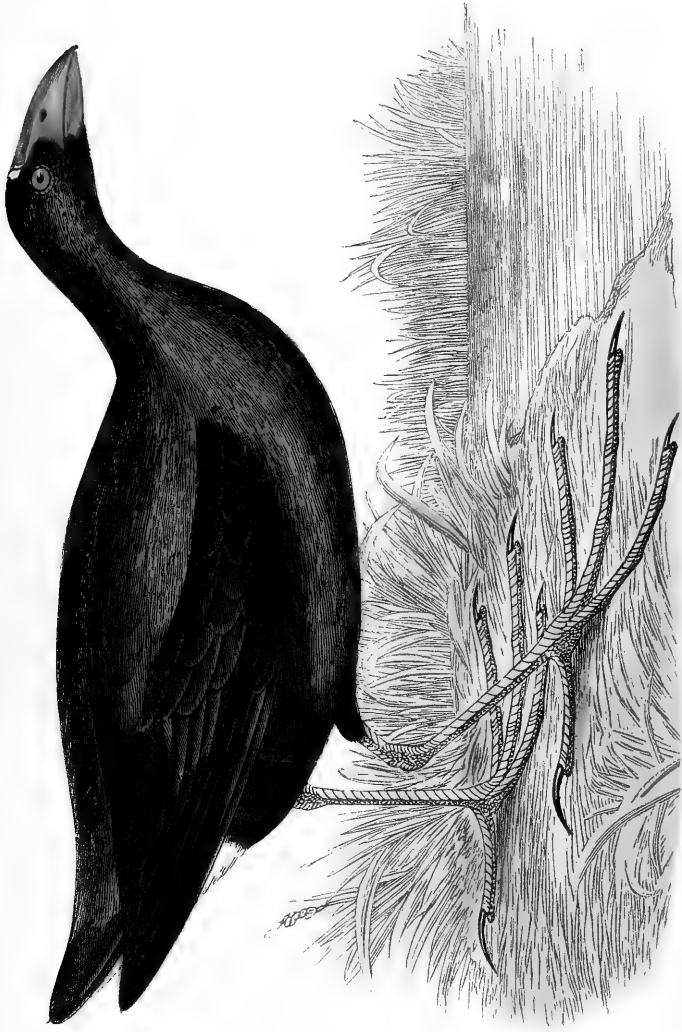
PURPLE WATERHEN.

Porphyrio hyacinthinus.

<i>Porphyrio hyacinthinus,</i>	TEMMINCK, 1820.
“ <i>veterum,</i>	GMELIN.
“ <i>antiquorum,</i>	BONAPARTE.
<i>Fulica porphyrio,</i>	PALLAS, 1811-31.
<i>Talève Porphyrio,</i>	OF THE FRENCH.
<i>Europaisches Purpurhuhn,</i>	OF THE GERMANS.
<i>Pollo Sultano,</i>	SAVI.
<i>Kazir,</i>	OF THE MOORS.
<i>Mane on azul Calamon,</i>	OF THE SPANIARDS.

Specific Characters.—The middle toe longer than the tarsus. Primaries purple on their external web; under tail coverts white. Length seventeen inches; carpus to tip ten inches and a half; tarsus four inches; middle toe four inches and a half; claw of middle toe one inch; hind toe one inch and three quarters, and its much-curved claw one inch and one fifth; naked space above the knee two inches; beak from gape one inch and four fifths; upper mandible from the dilated osseous plate on the occiput two inches and a half.





PURPLE WATERHEN.



THE Purple Waterhen, the Porphyrion of the ancients, was celebrated by the Greeks and Romans, and deemed by them worthy of a place among their heathen gods. The genus established by Brisson, and of which the subject of the present notice is the only European representative, is remarkable for beauty of colour, for the extraordinary length of its toes, and for the expansion on the forehead of the base of the upper mandible in the form of a shield.

The Purple Waterhen or Gallinule is found on the borders of large rivers, lakes, and marshes in the south of Europe, and is very abundant in rice plantations where that cereal is grown. It occurs abundantly on the shores of large lakes and inundated grounds in Sicily and the Ionian Islands. It is also found in small numbers in Hungary, and more rarely in Sardinia. It has been observed in France, in Provence and the Dauphiné. It is included by Savi among the birds of Italy, and by Dr. Lindermayer among those of Greece. It is not mentioned in the "Faune Belge," nor in the "Birds of Belgium," by Dubois, nor in the "Vogel Deutschlands" of Naumann. A specimen is recorded by Mr. Hancock ("Catalogue of Birds of Northumberland and Durham,") to have been taken alive at Bottom Flats in August, 1863. Another individual was caught near Penteland, August, 1873, which is still living in confinement in Newcastle. These birds had probably escaped from some ornamental water.

Count Mühle says he never saw this bird in Greece, although Bonaparte, Temminck, and others, quote that country as one of its habitats. Upon this Dr. Lindermayer ("Vogel Griechenlands," p. 131,) says,—“This bird has not been killed either by Count Mühle or myself, yet I have seen many of them in the bird-markets of this country. Erhardt says in his remarks upon it, that its appearance in Greece is very limited, and that it is only known with certainty that it comes to the lake of Dystos, on the Island of Euböa, and the lake of Kopai. I have at all times had similar accounts from sportsmen, but I have never yet seen one wild.” With these remarks he leaves the question still open for further enquiry.

Salvadori, (Fauna d'Italia,) says:—“This bird is common in Sicily and Sardinia. It appears accidentally in Tuscany, in Liguria and Nice.

According to Benoit, whom Salvadori quotes, the Purple Waterhens hide themselves under the thick reeds coming out only when pressed by hunger. They live upon roots, aquatic plants, and seeds. In confinement they eat anything. Their voice is strong and sonorous, and much resembles the clarionet when being tuned. They seem to love the sight and neighbourhood of water. When persecuted and constrained to

fight it shows itself and plunges down not very far away from home, which enables the hunter to capture it. I am therefore, contrary to common opinion, not inclined to believe that it is a skilful swimmer. It only flies rarely, and when it wishes to pass from one point to another, or if when persecuted it has no other way of escape, while when it can it either dives or buries itself in the thick reeds. It loves solitude, and is of a mild and timid nature. It is easily domesticated, and will keep among fowls, and as these are nourished by corn, when it is given anything larger it takes it up in its feet and so feeds itself. I have kept several of these birds. They deposit their eggs, from two to four, without constructing any nest, among the high plants in the middle of the water or in its vicinity. In February or March it incubates. In April the young are born and are covered with a bluish black wool. The beak and frontal plate and feet white. Directly they are born they walk about the nest and begin to feed.

When in Syracuse I had one only two or three days old, which uttered a flexible and uninterrupted sound like the chicks of the *Gallina*. In September and October many are taken, the greater part young, in the neighbourhood of Catania, with nets which are similar to the bow nets used by fishermen.

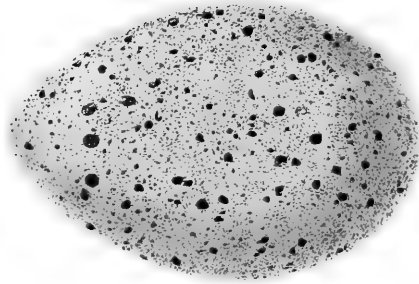
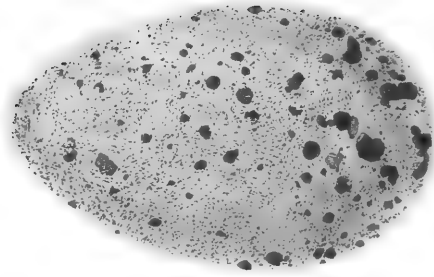
In the north of Africa, it is reported in the Eastern Atlas by Mr. Salvin, in the "Ibis," vol. i, p. 361, who speaks of it thus:—"This magnificent species is common at Zana, where it keeps very much out of sight, under cover of the taller reeds. It is, I believe, in the habit of destroying the Ducks' nests wherever it can get an opportunity."

Mr. Tristram ("Ibis," vol. ii, p. 80,) says, "Scarce at Tuggurt, more abundant in the northern lakes (of Africa.) In corroboration of its carnivorous character, I may mention that I saw one in the yard of General Yussuf, seize a young duckling in its huge foot, and crush its head with its bill, after which it ate the brains, and left the rest of the carcase untouched."

It is mentioned by Schlegel as occurring on the borders of the Caspian Sea. Brisson and the older writers say that it occurs commonly in India.

According to the general report of naturalists this bird feeds upon corn and the seeds of aquatic plants, and upon fruits, molluscs, and fish. That it is not limited in its range of food may be inferred from the carnivorous exploits recorded by Mr. Salvin and Mr. Tristram, and quoted above.

It nests either among the herbage of marshy ground, even when surrounded by water, or in the dry ground near. Mr. Tristram,



1. PURPLE WATERHEN.

2. RED-LOBED COOT.



("Ibis," vol. ii, p. 159,) in one of the most interesting papers I ever read, detailing his visit to Lake Halloula, near Algiers, thus speaks of this bird:—"We were rewarded by a single nest of the Great Purple Gallinule. A magnificent fellow he is as he rises sluggishly from a dense mass of water-weed, shewing his rich purple sheen in the sunlight, and hanging behind him his huge pink legs and feet. His nest is very like that of the Coot, but the number of eggs seems fewer, four being the largest number I have taken in one sitting, though the complement was very probably not complete. I need not add anything to what Mr. Salvin has stated ('Ibis,' vol. i, p. 361,) as to the predatory habits of this bird. The eggs surpass in beauty, to my eye, those of any other of the class; their rich pink ground, with their red, russet, and brown spots, are very characteristic."

Malherbe, in his "Birds of Sicily," gives February and March as the months in which this bird incubates; and he says that the young are hatched in April, and are covered with a bluish black down, with the beak and frontal plate blue. But the journey of Mr. Tristram, from which I have made the above extract, was made in May, 1856. Now Sicily being in the same latitude as Algiers, and only some four hundred and fifty miles further east, we can hardly imagine a difference of two or three months in the nidification of this bird in the two places. In fact there is doubt about M. Malherbe's description of the bird. Degland thus expresses this doubt in a note:—"Ce savant n'indique pas la couleur des œufs. Ne parlerait-il pas *de visu*?"

The eggs are stated by Degland to be two to four, which agrees with Mr. Tristram's account. He also describes the egg very correctly. The colour is certainly richer and deeper than that of our Waterhen, with spots and small dots of reddish brown and purple, particularly at the larger end, and with cretaceous deposits more or less apparent on the surface. Baldamus, in "Naumannia," 1853, p. 41, et seq., says:—"These eggs belong to the most beautiful of the order. They vary little in size and form, or, especially, in colour and markings."

This beautiful Waterhen, says Degland, is by nature gentle and timorous, and does not leave its solitude unless driven from it by hunger or danger. Its simplicity is such that it will allow itself to be taken alive by the boatmen, as it plunges to escape from them.

It has a heavy flight, like the Waterhen, and it only has recourse to its wings when frightened by a gun, or to pass from one marsh to another. It generally, when pursued, dives or squats down among

the rushes. It is also, according to the same authority, easily tamed, and is brought up in some countries in the poultry yards among the fowls, and is contented with the same food that they have. When anything is given it which is too large to be swallowed, it takes it up with its foot, and so carries it to its beak, where it crushes it with its hard and robust mandibles.

I take the following from Colonel Irby's recent work on the Birds of the Straits of Gibraltar:—"This bird is chiefly migratory, and is not common near Tangier, passing north during the months of February and March, and returning in September and October. They are occasionally to be seen during the month of January, but not every year. Those which remain at the breeding season construct their nests in the midst of wet sedges or rushes, depositing in April from three to five eggs. When these birds are moulting they are very easy to obtain, as they lose all their quill feathers at once, and so cannot fly." (From the M.S. of Favier, late of Tangier, which was purchased by Colonel Irby.)

Colonel Irby goes on to say, "The Purple Waterhen is on the Spanish side of the Straits very irregular in its appearance, both as to time and locality. In some years, during January and February, they are to be seen near Gibraltar, in situations where they do not occur at any other time, and are then doubtless on migration.

"In wet seasons they nest at Casa Vieja, in April, in the Soto Molabingo, in which marsh I have shot them as late as the 29th. of October. It is a very difficult bird to flush without a dog; when they rise they make a flapping noise, and with a heavy flight merely take refuge in the nearest thick patch of rushes or wet sedgy jungle, whence, from being Crake-like in their habits, it is almost impossible to make them rise a second time. They are not to be met with except among thick wet rushes. Some are to be found in a few places at the edge of the morismas of the Guadalquiver. The nest resembles that of the Common Coot; and the eggs, which are richly coloured, are laid towards the end of April.

"The gizzards of those which I have examined contained nothing but vegetable matter (grass, seeds of rushes, etc.,) with a good deal of coarse gravel."

The male and female have the head, nape, scapularies, upper wing and tail coverts, outer web of primaries, and upper tail feathers indigo blue; inner web of primaries and secondaries rich hair brown; cheeks, front and sides of neck, and upper part of crop turquoise blue; rest of crop, abdomen, flanks, and thighs bluish black; under

tail coverts white; under tail feathers brown. Beak and frontal plate red; feet and legs pink; iris red.

The young of the year, after the first moult, have, according to Degland, the occiput and nape yellowish brown; upper parts brown ash, shaded here and there with indigo blue; cheeks and neck ash, washed in front with turquoise blue; crop and abdomen ash, shaded with brown on the flanks, with whitish on the under tail coverts, thighs, and lower part of abdomen; wings dark indigo blue, with the extremity of the coverts bordered with whitish; feet green russet. Before the first moult there is no blue in the plumage.

My figure is taken from a specimen kindly sent me by Mr. Tristram, marked "Algiers, Dec., 1855." The egg is from my own collection; it was taken in Algeria, and sent me by the late Herr Seidensacher, of Cilli.

It has also been figured by Brisson, Orn., vol. v, pl. 42, fig. 1; Buffon, pl. enl. 810, under the name of Taléve de Madagascar; Roux, Ornith. Prov.; Bouteille, Orn. du Dauph., pl. 58; Gould, B. of E., pl. 340.

Porphyrio Alleni.—The *Hydrorma Alleni* of Salvadori has, according to that naturalist, occurred once in Italy. It was a young individual taken near Lucca, in the autumn of 1857, and sent in the flesh to Savi, and is now preserved in the Museum of Pisa. Salvadori saw the bird in the flesh. Hartlaub supposes it was an escaped bird, of which Salvadori says there was no trace. It is a native of Africa, but we have no other information of its having been taken in any other part of Europe. I therefore omit it from this work.

Porphyrio smaragnotus has also been captured, according to the same authority, in Sardinia and Sicily, and is omitted because we have no positive information, nor will Salvadori guarantee that it had not escaped from ornamental water.

GRALLATORES.

Family RALLIDÆ. (*Bonaparte.*)Genus FULICA. (*Linneus.*)

Generic Characters.—Beak middle-sized, strong, straight, conic, compressed at its base, broader than thick; upper mandible dilated into a frontal plate at its base; point of beak laterally compressed; upper mandible slightly longer than the lower; nostrils lateral, in the middle of the beak, pierced longitudinally, half closed by a membrane which conceals the widest part. Legs long, moderately robust, naked above the knee; three toes in front and one behind; all the toes long, and bordered on each side by crescentic membranous festoons; claws long and very sharp-pointed. Wings medium size; the first primary shorter than the second and third, which are the longest in the wing.

RED-LOBED COOT.

Fulica cristata.

<i>Fulica cristata,</i>	GMELIN.
<i>Foulque à crête,</i>	OF THE FRENCH.
<i>Kamm-Blesshuhn,</i>	OF THE GERMANS.
<i>Crested Coot,</i>	BREE; first edition.
<i>Red-lobed Coot,</i>	IRBY.

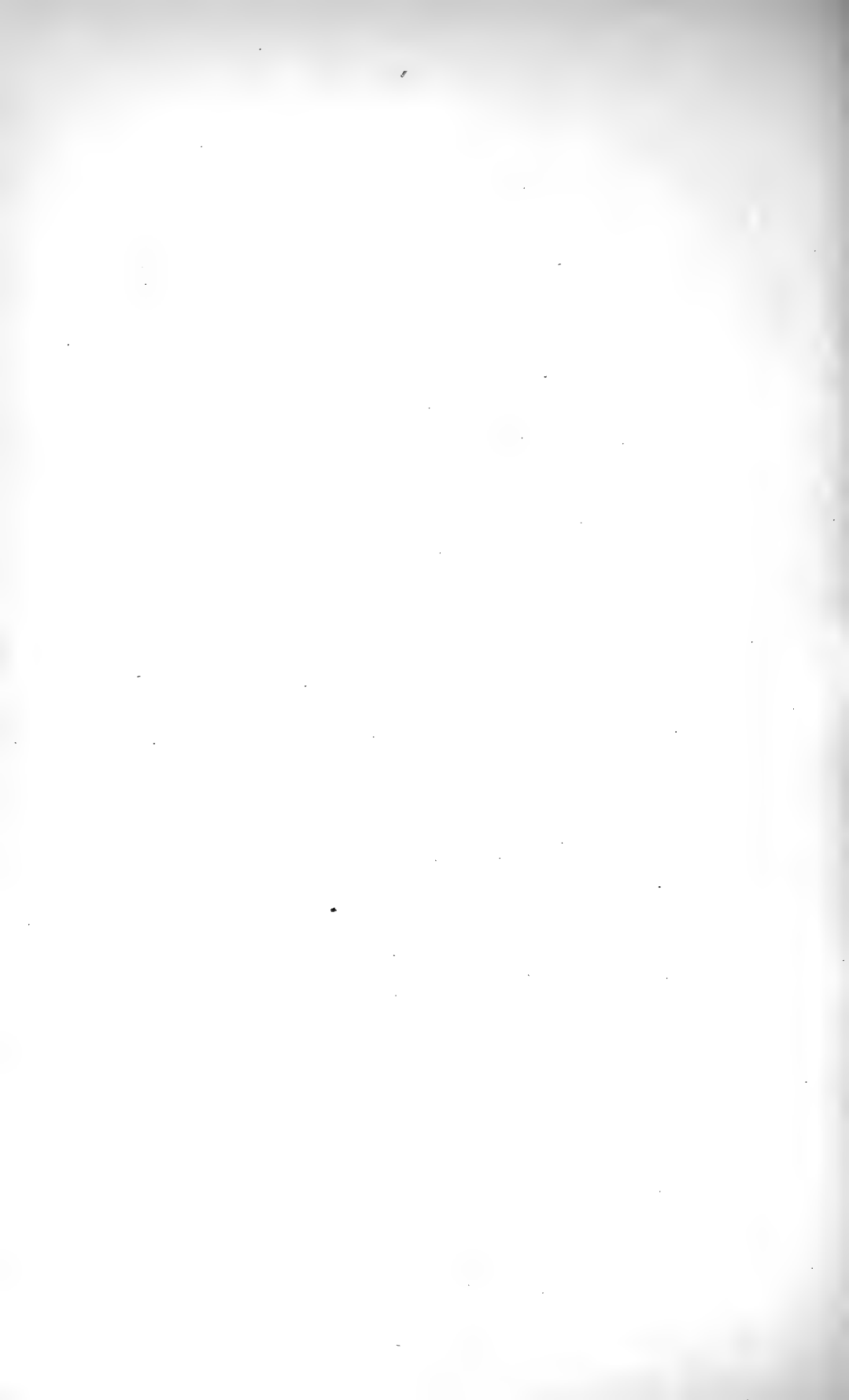
Specific Characters.—The frontal plate shaped into two red lobes or knobs, below white, and divided into two stripes at the base of the beak. Length fifteen to sixteen inches; carpus to tip eight inches; tarsus two inches and a half; middle toe three inches and a half; claw of middle toe four fifths of an inch; hind toe one inch; beak one inch and a half; depth of beak at base half an inch.

IN the birds of which I am now treating there is a close generic resemblance, which has produced different results in the systematic





RED-LOBED COOT.



arrangements of scientific writers. Linnæus classed the Porphyrion and the Coot together. Brisson, in founding the genus of the former, restricted it to those members of the family of Rails whose legs were destitute of membrane, which included the Gallinules of Gesner and others. Temminck, by reason of their lobed feet, placed the Coots in a new order, *Pinnatipedes*, thus separating them altogether from the Rails and other grallatorial birds. I think the great master whom I have followed in this work was scarcely justified in thus sacrificing both structural affinity and similarity of habit to an overstrained regard for the peculiar and solitary analogy of membranous lobes on the feet. I have therefore, as will be seen by reference to the heading of this notice, ventured to differ with Temminck in his arrangement of this bird. The frontal shield alone ought to have prevented the separation which he made in this genus.

The Red-lobed Coot is an African species, differing but little in reality from our well-known British species, of which it is probably only a climatic race. In Europe it occurs annually in Spain, and is found in France and Italy. In the "Revue de Zoologie" for 1841, p. 307, M. Barthélemy states that this bird comes regularly every year to the Lake of Albufera, in the Commune of Valence, in the Department of the Drôme, in France; and that one was killed in 1841, on the waters of Marignan, a short distance from Marseilles, and which forms part of the collection of the younger M. Montvalon.

Salvadori (Fauna d'Italia) writes of this bird:—"This species is distinguished from the Common Coot by the two red protuberances upon the posterior part of the frontal lamina. It is met with rather frequently in Sardinia and Sicily; on the contrary it is rather rare in Continental Italy, where only very few individuals have been taken. One found in Liguria is mentioned in the Acts of the Reunion of Scientific Italians, held in Florence, 1841, p. 313. Also Durazzo mentions this species as accidental in Liguria, (Guida de Geneva, i, p. 158.) Another individual was found in the market of Pisa, and is preserved in the Museum of that University. In Sardinia this species is well known to the fishermen in the ponds near Cagliari, and so many of them that Casa was assured that in some years they came in great numbers and nested there. Casa has already observed, in 'Ornithologie Sardu,' p. 64, that amongst the *Fulica* left to breed in Sardinia some have been taken, which had a little fleshy protuberance above the frontal plate, but at the same time it is not known they belong to a species different from *F. atra*. The existence of this bird in Sicily was indicated by Malherbe, and it is recorded that in the Museums of Catania and Palermo are preserved several individuals

killed in Sicily. Wright records several having been killed in Malta. It nests like *F. atra*, but, according to Gerbe and Degland, the eggs are more obscure, and scattered over with a greater number of spots. It is found throughout Africa."

Mr. Tristram, in his interesting visit to Lake Halloula, from which I quoted in my notice of the last species, fell in with this bird, and speaks of it thus:—"But the principal features of the open water were the myriads of Crested Coots, Wigeons, and Pochards. The Wigeons never remain to breed, but flocks of them still lingered, while a month later not one of them was to be seen. The Crested Coot appears in no way to differ, as to its habits, from its well-known congener, though its red naked forehead, with the two conspicuous lobes, suffice to distinguish it at a glance. It is somewhat the larger of the two species, and the eggs run invariably from a quarter to half an inch longer than those of the Common Coot. Pushing among the reeds, we soon found two or three of their nests, some placed among the stumps of old reed clumps, others in little openings on artificial mounds. I never found the Common Coot here; and though it certainly occurs on the lake in winter, in company with its congener, I believe that each species confines itself to its own nesting-place. Thus, in the lakes I visited in Eastern Algeria the following summer, while *Fulica atra* abounded, *Fulica cristata* never once came under our observation."

Colonel Irby (opus cit.) says of this bird:—"It is both resident and migratory near Tangier. Those which migrate return from the north in September. The nest and eggs resemble those of *Fulica atra*, with which species they associate, but are much more numerous.—(Favier.)

"This Coot breeds at Ras Dondru, in numbers, about the 20th. of April; and, as above mentioned, the eggs are not to be distinguished from those of the Common Coot (*F. atra*); so unless the bird be snared on the nest, the eggs cannot be said to be identified. I never saw this species in Andalucia, where it is said to occur, and I have seen specimens at Granada marked as Spanish. I should prefer to call this species the "Red-lobed Coot," as it certainly is not crested, being in all respects similar to the Common Coot (*F. atra*), except that it has two red lobes on the white frontal patch."

The Red-lobed Coot is entirely black, and is distinguished from the Common Coot by the bony protuberances or caruncles at the top of the frontal plate, which are red and prominent, on a white base, by the absence of any white bar in the wings, and by its greater size. The

beak is whitish at the point, and reddish at the base; legs and iris black.

In the female the lobes are less developed, as will be seen in my figure, which is from a specimen of that sex obtained by Mr. Tristram at Lake Halloula.

I have adopted Col. Irby's much more sensible English name for this bird.

Figured also by Buffon, pl. enl. 797; and Bonaparte, in his Introduction to the Fauna Italica.

My figure of the egg is from a specimen in my own collection, which I obtained from Mr. Reid, of Gibraltar.

ORDER XV.—PALMIPEDES. (*Temminck.*)Family LARIDÆ. (*Bonaparte.*)Genus STERNA. (*Linneus.*)

Generic Characters.—Bill as long or longer than the head, nearly straight, compressed, tapering, edges sharp, pointed, mandibles of equal length, the upper one slightly curved towards the point; nostrils near the middle of the beak, slit longitudinally, and pierced from side to side. Legs small, naked above the knee for a short distance; tarsi very short; four toes, the three anterior united by membranes, deeply concave in front; hind toe free; middle claw longer and sharper than the others. Wings very long, pointed, the first quill feather the longest.

ALLIED TERN.

Sterna affinis.

<i>Sterna affinis,</i>	TEMMINCK. RÜPPELL.
“ <i>media,</i>	HORSFIELD; Lin. Trans., vol. xiii, p. 199.
“ <i>Arabica,</i>	EHRENBERG.
<i>Thalasseus affinis,</i>	BONAPARTE.
<i>Hirondelle de mer voyageuse,</i>	OF THE FRENCH.
<i>Rüppell's Seeschwalbe,</i>	OF THE GERMANS.

Specific Characters.—Middle toe with claw longer than the tarsus; beak long, yellow; feet black; wings pass the end of the forked tail by an inch and a half or more. Length fifteen inches; carpus to tip eleven inches; beak two inches and nine tenths; height at base seven lines; tarsus eleven lines; middle toe and claw one inch and one fifth.

THE Allied Tern, so called by reason of its affinities with the Sandwich Tern, was introduced into the European list by Temminck, and has been admitted as an European species by Bonaparte, Schlegel, and Degland.



ALLIED TERN.

Temminck informs us that it occurs in the Grecian Archipelago, on the Bosphorus, and the borders of the Danube. Degland adds to these localities the borders of the Caspian Sea. Blasius does not include it in "Der Wirbelthiere," but states, in "Naumannia," 1855, that there are grounds for its admission. It is not, however, mentioned by Count Mühle or Dr. Lindermayer as being found in Greece, neither is it included in Lord Lilford's list of birds occurring in the Ionian Islands, nor by Mr. Simpson among those of Western Greece. Probably there has been some confusion between this bird and the Gull-billed Tern, (*Sterna anglica*.) It is better known, however, in Africa and Asia than in Europe.

Mr. Tristram includes it among his Syrian birds, ("Ibis," vol. i, p. 88;) and in the same volume, p. 350, Dr. Heuglin records its occurrence on the shores of the Red Sea, and most commonly on the southern coast. Temminck received specimens from New Guinea, Ceram, and Celebes; and in the thirteenth volume of the "Linnæan Transactions," p. 190, No. 3, Dr. Horsfield describes it as *S. media* among the birds of Java, the *S. affinis*, No. 5 of that paper, belonging to the Gull-billed Tern, *S. anglica* of Montagu.

Lieutenant-Colonel Irby (op. cit.) remarks of this bird:—"It is one of the least common of the Terns near Tangier, and only occasionally met with. Further south in the vicinity of Laroche it is more frequently seen; and I found it there during September, October, and November; in company with *S. cantiaca*, which species it resembles in its habits. It occurs in the Straits in the spring. I obtained two specimens, both males, shot near Tarifa on the 20th. of April, 1874, and have seen others from Tangier; most probably they breed somewhere on the coast. It is very much like the Sandwich Tern (*S. cantiaca*), but is a trifle larger, and has the bill yellow. I found on comparing male specimens shot on the same day that it also differs from that species in having the bill stouter in proportion, and the lower mandible slightly angulated, or "Gull billed." The feathers of the black crest are more elongated, and the upper tail coverts and tail are grey, the same colour as the back. The primaries are more broadly marked underneath next the shafts with grey, and the tarsus is rather longer."

Doderlein (op. cit.) says of this bird:—"This African species of Tern, affiliated to the Sandwich, is characterised by its yellow beak. It is met with accidentally, according to Malherbe, along the coast of Sicily. He notices having seen a specimen in 1870 near Syracuse. Schlegel also mentions that an individual in breeding plumage was killed in Sicily, and preserved in the collection of Leida. Any how it

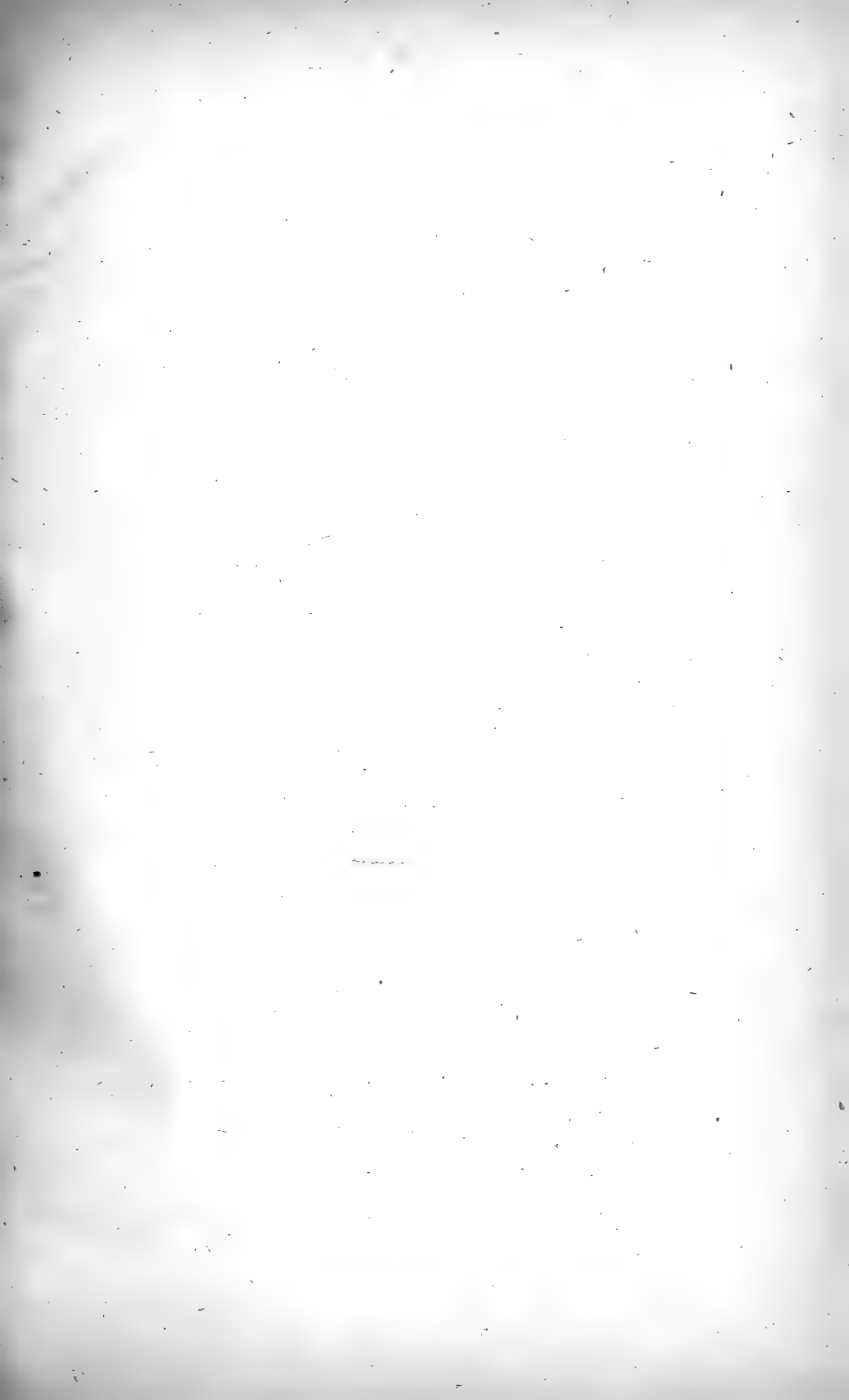
must be admitted into the Sicilian fauna, though it is always figured as an accidental and very rare species. It does not occur in Sardinia."

Salvadori says of this bird:—"This species resembles greatly by its structure and aspect the Sandwich Tern, but is distinguished easily by its yellow beak. This species is found on the Red Sea, and as far as the Indian Archipelago. It is said to have been observed in the Grecian Archipelago and in the Bosphorus."

In the "Ibis," vol. ii, p. 127, Baron R. K. Von Warthausen gives a description of the nidification of this bird, and three very good drawings, by J. Jennings, of the egg. The nests were found near Amarat, and on the Island of Lobo, (Archipelago of Duhalek,) the end of July and beginning of August, on coral reefs close to the beach, in shallow cavities of three inches in diameter, and sometimes without a cavity, on pebbles or fragments of chalk. They breed separately, both from *S. senegalensis*, a species found in the same locality, and from themselves.

"The average dimensions of eight eggs are twenty-three lines by sixteen. The weight of the shell varies between thirty-six and forty-four grains. There are two principal varieties with respect to colour. A.—White or greenish white, with coarse spots, sometimes scattered, sometimes arranged in groups. The centre of each spot is violet grey or blackish grey, which colour passes into a beautiful chesnut brown and dark brown towards the periphery; the edges are generally burnt brown. These eggs resemble those of *Cephus grylle*, (the Black Guillemot.) B.—Yellowish, sometimes with a reddish shade, dotted and striolated; the darkest points, dots, and streaks are black brown or brownish red; the margin of the spots shining brown or red. In one specimen bluish grey spots form a zone round the base, with many flourishes. All the eggs, held against the light, are transparent yellowish green. Some of the eggs much resemble those of the Sandwich Tern, (*S. cantiaca*,) but they are all distinguished by the more variegated coloration, the smaller size, and the different structure, characterized by shallow serrated pores, and by finely-granulated rounded tubercles, which render some parts of the shell rather rough."

Male and female in breeding plumage have the forehead, vertex, and occiput of a deep black; nape silvery white; top of the body bluish ash, like the Sandwich Tern; lower part of the body, front and sides of the neck, and cheeks of a silvery white; wing coverts like the back; primaries of a velvety ash; bordered on their inner webs with white; tail bluish ash, darker than the wing coverts, with







1. HEUGLIN'S HERRING GULL.

2. ALLIED TERN.

the most lateral quill on each side of a velvety ash; beak yellow, and, according to Irby, slightly angulated or "Gull billed;" feet black.—(Degland.)

Male and female in winter.—Forehead and half of vertex anteriorly white; the other half and the occiput black, varied with white; a crescent-shaped patch of black in front of the eyes; the yellow of the beak less lively. The interior border of the sixth, seventh, and eighth primaries white, and very regularly defined.

My figure is from a specimen sent to me by Mr. Tristram, and is in the transition state between the two plumages. Like all other birds figured from Mr. Tristram's collection, no notice being given to the contrary, this specimen was shot by Mr. T. himself.

It has also been figured by Buffon, pl. enl. 987, in summer plumage; Bouteille, Ornith. du Daup., pl. 60, fig. 1; Rüppell, Atlas, pl. 14; Gould, B. of E., pl. 417.

The egg is (by permission of the editor) from Baron Warthausen's plate in the "Ibis," vol. ii, p. 127.

PALMIPEDES.

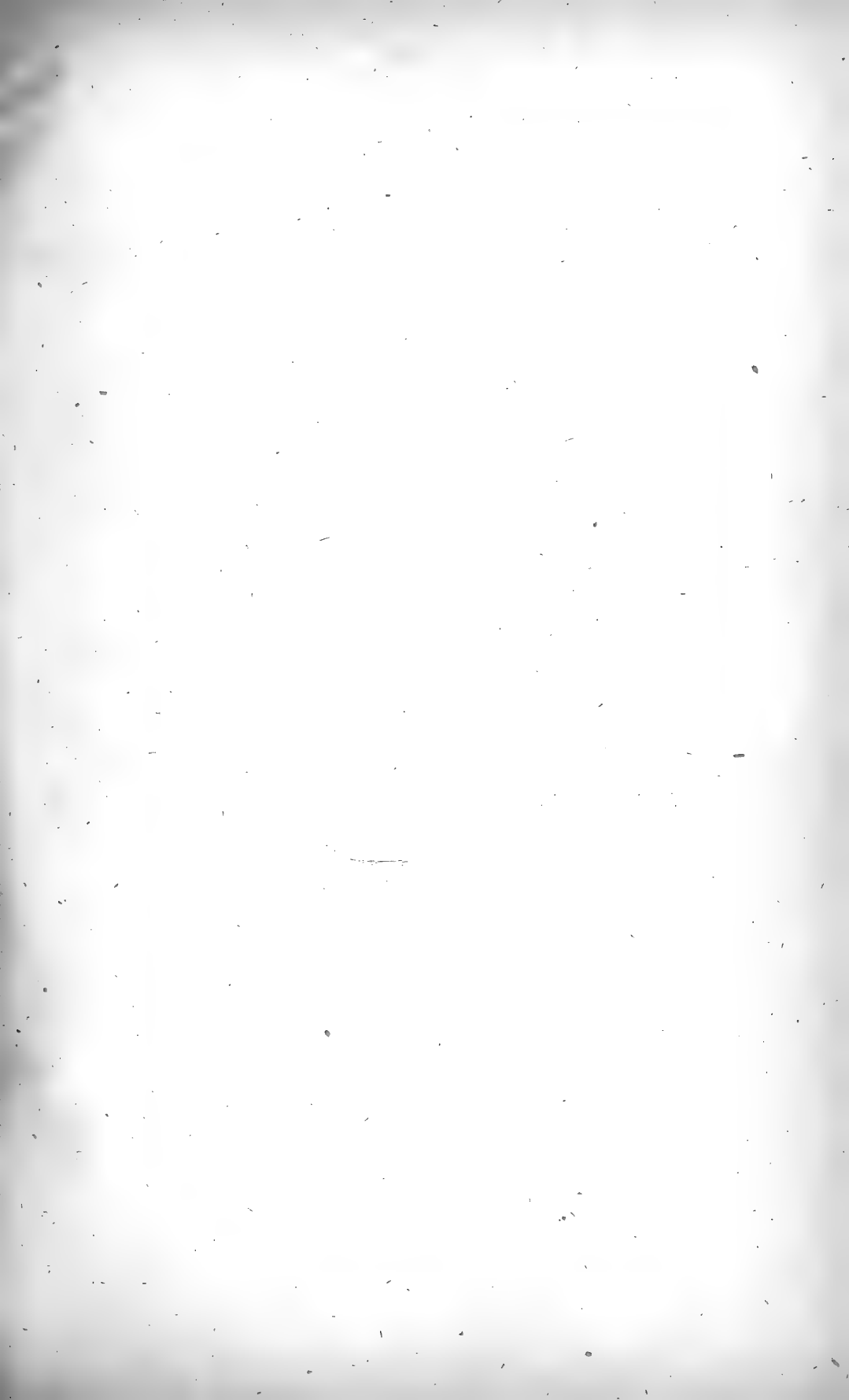
Family LARIDÆ. (*Bonaparte.*)Genus LARUS. (*Linnaeus.*)

Generic Characters.—Beak long or middle-sized, strong, hard, compressed, with cutting edges, curved towards the point, the inferior mandible forming a projecting angle. Nostrils lateral, in the middle of the beak, split longitudinally, narrow, pierced from side to side. Feet slender; naked above the knee; tarsi long; three toes in front, entirely webbed; the hind toe free, short, and articulated very high on the tarsus. Tail with quills of equal length. Wings long, the first primary a little longer than the second.

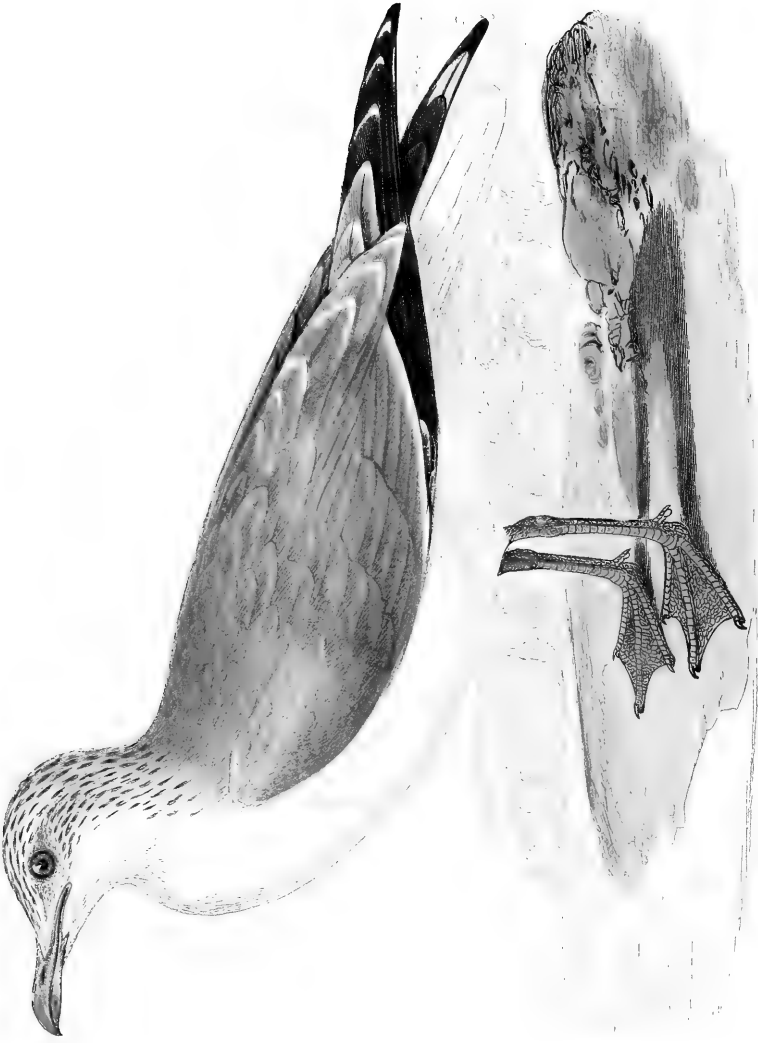
HEUGLIN'S HERRING GULL.

Larus Heuglini.

<i>Larus Heuglini,</i>	BREE.
“ <i>cacchinans,</i>	PALLAS. HEUGLIN; Vogel Nord Ost Africas, No. 892.
“ “	LICHTENSTEIN. GRAY; Hand List, p. 379.
“ “	SWINHOE; Ibis, 1870, p. 366?
“ “	MEVES; Oefv. K. Kat. Ak. Forh. 1871, p. 786.
“ “	BRUCH; Cab. Journal, 1853, p. 100.
“ “	BREHM; Cab. Journal, 1854, p. 45.
“ “	HOMMEYER; Cab. Journal, 1870?
“ “	SCHLEGEL; Rev. Crit. p. 124?
“ “	MUHLE; Griechenlands, No. 301.
“ “	LINDERMAYER; Griechenlands, p. 176.
“ <i>argentatus,</i>	MIDDENDORFF. KEYS. ET BLAS.
“ “	RADDE, partim.
“ <i>borealis,</i>	PARTIM. BONAPARTE; Conspect. p. 219.
“ <i>epargyrus,</i>	PARTIM. LICHTENSTEIN; Mus. Berol., (Cab. in lit.)
“ <i>occidentalis,</i>	PARTIM. BLASIUS; Cab. Journ., 1865.
“ <i>leucophæus,</i>	HEUGLIN; (<i>nec</i> LICHT.) Ibis, 1859, p. 349; Faun. Roth. Meer., No. 298. Peters. Geogr. Mitth., 1869, p. 408.
“ “	HARTLAUB AND FINSCH; O. Afr., p. 818.
“ <i>angustatus,</i>	LEFEB.; Abyss. Ois., p. 173.







HEUGLIN'S HERRING GULL.

Specific Characters.—Similar to *L. leucophæus*, but larger; mantle smoky slate ash-colour; secondaries and tertiaries white at the apex; beak slender; angle of the gonyes less conspicuous, but much more obtuse; jaw pale ochreous; before the apex the culmen orange red. The lower jaw pale olive yellow; a black spot just before the apex below, surrounded by fiery yellowish red; the angle of the mouth deep orange; orbit naked, of a coralline red; iris testaceous, punctured with black spots; feet pale ochreous; the webs slightly obscured. An adult male specimen from the Somali Coast 22"; beak from forehead 2"; wing 16" 5''' to 16" 8'''; tarsus 2" 4½'''; middle toe, with nail, 2" 3'''; tail 6".

HEUGLIN, from whom the above is taken, gives the measurements of a young bird from the Somali coast, which is of the same length, but rather less in details. He also gives measurements of three adults from the Gulf of Adalis, from Bucharest, and the Caspian Sea, which are rather smaller, and of two young ones from the Sarpa Steppes, which are smaller than the one from the Somali coast.

He then goes on to remark:—"The wings project beyond the point of the tail 2" to 3". A close comparison of this Gull, with the forms most nearly allied, has led me to the firm conviction that we have to deal with quite a good and distinct species; it struck me as such at first sight, having been able to observe our bird alive. The description of Pallas may, indeed, refer to the same partly, yet it is not sufficiently defined. He had, probably, two species, *L. cacchinans* and *L. argentatus*, before him, which in error he considered as one. In its colouring on the back *Larus cacchinans* stands exactly intermediate between *L. fuscus* and *L. argentatus*. It is somewhat larger than the southern form of the latter (*L. leucopheus*, Licht.) It has a larger beak, the point of which is less bent down. The mark before the tip of the lower part of the beak is much more blunt in many specimens, even nearly flat, and rather ridge-formed. The nostrils are much further back from the point of the beak (somewhat over 12''') than *L. argentatus* from north-east Africa, which is 10''' at the highest, and placed quite level. The beak is over the lower corner (at the opening) 8''' to 8½''' high, and quite different in colour. The upper mandible is a clear ochreous yellow, somewhat more lively at the opening, while the top, and especially its foremost third part, excluding the tip, is orange yellow. The lower mandible is of a very pale soft greenish yellow, with the tip the same. Opposite the angle of the beak below there is a small, perfectly round, black spot, which is broadly sprinkled with deep fiery red, the latter colour gradually becoming paler outwards on all sides. The colour

of the iris offers another peculiarity; it is a pale earth brown, and is covered throughout with fine blackish drops, points, and markings. In the young bird the beak is a horny yellow flesh colour, the lower mandible sprinkled with lead grey. Before the points of both jaws is a horny cross band. The circle round the eye and iris a light brown grey, the latter also covered with black spots. Jesse obtained a bird of this species, with very worn feathers, on the 8th. of June, in the bay of Adulis (Zula). I observed it in the winter on the coast of the Sinai peninsula—in September at Kas Belul, and in October and November on the Somali coast, not far from Med and Luzzgon, singly, and in pairs, so that I was inclined to think it was only a chance winter visitor on the east African coast.

“An old male shot by me in the Somali region has the winter plumage, with the large wing feathers rather worn, and new secondaries. The former show, therefore, no trace of white spots on the tip, but just before the tip of the outermost feathers a small white space. In the neck the feathers were streaked on the shaft with brown. A second bird from the same spot differs also from the youthful plumage of the old bird, but the back shows, however, already the soft smoky grey tone of the latter. Two younger specimens from the Sarga steppes (collection of Glitsch) entirely agree, but are rather smaller. In one of them the cheeks are dull grey. Both birds are streaked on the crown of head, neck, and sides of throat, the remainder of the upper side smoky grey, with washed out and dull but clear edges to the feathers; underneath and rump white, the latter washed with smoky grey, every feather having a white base and edge, sometimes also with a whitish cross band; the back and upper tail coverts with plain rhomboidal and arrow-shaped dark brownish grey spots; under tail coverts quite as much marked, but paler; greater wing feathers (primaries) brown-black, paler underneath, having here white shafts; tail feathers white, with brownish black markings (half way), broadest in the centre; tips of the feathers white, and behind the dark bands at the end there are from four to five brownish-black cross bands, which are nearly lost on the middle feathers. One of these young birds shows quite plainly how the mantle feathers change colour; they are dark in the centre, and the rest clear smoke brown, at the edges broad white.”

“*Larus cacchinans* belongs, as already shown, to the rare visitors on the coast of East Africa. The birds of this species observed by me were principally in creeks and harbours where the breakers are not violent. Here for the most part they fly low and gently over the borders of rivers, the head drawn back, and turning here and

there on the watch for prey. Their flights seemed to me more quiet and majestic than that of the Silver Gull. The birds alighted with equal lightness. The crops held only the remains of fish."

Such is Von Heuglin's account of this bird, and this must be my reason for admitting it as a new species. It breeds on the steppes of Sarpa, from whence I have a series of eggs collected by Herr Glitsch, from which that figured is taken. It also breeds on the shores of the Caspian, and probably in the morasses of Bokhara and Marjola, and perhaps as far north as Kamtschatka, and the Sea of Ochotsk. It is found in winter in Amurland and China. Perhaps also in north-west America, where there is a similar species, (*Larus occidentalis*, Audubon,) Elliot, Birds of North America, pl. 52, fig. 1, which is particularly marked by its thick beak, and shorter wings and feet. It is also closely related to the bird called *Larus borealis*, Brandt.

In a private letter to me, dated June 28th., 1875, Von Heuglin further remarks, "I have no doubt but that *Larus cacchinans* is a very distinct and good species. I have again met with it in the Gulf of Souakin."

"M. Blasius also describes *Larus argentatus* perfectly under the name of *L. occidentalis* (Cab. Journ., 1865, p. 379), and when he saw the specimens brought by me from the Red Sea, he remarked that he had seen the same species at Berlin, brought from the Caspian and Bokhara, but he was of opinion that they were *L. occidentalis*, notwithstanding their denominator *L. cacchinans*, given by Lichtenstein. On the other side Lichtenstein has committed the error of partly confounding his *L. cacchinans* with *L. epargyrus*. (Three specimens from the Red Sea are also at Berlin.) Hartlaub and Finsch have taken it for *L. leucophæus*, which is no other than the southern form *L. argentatus*. I have examined about ten specimens of these birds. Three from Berlin, from Western and Central Asia, and the Red Sea. Two from Sarepta (collection Glitsch), and those taken by myself in Eastern Africa."

The figure of this bird is from a drawing by Von Heuglin.

The egg is from my own collection, and was taken on the steppes of Sarpa by Herr Glitsch.

PALMIPEDES.

Family LARIDÆ. (*Bonaparte.*)Genus LARUS. (*Linnaeus.*)

AUDOUIN'S GULL.

Larus audouinii.

<i>Larus audouinii,</i>	PAYRAUDEAU; Ann. des Societ. Nat., 1826.
<i>Goëland Audouin,</i>	OF THE FRENCH.
<i>Buntschnäblidge Mowe,</i>	OF THE GERMANS.
<i>Gabbiano Corso,</i>	OF SAVI.

Specific Characters.—Wings very long, passing a considerable distance beyond the end of the tail; beak strong; feet black; middle toe much shorter than the tarsus; most frequently two transverse bands on the beak. Length eighteen to twenty inches; tarsus two inches.

THIS Gull inhabits the Mediterranean Sea, where it may generally be found in Corsica, Sardinia, and more rarely in Sicily. M. Temminck, who is my authority for these localities, further adds that it is common in the Gulfs of Valinco and Figari, at Porto Vecchio, and the mouths of the Bonifacio. Dr. Lindermayer includes it among the Grecian birds, on the authority of Erhardt; and Lord Lilford says a fine specimen was killed near Corfu, in May, 1857, and, though he saw no other specimens, he believes it to be not uncommon there, ("Ibis," vol. ii, p. 253.) Savi introduces it into the "Ornitologia Toscano." On the African coast we find it mentioned by Mr. Taylor, ("Ibis," vol. ii, p. 54,) as occurring near Cairo; and it is included in Captain Loche's Algerian catalogue. Mr. Tristram saw it about Coiffa Bay, on the Syrian coast.

The following is Lord Lilford's account of the capture of this Gull, taken from the Ibis for January, 1875:—"As we lay close off







AUDOUIN'S GULL.

the rocks in the boats watching for shots at the Falcons, I suddenly heard behind me the cry of a Gull quite new to me, turned sharp round at the sound; the bird was rather high up, but I knocked him down; he fell on the rocks close to us, but I could not see him as he lay. One of the men jumped out and picked him up; and judge of my joy, ye Ibises, when I found that he was a beautiful adult *Larus Audouinii* male in full breeding plumage! We had noticed that a small colony of Gulls seemed to have established itself upon the slope of the rock on the eastern side, apart from the main establishment about the summit and western portion; but as their general appearance (at a distance) was very like that of Herring Gulls, I had not paid any particular attention to them. Now, however, when they took wing at my shot, I noticed that their wings seemed much longer, and now and then the brilliant red bills and dark coloured legs were conspicuous. I landed one of my men, with particular instructions to search the spot where we had seen these Gulls, and he very soon came down to the boat with six eggs, varying a good deal in markings, and like those of *L. leucopheus*, but just the size I wanted. I had particularly told the finder to bring any of the Herring Gulls' eggs; but he assured me that he found none, though he searched for a considerable time.

"The six eggs above mentioned were in five nests, one of which contained two, and the rest one respectively. There were several empty nests, but no young birds visible.

"In the mean time the parents had gone off to sea in a body of perhaps twenty or thirty, and were coming back to see what we were about, but so cautiously, and at such a height, that, though I fired several shots, I could not manage to bring down another specimen. The rest of the men who had landed and clambered up to the top reported great numbers of nests, and eggs, and young of Herring Gull; but I told them not to rob them, as we had such a series from Vacca. It was very evident and a curious fact that the Audouin's Gulls had their establishment entirely apart from their congeners, and certainly they are naturally much more roving.

"The coral fishers, on my landing among their boats drawn up on the sand close to our anchorage, and enquiring for birds and nests, brought me two young Gulls alive, in the down, which at once struck me as too small even for newly hatched Herring Gulls, of which species we had several alive in the yacht. I asked the owner where he had found them, and he immediately replied, 'on Toro.' 'Whereabouts?' and he proceeded to describe the exact spot, not knowing that we had been there, and said that these were

the Gulls '*con bello colour di corallo,*' as I firmly believe from their cry, their way of holding themselves, and the bright pink of their bills. For the first three weeks of their life on board I had, of course, every opportunity of comparing them with the young of the *Larus leucopheus*, and on arriving in England, had the pleasure of presenting them to the Zoological Society, in whose gardens I also deposited two of our Herring Gulls from Vacca.

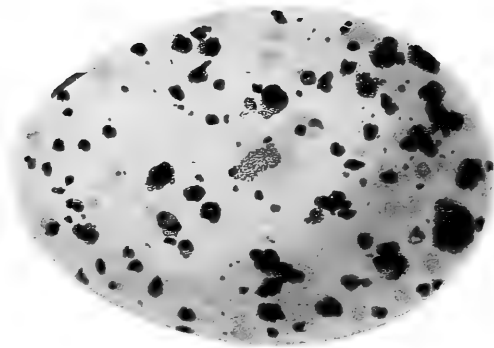
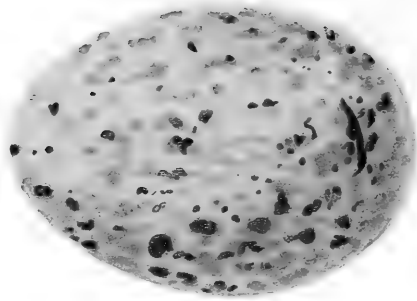
"The general appearance of *Larus Audouinii* on the wing is certainly more like that of *L. leucopheus* than that of any other Gull with which I am acquainted, but the wings seem conspicuously longer, and, of course, at a short distance the brilliant red bill is a clear distinction. The cry is not so harsh, and is more prolonged than that of the latter species.

"I subjoin the measurements of a skin of one of my specimens, a male, as taken by Mr. Salvin. Total length about twenty inches; tarsus 2.45; bill from gape 3; wing from carpus to tip 15.75; tail six inches."

The above description refers to the isles of Toro and Vacca, off the south-west point of Sardinia.

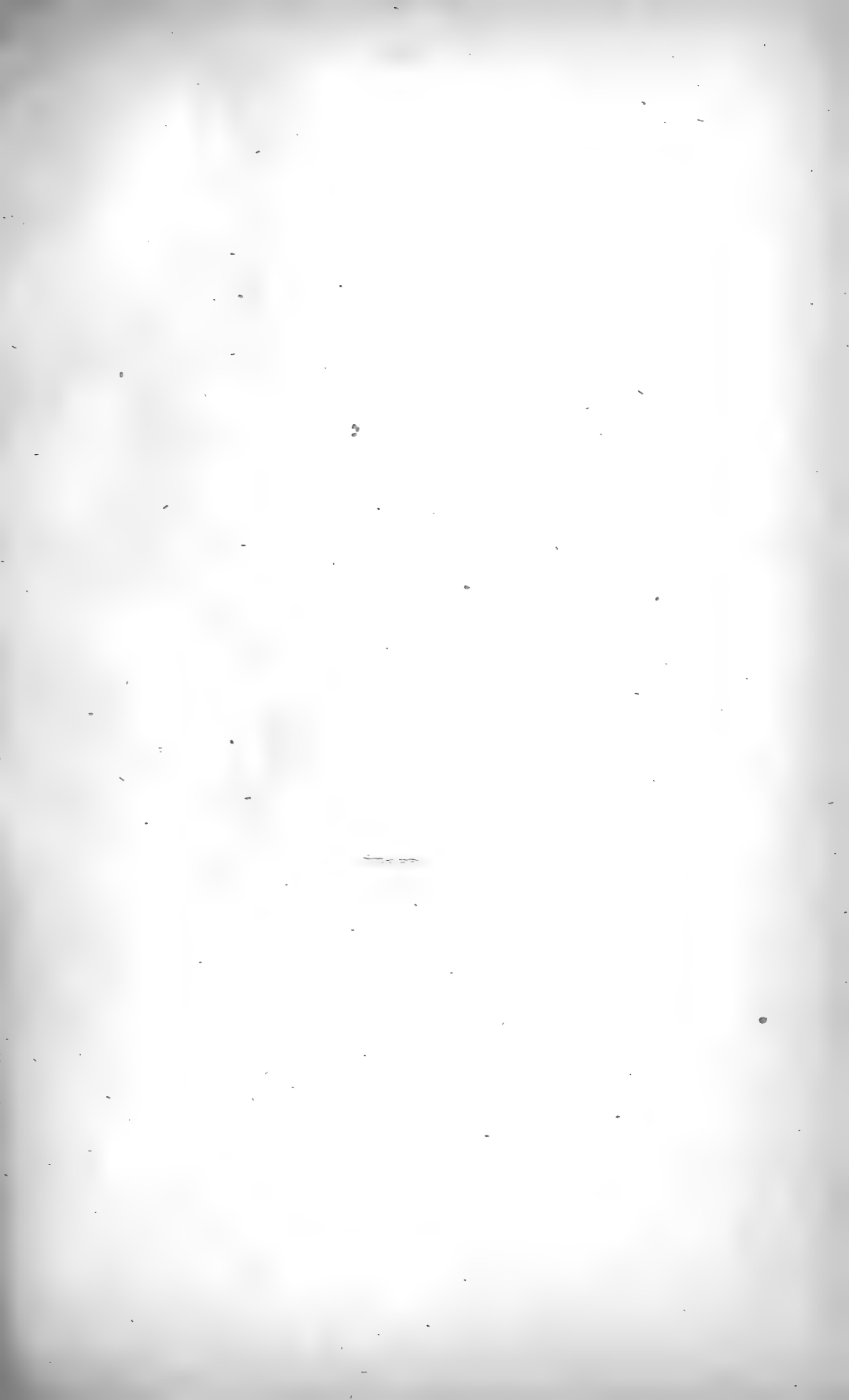
Doderlein (op. cit.) writes:—"This beautiful species of *Larus*, discovered by Payraudeau in the waters of Corsica, comes sometimes on to the Sicilian coasts, according to Temminck and Benoit. When I was at Palermo I had three beautiful specimens, one in youthful dress, sent to me from Girgenti, from the estimable Caraso. The other two, male and female adult, were taken on the 24th. of June, 1870, in the port of Palermo. This species, besides the different characters spoken of by authors (such as its great red beak, with two black bars towards the apex, its black feet, its azure ashy mantle, its head and inferior parts pure white, its remiges black, with white extremities) is to be known besides by the remarkable length and acuteness of the wings, which, in a state of repose, extend beyond the tail three or four inches, which does not occur in any other of our Gulls, including the well-known *L. canus* and *L. ridibundus*. In the two examples at Palermo the head of the female is perfectly white, while that of the male is lightly marked on the nape with little longitudinal ash-coloured spots. It is useless to record that this species is very abundant on the coasts of Sardinia, particularly in the Straits of Bonifacio."

Salvadori (op. cit.) writes of this species:—"Cara says it is met with on the coast of Maddelena, from whence he had one individual. There are none in the Museum of Cagliari, which induces me to suppose it is very rare in Sardinia. Tristram obtained this species



1. WHITE-EYED GULL.

2. AUDOUIN'S GULL.



in Malta. In 1869 I found an individual, unnamed, in the Museum of Palermo, and, recently, Doderlein announced the capture of two adults in the harbour of that city in January, 1870. I saw also two individuals taken in Liguria, one of which was preserved in the Civic Museum of Geneva, and the other in the Museum of the University. This Gull is also announced in the catalogue of Venetian birds, as it appears on the faith of Contarini, nevertheless it would be desirable to obtain further information. This species has been observed on the coast of western Africa and Syria."

This Gull feeds upon fish, molluscs, and crustacea. It breeds among the rocks, on the borders of the sea, and lays three or four eggs, which, according to Temminck, vary in their colour from yellowish white to a greenish grey, sprinkled with brown spots. It is sometimes found quite white, or bluish, without spots. It is, in fact, as Mr. Tristram writes me word, exactly like that of our Lesser Black-backed Gull (*Larus fuscus*.)

A male specimen of this bird, kindly lent me by Lord Lilford, being the bird alluded to in the above narrative, bears upon its label the following information:—*Larus Audouinii*. Male. Isola di Toro, Sardinia, May 28th., 1874. Legs and feet dark lead grey; nails black. Beak coral red, with one black band. Iris hazel. Palpebræ coral red. Pupil black. To this I add:—Length twenty inches; from carpal joint to end of wing fifteen and three quarters; tarsus two and two-fifths; middle toe two inches; beak from gape three inches; breadth through thickest part three-fifths of an inch.

Plumage and colours.—Head, nape, throat, all the under parts and tail pure white. Back and mantle delicate silver grey. Primaries deep brown black; the first, which is the longest, tipped on its inner edge, near the end, with a broad patch of white. In the second and third two white tips to the feathers; the third, fourth, and fifth, having much more white on the inner web, while the fifth may be termed entirely white, marked with dark brown near the end. The wings, when closed, display four or five square white patches, the basal half of the shafts light coloured; secondaries and tertiaries white. The wings, when closed, extend beyond the end of the tail by one and a half inches. Shoulders white; under wing coverts light silver grey.

With regard to the number of dark black-brown bands which cross the beak, it will be seen that I have described Lord Lilford's bird with having one only, but on the lower mandible are the remains of a second, which I think I can easily trace across the upper

beak. The number of the bands evidently depends upon the season, as it is impossible to ignore the testimony of the many distinguished men who have mentioned two.

The young of the year have generally a plumage more or less tinged with many shades of ash and brown; the mantle brown, irregularly spotted with clear brown and russet; and the tail more or less spotted with black and brown. In their second moult in autumn they assume some grey traces on the head and neck; but after their second moult in spring the plumage is perfect.

My figure of this bird and its egg are from specimens kindly lent to me by Lord Lilford.

The bird has been figured by Temminck and Laugier, pl. col. 480, adult in spring plumage; Gould, B. of E. pl. 438.



WHITE-EYED GULL.

PALMIPEDES.

Family LARIDÆ. (Bonaparte.)

Genus LARUS. (Linnæus.)

WHITE-EYED GULL.

Larus leucophthalmus.

Larus leucophthalmus,
Xema leucophthalmum,
Goeland à iris blanc,
Weissäugige Mowe,
Adjameh,

LICHTENSTEIN. TEMMINCK.
 BONAPARTE.
 OF THE FRENCH.
 OF THE GERMANS.
 OF THE ARABS.

Specific Characters.—Tarsus two inches long; beak from the eyes to tip, two inches and four fifths; a black hood, lightly tinged with grey in the adult, and with ash brown, the feathers being bordered with white, in the young. Length sixteen inches and four fifths.—DEGLAND.

THIS species is found on the coasts of Greece, on the border of the Red Sea, and the shores of the Bosphorus. Count Mühle says it visits Greece in spring in flocks, but that it is local, being found especially in the lower end of the narrow channel which separates the Island of Euböa or Negropont from Bœotia and Attica, near the town of Egripos, where, in the clear shallow salt water it may be seen fishing constantly, and not by any means shy, like the Black-headed Gull. After remaining from eight to fourteen days it disappears. Heuglin gives its localities as follows,—Greece, Sicily (?), Genoa (rare), Bosphorus, Yemen, Toucan Island (?) Probably in the Persian Gulf.

Temminck says that they live in great numbers among the Grecian Islands; but Lindermayer merely copies what Count Mühle has written, with the addition that he shot one in the locality mentioned

by the latter. They are probably therefore merely seen in Greece during their migration further south, where they breed.

Salvadori (op. cit.) says of this bird:—"Temminck asserts that this species is sometimes met with on the coast of Sicily, and Durazzo says he found one individual in the spring of 1840 in the harbour of Genoa. It would be desirable that attentive observations should be given in confirmation of these assertions. This species is common in the Red Sea, and is said to be found frequently in the Grecian Archipelago."

Doderlein (op. cit.) says, "Temminck is of opinion this *Larus*, which inhabits the coasts of the Russian seas and Ionian Islands, may sometimes come into the waters of Sicily. It has been taken in the states of Genoa, but there is no authority for its occurrence in Sicily up to this date. It has not occurred in Sardinia."

Dr. Heuglin ("Ibis," vol. i, p. 349,) says they are very scarce north of the tropic, but very frequent more to the south; and Baron Warthausen ("Ibis," vol. ii, p. 129,) says that when Dr. Heuglin examined the Island of Perim, "he found a high rocky part of it almost exclusively occupied by *Larus leucophthalmus*, which had selected that spot for breeding, (Sep. 17th., 1857.) Two eggs, containing mature embryos, which cannot be referred to any other species, were found under a bush. One of the specimens procured for my collection, shows that the eggs are as closely allied to those of the preceding species (*Larus hemprichii*) as the birds themselves are to each other. It is twenty-four lines long, and twelve lines broad."

The description which the Baron gives of the egg of *L. hemprichii* is,—“The pale greyish yellow, rarely brownish yellow, sometimes greenish grey ground-colour, is speckled, dotted, and striolated with grey and pale brown. They are moderately shining, and have a weight of forty-six to forty-eight grains, or more.” The egg of *L. leucophthalmus*, he says, “has a darker and browner ground-colour, the same grey and brown markings; and besides it is lineolated with blackish on the broad extremity. The grain equals that of the eggs of *Larus hemprichii*, but appears to be rather more strongly developed.”

I copy the following from Heuglin's "Vogel Nord-Ost Africas:"—"A bird of a year old, killed in September, has the hood but slightly extended, and of a dull smoky black, mixed with some earth brown feathers rather rubbed. The colours of the back, although fresh, are yet considerably lighter than those of old specimens; the lesser wing coverts and most of the secondaries old and rubbed, dusky earth brown, with a somewhat lighter edge, the latter scantily

tipped with white. Tail feathers of a brownish smoky tint, approaching black at the base. Beak a reddish brown; feet lead-colour, tending to greenish.

“Finsch and Hartlaub ascribe to the young bird a clear white chin and upper part of throat; under the throat and crop greyish brown; top and back of the head having some whitish shaft streaks; head and rest of the sides brown; wing coverts bordered with brown; beak black.

“I have in my ‘Fauna of the Red Sea’ described a Gull with quite similar colours as *Larus masunanus* of Massowa. It is, however, distinguished chiefly by much slenderer beak and feet, less feathers of the tibia; and rather differently marked secondary wing feathers. Beak 1" 4.7", tarsus 1" 6", bare part of tibia 1" 1", middle toe with nail 1" 4"; perhaps only a shabby specimen of *Larus leucophthalmus*.

“This beautiful and strikingly marked Gull does not quite rightly deserve its name. The iris of all the numerous specimens observed by me is not white, but umber brown, but above and below the eye is a snow-white crescent-shaped spot.

“The Adjameh, as the Arabian fishermen call this bird, is an inhabitant of the islands and coasts of the Red Sea and of the Gulf of Aden, but only on the most northern parts of the former. Also in the Gulfs of Aquabah and Suez it becomes more rare. I have never met with it on inland waters, nor on the mouths of the Nile Delta. Captain Shelley says indeed that it appears on the Egyptian northern coasts, yet it follows from the description of this traveller, that he has not *himself* observed the bird. (Legs brownish red; irides white.)

“From the height of Quoseir southwards, the White-eyed Gull is met with very generally on coral islands, in creeks and harbours, in still weather on the high sea following the tracks of broods of fish, at the same time as the Walthieren or large fish of prey do likewise.

“This Gull, like most of its allies, is of a very sociable and lively nature. In quiet weather, numerous but not closely compacted flocks are seen flying along the shore, like Marsh Gulls. Their note resembles the latter, and sounds almost like ‘gia,’ but their movement in the air appeared to me rather more clumsy.

“The Adjameh likes to come down violently on the surface of the water, yet it takes its food while floating, as well as during its loiterings on the strand and on the sand-banks along the tide-mark, or wading here and there. During the hottest part of the day sometimes large flocks may be observed on flat sand ridges or projecting spots resting, with their heads turned towards the wind. They even alight on the thatched roofs of the fishermen’s huts, and on the masts of the boats lying at anchor.

“Whether, and if so at what time of the year, the Adjameh tends north of the eighteenth parallel I cannot say. I found their nesting places in June in the neighbourhood of Djedah; further, at Massowa, and from thence southwards to Perino. This was in July, August, and September. According to my experience they do not breed in large colonies, although in an area of a few hundred paces often ten or more nests are found. These lie mostly far from the shore, on more elevated spots—on coral rocks and volcanic islands; places where desert grass and low half-withered bushes grow, amongst fragments of rocks and small loose stones; but there must be some view of the surrounding country, for the better protection of the nest. The eggs, which seldom exceed two in number, were laid in a simple hole in the sand, without any appearance of a nest.

“Although one of the pair always keeps in the neighbourhood of the nest, they rarely brood during the hottest part of the day. The egg itself is clear earth brown, with a touch of sap brown, covered with numerous small bluish grey and dark brown spots, almost uniform in shape, smaller than those of its near ally, *Larus Hemprichii*; slenderer, more oval, 20'' to 24½'' long, and 16'' to 18¼'' broad.

“I presume that the Adjameh has two broods. The young ones, which are very varied in their markings, are soon after they are hatched led towards the sea, to shallow quiet spots near which shore vegetation is to be found. They swim well, and know how to shelter themselves cleverly against pieces of stone and bushes, while the parents endeavour to turn the attention of the huntsman. Later in the autumn the separate families collect together in great numbers, and rove about over the sea, mostly drawing southwards. Besides fish, the food consists of crabs, molluscs, and worms. The White-eyed Gull, however, seizes also on young birds of the smaller kinds, and on grasshoppers, and is content with offage from slaughtered cattle and any kitchen waste in case of necessity. The native appellation ‘Nubia’ is quite wrong.”

Male and female in spring have all the head, part of the nape, all the throat, and the front part of the neck, black, with a small white spot above and below the eye; a demicollar of pure white encircles the nape, advancing to a point on the side of the neck; below this is another kind of collarette of bluish ash-colour, which extends to the sides of the crop and flanks; the upper part of the body slate-colour; front of the neck, middle of the crop, abdomen, and under tail coverts pure white; wing coverts slate-colour; primaries black; secondaries bluish ash, with their external webs black, and the points white; tail pure white. “Naked space round the eye and beak

coral red, with the point blackish; iris dark brown; gullet yellowish corneous; feet yellow, the joints more plumbose."—(Heuglin.)

The young before the first moult have all the upper parts, flanks, and the greater part of the tail dull brown or earth-colour; primaries dark brown; only the extreme point of the secondaries white; throat, front of the neck, crop, and middle of abdomen white; legs lead brown or greenish; and the beak black. After the first moult, during the winter, the head and top of the neck dark ash brown; top of the body slate colour; under parts pure white; primaries black, terminated by a fine white border, scarcely visible in the three first; the secondaries broadly tipped with white; tail perfectly white; beak russet yellow; legs dull yellow; iris white.

Figured by Temminck and Laugier, pl. color. 366, plumage of spring. The figure is from Werner's Atlas of Plates to Temminck's Birds of Europe. The egg is from Heuglin.

PALMIPEDES.

Family LARIDÆ. (Bonaparte.)

Genus LARUS. (Linnæus.)

SLENDER-BILLED GULL.

Larus gelastes.

<i>Larus gelastes,</i>	LICHTENSTEIN.
“ <i>tenuirostris,</i>	TEMMINCK. BREE; 1st. edition.
“ <i>genei,</i>	DE BREME; Revue Zoologie, 1839.
“ <i>brehmi,</i>	HEUGLIN.
<i>Xema lambruschinii,</i>	BONAPARTE.
<i>Mouette à bec grêle,</i>	OF THE FRENCH.
<i>Dünnschnäblige Möve,</i>	OF THE GERMANS.

Specific Characters.—Beak long and slender; wing coverts lead colour; the first three primaries with their inner webs white, bordered with dark brown, the first narrowly, the others deeper, the fourth entirely dusky. Length of tarsus one inch and three quarters; length sixteen inches; carpus to tip eleven inches and a half; beak two inches and a fifth; middle toe one inch and one tenth.

THIS Gull is, according to Temminck, likely to be found much more frequently on the Mediterranean shores than the few recorded instances of its capture on European ground would lead us to infer; being, according to the opinion of that naturalist, frequently confounded with its congeners.

Two instances are related of its having been seen by M. Cantraine in Sicily, and the following is copied from the “Faune Meridionale” of M. Crespon:—“When the ornithology of the Gard appeared, I first made known that this new species was found in France. Temminck had only previously received two skins from Italy. But in the spring of 1842 I had brought to me five of the same bird, which had been captured on the borders of the sea. I saw at a glance that two of the females had already begun to sit, and I no longer doubted that it nested in France. Having informed myself





SLENDER-BILLED GULL.

where these specimens came from, I went in search of their eggs, which were previously unknown to me. I arrived, but not without some difficulty, at the top of a sand-hill, which was entirely surrounded by the sea, and I there found some eggs of which the following is a description:—As large as a hen's egg, white, but covered with a great number of spots, more or less large, which were black, blackish brown, or ash-colour, more numerous at the larger end. Some of the eggs were almost entirely white, and it was not without trouble that I found some ashy spots, as though they had been effaced. There were some individuals of this species of Gull flying about the spot."

Doderlein says (op. cit.) that M. Cantraine, in his travels in Sicily, met with this bird several times on the southern coast of that island. More recently another was taken near Messina, from among many individuals of *L. melanocephala*, and given to Benoit. I also got one specimen in the summer dress in the port of Palermo; and I had also two adult skins from Baron Caruso, one of which was in winter plumage. Mr. Wright records it at Malta. Three specimens were captured in the neighbourhood of Sardinia, and are preserved in the Museum of Cagliari. It is less rare in the Mediterranean than is generally believed. Bonaparte found it in Corsica, Sardinia, and upon the coasts of Romagna; and Crespon says it is rather plentiful in the waters of the Gard, and that it sometimes breeds in the mouth of the Rodano.

Salvadori says it is rare in Italy, only having been observed in Sicily, Sardinia, and Malta. Saunders says that he observed it frequently on the coast of Sicily ("Ibis," 1869, p. 397.) According to Cara it is found in Sardinia, but if it is so it is very rare. Three individuals are preserved in the Museum of Cagliari. This Gull is found on the coasts of Turin, Egypt, Asia Minor, and the Caspian Sea.

Mr. Cullen, son of Dr. Cullen, of Kustendji, was fortunate enough to find a colony of this bird, and obtained many eggs and skins, which I had the pleasure of distributing among the collections in this country. The following is taken from the "Field," in which I inserted it. It refers to a very interesting point in natural history:—

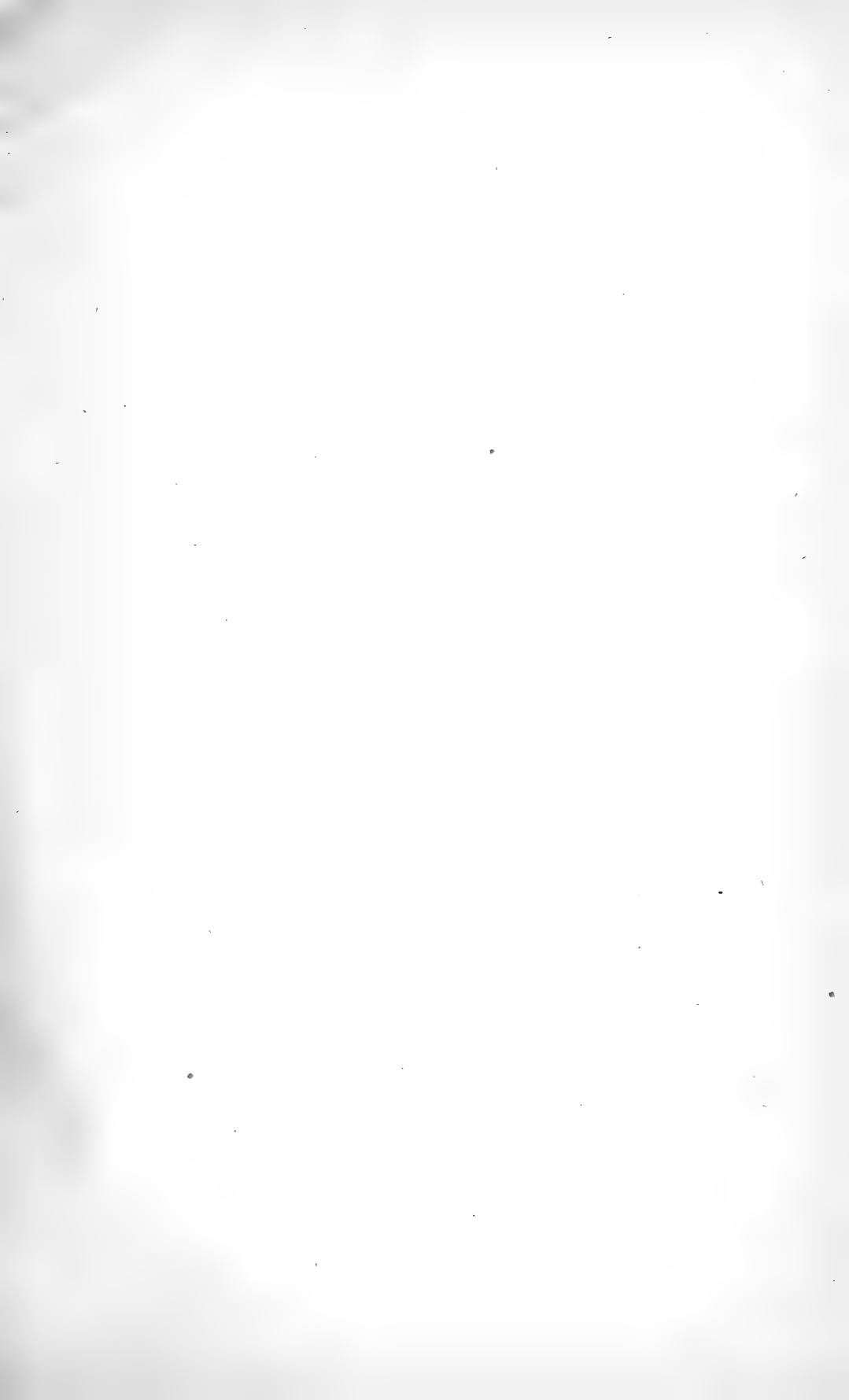
"The following record of the discovery of a new locality for the breeding place of this Gull quite confirms the accuracy of the opinion of Temminck as to its being more frequent in Europe than has been hitherto supposed. At various places along this coast the sandy shores are only raised one to two feet above the sea level, separating it by a narrow belt of sand from large spaces or lagoons of shallow

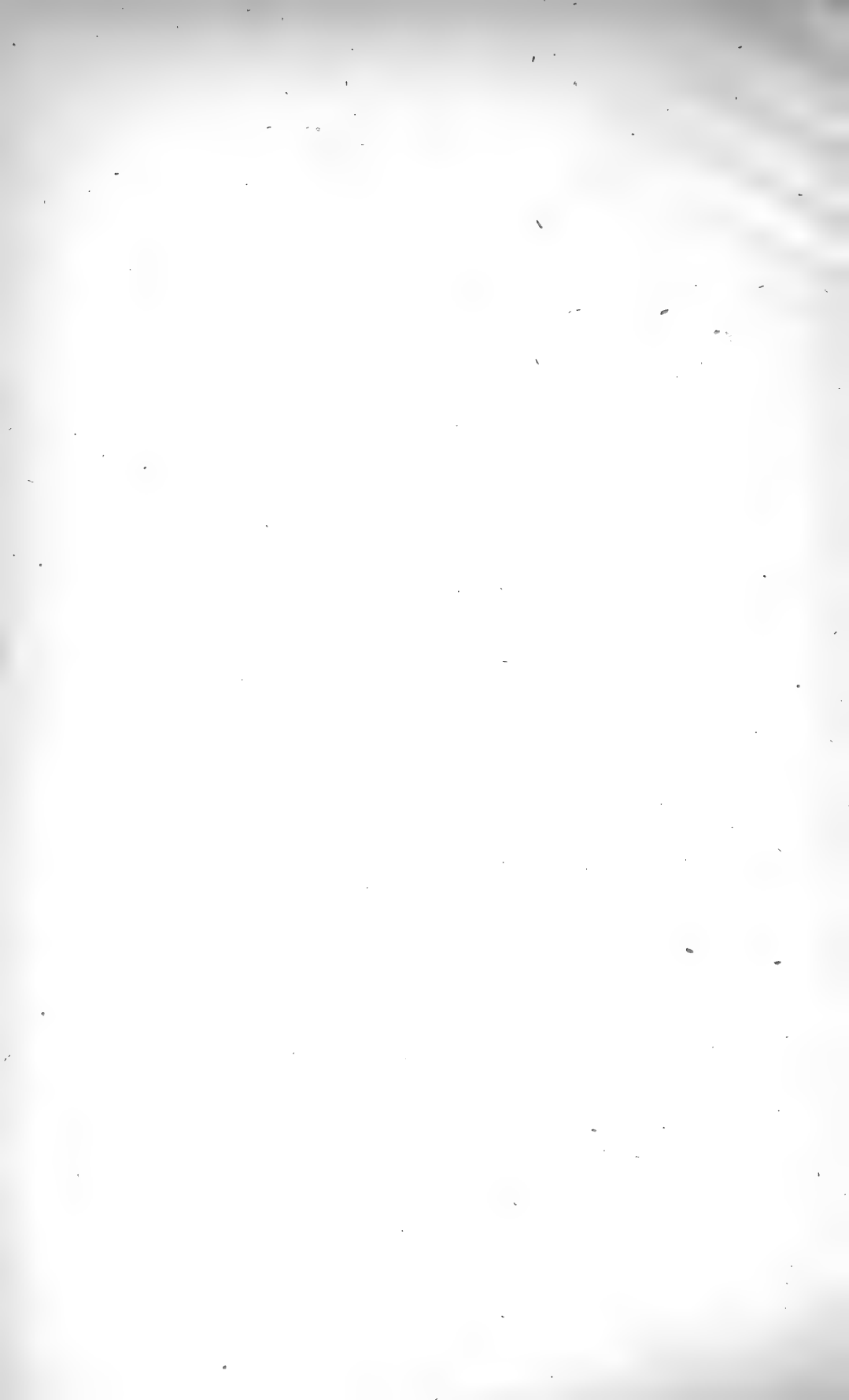
brackish water, in which again are small islets partially covered with reeds, and often joined to others by long narrow sand bars. A lengthened and even tiresome examination of one of these localities was at last rewarded by the discovery of a colony of Slender-bills. The nests, neatly made of seaweed, but containing no wool or lining whatever, covered a space thirty feet long by fifteen feet broad on the bare open sand, distant on one side by about eight to ten feet from a large colony of Caspian Terns, and on the other all but intermingling with one of *Sterna minuta*, only one nest of this latter being found in the midst of the Slender-bills. All contained eggs, and, though there could be no doubt that we had discovered one great object of our search, we left them untouched, drew up our boat on shore, selected a suitable spot for camping on during the night, under the shelter of some reeds at a distance from the nests, and then, choosing the most characteristically marked eggs, we set our traps, and some birds having been caught, we had the pleasure in the morning of securing some really authentic eggs of this rare bird. No nest contained more than three eggs. At first they were not at all shy. On being disturbed they uttered a cry very much resembling the call of the rook, but more prolonged, softer, and less harsh. On rising against the sun, as they kept together in a compact body and did not at all mix with any of the other species, the rosy tint of their breasts presented a most beautiful sight, glowing like a summer cloud coloured by the setting sun. On the female returning to her nest, the male invariably accompanied her, and remained standing by it. Their food consists entirely of a species of beetle (*Dytiscus*), and of these their stomachs were quite full. The day after the capture of a second lot, the spot was entirely deserted by the rest. When fresh and lying in the nest, the eggs had the same delicate tint which is so noticeable in the breast of the living bird. This in the latter fades in an hour after death, and loses half its brilliancy, and in the former disappears after being blown.

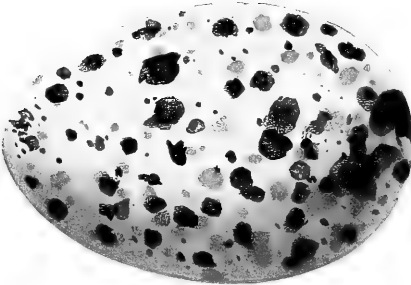
DIMENSIONS OF THE EGGS OF SLENDER-BILLS.

Length.	Breadth.	Length.	Breadth.
1 15-16 inch	1 5-16 inch	2 4-16 inch	1 8-16 inch
2 2-16 inch	1 9-16 inch	2 4-16 inch	1 9-16 inch
2 5-16 inch	1 9-16 inch	2 4-16 inch	1 9-16 inch
1 14-16 inch	1 5-16 inch	2 5-16 inch	1 8-16 inch
2 5-16 inch	1 9-16 inch	2 3-16 inch	1 9-16 inch
1 15-16 inch	1 7-16 inch	2 5-16 inch	1 7-16 inch
2 1-16 inch	1 10-16 inch	2 3-16 inch	1 8-16 inch
1 14-16 inch	1 8-16 inch	2 2-16 inch	1 10-16 inch
2 0-16 inch	1 10-16 inch	2 5-16 inch	1 7-16 inch
2 2-16 inch	1 9-16 inch	2 7-16 inch	1 7-16 inch

—WM. HY. CULLEN (Kustendji, July 1870).







SLENDER-BILLED GULL.

Of these eggs, fifteen have been sent to me for examination. The dimensions of twenty have been given in Dr. Cullen's paper. The ground colour of those sent to me is creamy white in one, pale greenish white in two, yellowish white in nine, and pale salmon colour in three. They are all variously coloured with spots, blotches, and streaks of dark umber brown of two shades, one well marked, the other as usual indistinct. One egg has a well-marked zone of brown streaks round the larger end, and another of blotches in the same situation. Of those kindly sent to me for my collection, one, the creamy-white-ground specimen, has nothing but indistinct dark marks, and looks at a distance white. Another has large dark blotches towards the larger end, while the third is covered pretty regularly all over with brown spots of two shades. Some of the eggs are spotted almost like those of the Noddy Tern. Others again look like eggs of the Sandwich Tern, but are readily distinguishable on comparison. They are altogether larger, and the brown marking is different. They cannot be mistaken. Badeker, in his 'Eier der Europa Voegel,' has two excellent figures of the egg. The skins of the bird accompanied the egg."

Dr. E. Baldamus ("Naumannia," 1853, p. 419, et seq.) has the following remarks:—"These eggs differ at a glance from all other Gulls' eggs, in having one entirely bright white ground colour. When fresh they may have perhaps just a touch of greenish or yellowish, and herein they resemble the bright eggs of *Sterna cantiana*, though they differ remarkably in their coarser shell and larger size. The markings of the dull eggs are umber and black brown, with indistinct spots of ash grey. Great diameter fifty to fifty-five millimetres, small diameter thirty-seven to thirty-eight millimetres."

It is not included by Count Mühle among his Grecian birds. Linder Mayer says it occurs there, on the authority of Erhardt and Degland. It is not much more common on the African side, or at least its appearance is not often mentioned by naturalists on that continent. This may happen in consequence of the bird being confounded with other species. Captain Loche includes it in his list of Algerian birds; and my figure is taken from a bird obtained by Mr. Tristram at Tunis, on the 13th. January, 1858, and therefore in its winter plumage. It is a female, and the following is its description:—

Head, nape, neck, tail, all the lower parts, lesser wing coverts, and the greater part of the four first primaries, white, with a rosy tinge; scapularies, greater wing coverts, secondaries, and greater part of primaries (after the first four) light lead-colour; outer web of first,

inner border of the first four, and end of the fifth and sixth primaries black. Mr. Tristram's label says, "Irides white, with a small sulphur ring; tarsi reddish orange; beak dark carmine; lower plumage rich rose." And in a private note to me he further adds, "Observe the rich rosy tint in *L. tenuirostris*. It is very much faded, but was a brilliant salmon-colour, and the beak and legs brilliant."

According to Heuglin, "Vogel Nord-Ost Africas,"—"Rüppell says this Gull appears in the winter and spring most frequently in meadows at Cairo, where it feeds on grasshoppers. Taylor has even met with it at Queneh, in Upper Egypt. I know this species only as an inhabitant of lagunes and the sea shore, and it is in the winter seen in large flocks at Rosetti, Damietta, and Suez; on the canals northwards from the last named town, as well as on the low strand and in small towns with harbours on the coasts of Arabia. During summer I have never observed this bird on the Red Sea. In May and June, on the other hand, we saw large flocks on the Elka and Menzaleh lakes. These lagunes are connected with the sea, and receive a continual supply of water. The level water is scarcely higher than that of the sea, but the flow tide and the north-west wind raise a weak stream towards the sea. Then the canals and backwaters swarm with fish, for which the Slender-bill is content to lay in wait by hundreds. They will swim round the said localities, over which they wander, croaking, and at short intervals dart from high in the air, always with great dexterity, right down upon their prey.

"My former supposition that *Larus gelastes* increases in the lagunes of the Nile Delta is confirmed. This bird occurs in Tripoli, Tunis, Algeria, Senegal, Spain, Malta, Sicily, south of France, Italian coasts, Grecian Archipelago, Palestine, Black and Caspian Seas, lower Danubian countries, Oude (Irby,) India (Vienna Museum)."

According to Degland, individuals before the age of two years or after the second autumnal moult, have the head, neck, and lower parts of the body white; upper parts ash, with the wing coverts brown russet, bordered with tints more clear; the four first primaries white, bordered and terminated with brown black, the others bordered with ash and tipped with white; tail white, terminated by a transverse brown band, and a border of russet grey.

Heuglin ("Nord-Ost Africas") says:—"In specimens of about the second year the beak is flesh colour, with a touch of yellow or grey; feet a light ochre yellow; ring round the eye citron yellow. Iris pearl grey, sometimes tending to yellowish or reddish. Old birds, perfectly coloured, have sometimes dark, almost blackish web membranes."

In some respects this description accords with the specimen from which my figure and description are taken, but in that the tail is pure white. The skin of the young in down, and eggs are from my own collection, and were sent to me by Dr. Cullen, of Kustendji, where they were taken.

It has also been figured by Bonaparte, in *Icon. Faun. Ital.*, fascic 43, fig. 8.

PALMIPEDES.

Family LARIDÆ. (Bonaparte.)

Genus LARUS. (Linnaeus.)

MEDITERRANEAN BLACK-HEADED GULL.

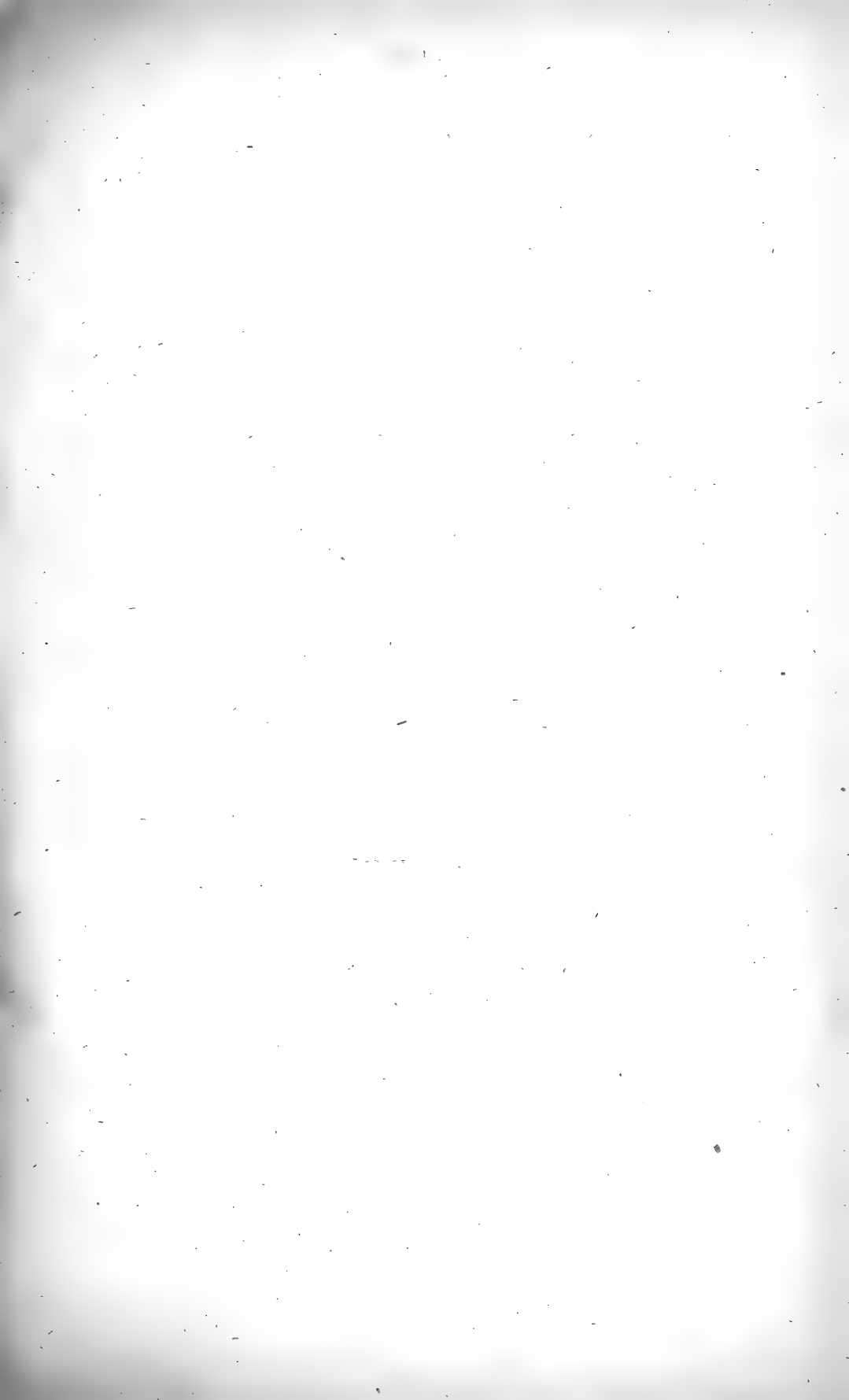
Larus melanocephalus.

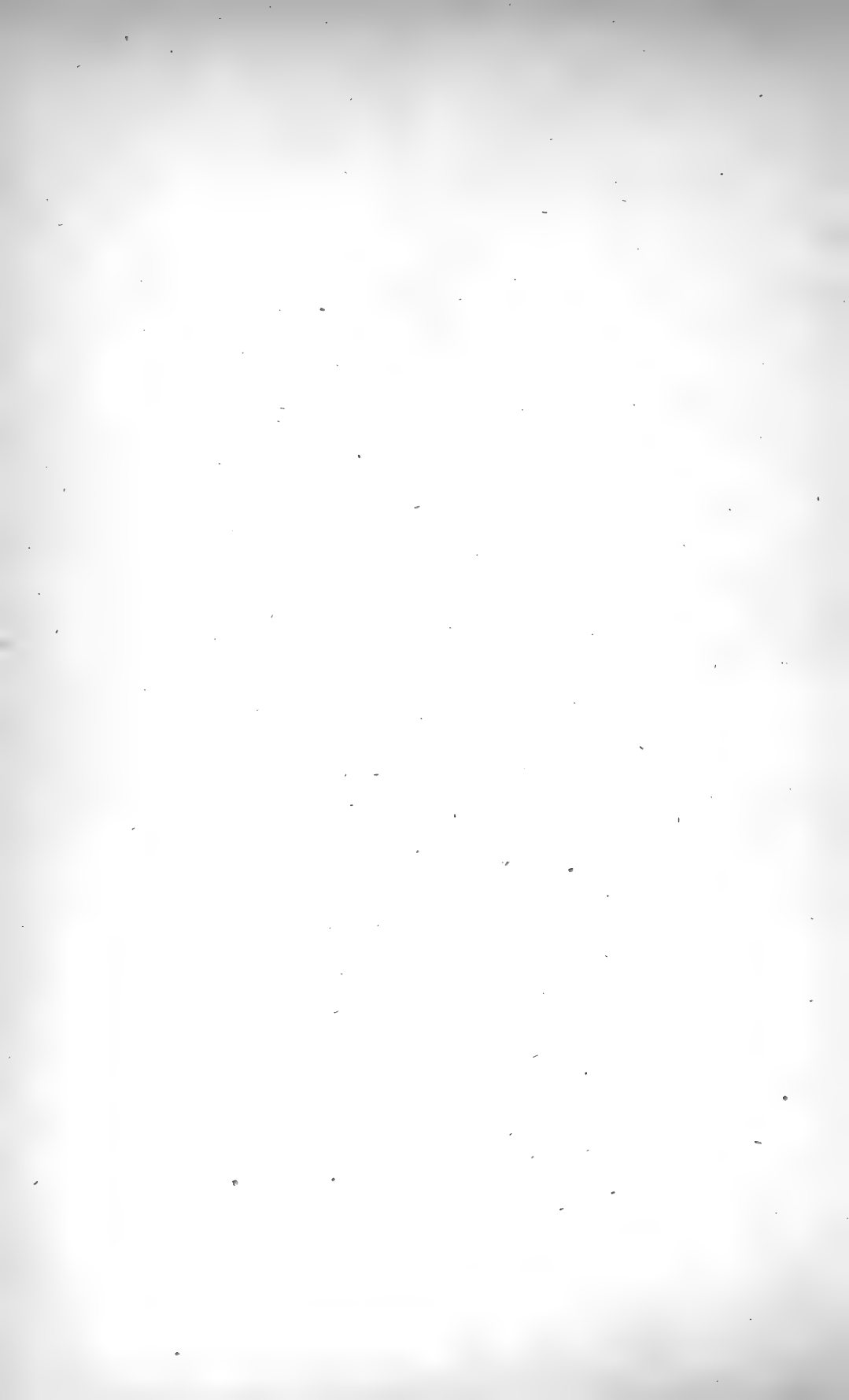
<i>Larus melanocephalus,</i>	NATTERER.
<i>Xema melanocephalum,</i>	BONAPARTE.
<i>Mouette à capuchon noir,</i>	OF THE FRENCH.
<i>Schwarzköpfige Möve,</i>	OF THE GERMANS.
<i>Gabbiano Corallino,</i>	SAVI.

Specific Characters.—Middle toe much shorter than the tarsus; beak strong and large; head entirely black in summer plumage; wings, when closed, pass beyond the tail. Plumage in winter, with the exception of black spots above the head and cheeks, black mark on outer web of first primary, and light slate-coloured mantle, entirely white. Length sixteen inches; carpus to tip twelve inches; tarsus two inches; middle toe and claw one inch and three quarters; beak two inches.

THE Mediterranean or Adriatic Black-headed Gull is found at various parts of the sea-coasts from which its English names are derived. It was first described as a distinct species by Natterer, and introduced into the European lists by Temminck. in his "Manual," (ed. 1840.) It is closely allied to *L. ridibundus*, but is distinguished from it by its larger and stronger beak, by the length of the tarsus, and by the absence of the black wing marks in winter.

Temminck says that it inhabits the "shores of the Adriatic, and is very common on those of Dalmatia, in the marshes. I have only seen it there, nor can I say that it inhabits the Archipelago or other southern parts. I never saw it on the lakes of Hungary, but it







MEDITERRANEAN BLACK-HEADED GULL.

has been observed at Trieste, among the great inlets so frequent on these shores. It is only seen in stormy weather." It is mentioned by Lord Lilford as being "very common in winter at Corfu, and on the coasts of the mainland; breeds in the marshes of Albania and Dalmatia."—"Ibis," vol. ii, p. 356.) Degland reports that it has occurred on the Rhine, and in the Gulf of Lyons, and that it accidentally visits Germany and France. It is included in the birds of the former country by Naumann. Savi also includes it in the birds of Tuscany. He says that now and then an individual is seen in the winter, and still more rarely in the spring, and that it is more frequently seen in the Mediterranean than in the Adriatic. He quotes Calvi for its appearance at Geneva, and says he did not often see it about Venice. The discovery of a single skin in this country by Mr. Howard Saunders (see Ibis), must not prevent me from introducing this bird.

It will be seen by the following extract from the "Ornith. Griechenlands," that Count Mühle thinks the bird figured by Savi is *L. ridibundus*, while his description refers to the real *L. melanocephalus*:—"Though I have had brought to me many specimens of this bird in different clothing, yet they do not appear to agree with the figures and descriptions of Naumann, Temminck, and Brehm. I can only recognise my specimen in the description of Savi; the figure, on the contrary, of Savi appears to be *L. ridibundus*, as the black cap in *L. melanocephalus* is deeper. The specimens before me have the size and form of *L. ridibundus*, but they are more compact, and have a stronger and higher beak; the beak, the feet, and the border round the eyes are the same. Dr. Michahellis, in the 'Isis' of 1833, No. 9, as well as Savi, state this border to be carmine red. The whole body, except the black head and the light lead-coloured mantle, pure white, the under parts tinged with rosy red; the eyelids white."

Salvadori (op. cit.) says of this bird:—"This bird is easily distinguished from *L. ridibundus* by a more robust, higher, and proportionately shorter beak. In the adult it may be further known by its white remiges, except the first, which has its external margin black. Besides in its summer plumage it has a pure black head. Individuals are found which have already put on the black head, and others in the winter dress, without the black head and with a white neck, which have the quills in great part black, white internally, and with a round white spot on the apex. The museum of Turin has a very beautiful series of individuals, presented by the Marquis Giacomo Dauria, of Geneva, in which all the dresses and the different

phases of plumage may be seen. As they were found in the same season, it is clear they must pass some years before they put on their perfect dress. This species is rather common in the Mediterranean: in some places it is more common than *L. ridibundus*. Wright says it is the most common winter resident amongst the Gulls of Malta. It is of very sociable habits, and in winter appears in the harbour in great flocks, feeding upon the refuse of the ships and city. In Sicily it is most common during winter, but it is not found in that season in Sardinia. Cara says it arrives in spring, and is found in that season in the islands of Pietro and Saint Antioco. In the Roman States, along the Tiber and on the shores of the Mediterranean, it is very frequent. Along the Adriatic coast it is much less abundant than in the Mediterranean, so that it may be said to be there decidedly scarce. Nini says that it appears every year in Venetia, though not common. Very few times it has occurred to me to see them in the market. It is not so frequent in Tuscany as in the Mediterranean, while it is very common in Liguria from autumn to spring."

In a note Salvadori observes that Savi and Wright are the only Italian writers who have not confounded this bird in youthful plumage with *L. atricilla*, to whom may be added Il Benoit, who merely followed Temminck in his error, but at the same time noticed that he had never seen it (*L. atricilla*) in Sicily.

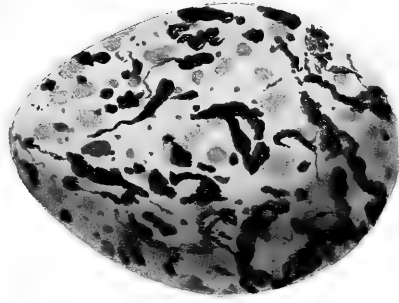
Count Mühle says the species is becoming rare in Greece. It appears to breed there, but he did not discover the nests. "It is not very shy, but becomes cautious after being often shot at. It may be sought for in spring, in swampy places, with the Terns, and, like similar species, it feeds on insects."

Dr. Lindermayer says he has only seen it in spring, when it appears tolerably plentiful over harbours and creeks. In the first week of May it disappears, and he has reason to believe that it breeds on the coasts: but he never got the eggs. "It does not appear to come into the Archipelago."

I quite agree with Dr. Lindermayer, that there is no ground whatever for acceding to the proposition of Count Mühle, to change the name of this bird to that of *Larus michahellei*.

Captain Loche records this species among the birds of Algeria, but Mr. Tristram doubts whether it breeds there. At all events he did not find any eggs. Baldamus, however, ("Naumannia," 1853, p. 419,) says that he had received eggs from the south of France and Algeria; that they are found in Hungary without any doubt, ("Naumannia," vol. ii, p. 81.) The dimensions are, according





1 & 2. MEDITERRANEAN BLACK-HEADED GULL.

3. GREAT BLACK-HEADED GULL.

to the same authority, great diameter forty-four to forty-five millimetres, small diameter thirty-five to thirty-five and a half.

The following is an account from the "Field," published there by me of this bird from Mr. W. H. Cullen, of Kustendji:—

BLACK-HEADED MEDITERRANEAN GULL, OR ADRIATIC GULL. (Bree, vol. iv., plate; *Larus melanocephalus*, Natterer.)—On another small sand bank, but at some distance off, in the same lake, was a small colony of this Gull, in nests exactly like those of the Slender-bill, and, though distinct, yet entirely surrounded by the nests of several other species of Gulls and Terns. The traps enabled us to secure four and some eggs. These birds are much more difficult of access than the Slender-bill, and, like it, entirely deserted their nests the night after the capture. Many were seen flying about; but their locality could not be discovered. These also live on the same species of beetle.—WM. HY. CULLEN (Kustendji, July, 1870).

This bird is readily distinguished from the so-called Black-headed Gull of the British Isles by the uniform jet black colour, instead of brown, of the head and nape, and the larger and stouter coral-coloured beak. The tarsi are shorter in the common British species or race. In other respects they are very closely allied, and I think their claims to be named the races of each other may be very fairly granted. They form, however, an interesting link in the great series of Black-heads, from the Little Gull, *L. minutus* up to the Great Black-headed Gull, *L. ichthyaetos*. Fourteen eggs, all that were taken, have been sent to me. They differ, like our Black-head, very much in size and colour; but I have compared them with one hundred specimens of the latter in my collection, and they differ markedly from that motley crew. They are deficient in one great character of the British egg, viz., the prevailing shade of green, which as a rule pervades the latter, but which is entirely absent in the fourteen eggs sent to me. In size they vary from one inch and nine tenths long by one inch and two tenths broad, the smallest, to two inches and a half by one inch and a half the largest. The ground colour varies from a dirty white in seven specimens to light yellowish brown in four, and a darker tint of the same colour in three.

One specimen has a few scattered spots of umber brown, and another a few spots and streaks of the same colour. Two have more and larger, and two more and smaller and distincter spots, of two shades of the same colour. In three the colourings are of a richer brown, and are more thickly spotted and streaked at the larger end;

while the remainder are marked more regularly, without any zone, with the same two-shaded spots.

They agree very well with the three eggs figured in Bædeker's work. Three skins accompanied the eggs, two in mature breeding plumage, and one in immature dress.

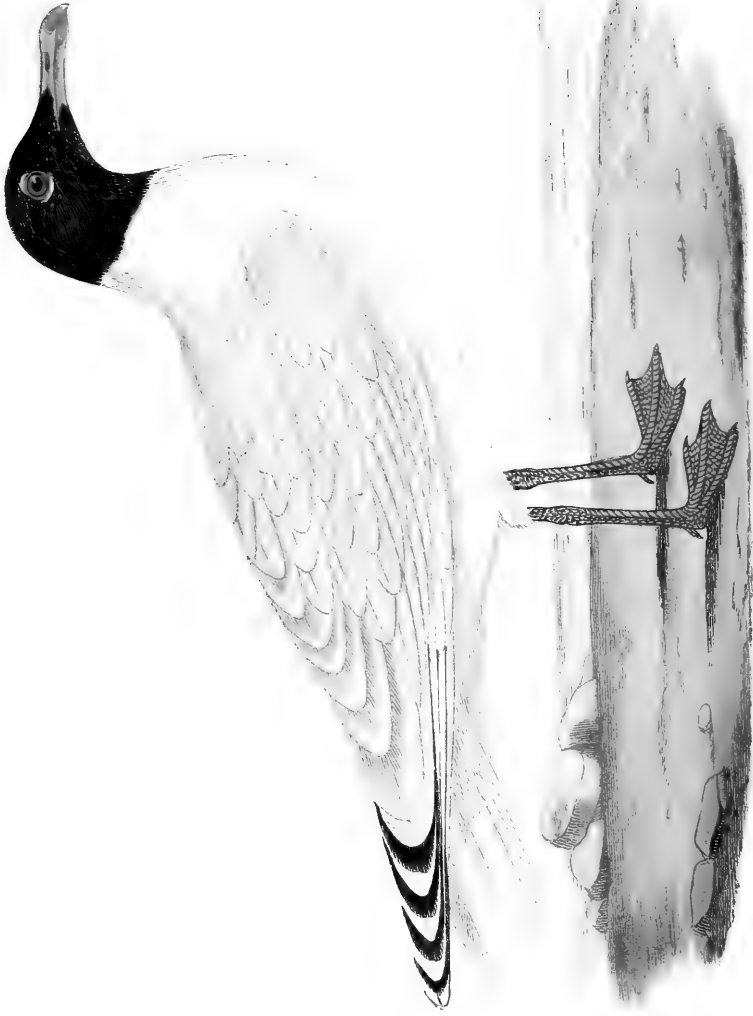
The male and female in breeding plumage have the head and upper half of the neck of a profound black, with the eyelids white; top of the body light lead-colour; inferior half of neck, crop, abdomen, and under tail coverts of a pure white; wing coverts, and basal half of primaries light lead-colour, the rest, just to the point, white; tail pure white; beak, legs, and feet of deep well-marked blood red, with a black transverse band between the point and the angle of the former; the free border of the eyelids dentate, and the colour of red lead; iris dark hazel.

The winter plumage has been described in the diagnosis. Beak, legs, and iris as in the spring dress.

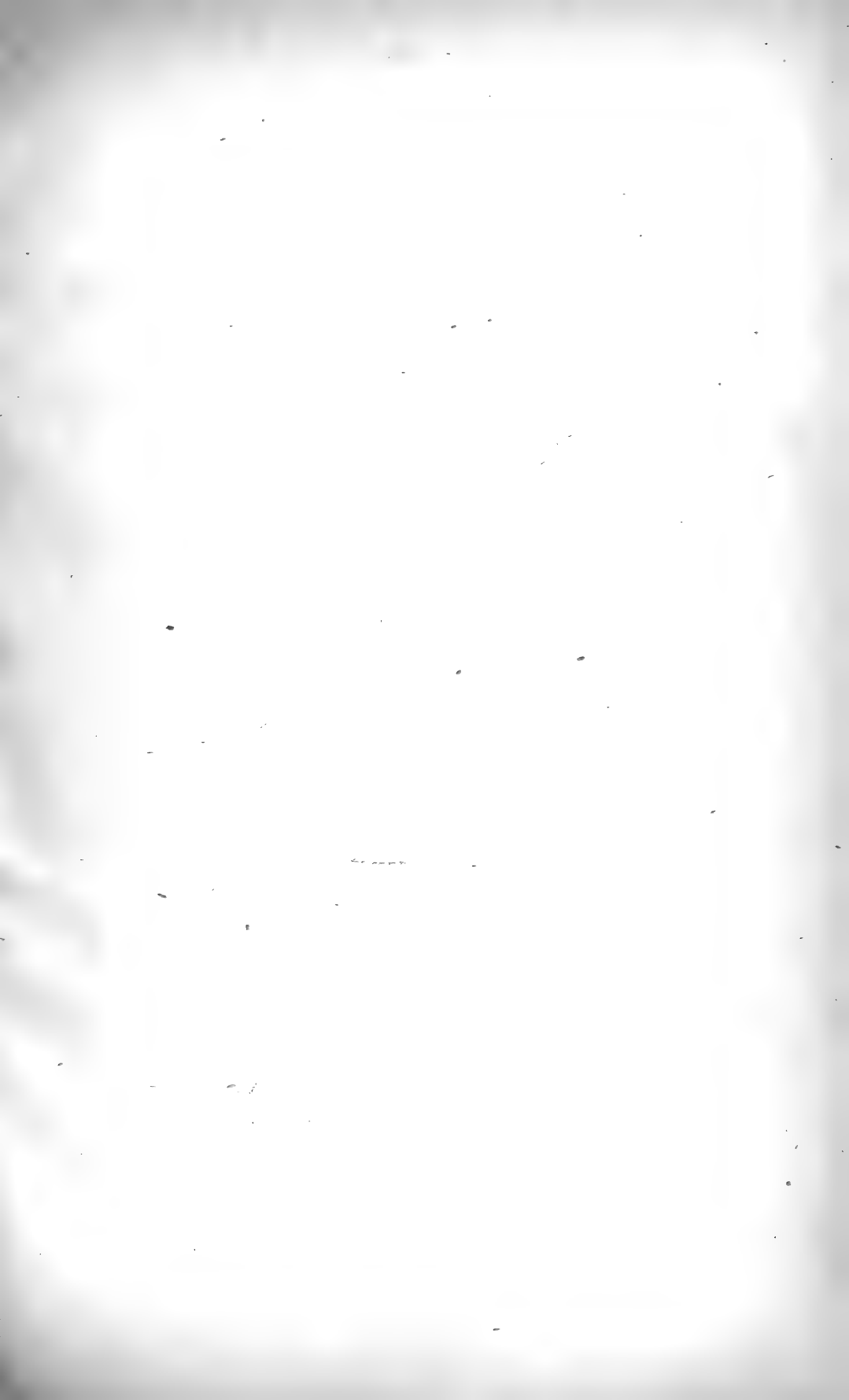
According to Degland, the young of the year have the head and neck waved with grey and white; top of the body brown, washed with bluish ash, with the borders of the feathers whitish; crop undulated with grey and white, like the neck; abdomen and under tail coverts pure white; wings like the upper parts; primaries black, without white tips; tail white, barred with blackish near the end; beak livid at its base, black at its point; legs livid russet brown.

The figure in light plumage is a female in winter dress, from Malta, marked "Jan. 25, 1858," and kindly sent me by Mr. Tristram. The figure with a dark head is a male in breeding plumage. The eggs are from my own collection, and were sent me by Mr. Cullen, of Kustendji.

It has also been figured in Stor. Degl. Uccelli, pl. 526 and 528, in winter plumage, and 527 that of spring; Gould, B. of E., pl. 359, in breeding plumage.



GREAT BLACK-HEADED GULL.





PALMIPEDES.

Family LARIDÆ. (Bonaparte.)

Genus LARUS. (Linnæus.)

GREAT BLACK-HEADED GULL.

Larus ichthyaëtos.

<i>Larus ichthyaëtos,</i>	PALLAS.
<i>Xema ichthyætum,</i>	BONAPARTE.
<i>Mouette ichthyaëte,</i>	OF THE FRENCH.
<i>Fischmöve,</i>	OF THE GERMANS.
<i>Rybak,</i>	OF THE RUSSIANS.
<i>Charabalta,</i>	OF THE TARTARS.
<i>Great Gull,</i>	LATHAM.

Specific Characters.—Spring plumage. Beak large and thick; tarsi long; head and neck velvety black, with a white spot over each eye; mantle greyish blue. Length, twenty-five inches; wing, from carpus to tip, eighteen inches and a half; tarsus three inches; bare part above knee one inch and three quarters; bill, from gape, three inches and five eighths; bill, from forehead, two inches and a half.

THIS interesting bird was shot the end of May or beginning of June, 1859, in the River Exmouth, by William Pine, the boatman of W. Taylor, Esq., of Bridgewater, whence the specimen passed to the late F. W. L. Ross, Esq., by whom a description will be found in the "Zoologist" for 1860, p. 6860, as well as in the "Annals and Magazine of Natural History" for December of that year.

As it has not been figured as an English specimen, it will fall into the list of birds introduced into this work. Its appearance on our shores is quite accidental. It belongs properly to the Caspian and Red Seas, and, like other large species, occasionally flies out of its native localities.

In Europe it has been observed in the Ionian Islands, in Hungary, and Switzerland. Dr. Leith Adams informs me that it is common on the Delta of the Indus, in the Bay of Bengal, and the Indian Ocean. It is in fact an Eastern species, which occasionally wanders into Europe.

It nests, according to Pallas, in the middle of the downs on the sea-shore. It lays two or three eggs, which are oblong, pale grey, with a number of light or dark brown spots. It feeds on fish, and it has a voice strong and deep, like that of a crow.

As Mr. Ross's description was taken from the bird in the flesh, I copy it from the "Zoologist:"—"Head, entirely, and part of the neck pure black; the rest of the neck, beneath the body, upper tail coverts, ends of scapulariës, and secondaries, pure white; the rest of the upper surface of a pale plumbeous grey; quills pure white, with the ends black and the tips white, which latter colour is more prominent on the first quill, while the second has the black also divided irregularly with white near the end; a small white mark above and beneath the eyes; beak at its base livid yellow, with a crimson ring-like spot near the tip, which is fuscous yellow; the feet fuscous red. When first obtained the circles round the eyes were red." The measurements I have given in the specific diagnosis.

In "Naumannia" for 1856, p. 164, there is an account by J. G. F. Beaumont, of the capture of a bird of this species in the lake of Geneva. It was in the young plumage. He describes it as closely allied to *Larus marinus* (the Greater Black-backed Gull) in its young state; but he says the colouring is clearer, and the beak and feet weaker in *L. ichthyaëtos*. The following is his description of this bird, killed in the end of the year 1848:—

"Throat and upper part of neck clear white. The breast, belly, flanks, and under tail coverts are everywhere dull white, with large bright brown spots on each feather, darker on the sides. Cheeks and sides of neck white, with fine grey brown stripes on each feather; head, neck, mantle, and all the wing coverts greyish white, with brown spots, darker than the under parts. Tail dotted and marbled with very dull brown, the two outer feathers whiter than the others, the two middle feathers almost entirely brown, all barred at the tips with a broadish brown band. Wing primaries blackish brown, with clear tips; beak blackish; basis of lower jaw flesh-coloured; feet the same; iris clear brown."

Mr. Beaumont then makes some very just remarks about the absurdity of creating the genus *Xema* for dark-headed Gulls with thin beaks, and naïvely asks, where are we to place this giant of

black heads, with the beak of *Larus* and the dark head of *Xema*.

My figure is from the English specimen in the late Mr. Ross's collection, a drawing of which, with Mrs. Ross's consent, has been taken for this work by the Rev. F. Wright, of St. Stythray, Cornwall, to both of whom my best thanks are tendered.

The figure of the egg is from my own collection. It was taken by Herr Glitsch in South Russia.

PALMIPEDES.

Family PROCELLARIIDÆ. (*Bonaparte.*)Genus PUFFINUS. (*Brisson.*)

Generic Characters.—Beak as long, or longer than the head, slender, straight, depressed at its base, very compressed and hooked at its extremity; inferior mandible pointed, and curved at its point like the superior; nostrils basal, oval, opening by two distinct tubes; legs middle sized, almost in the centre of gravity of the body; a small space above the knee naked; tarsi compressed and reticulated; feet webbed; hind toe replaced by a very sharp claw. Wings long, the first primary the longest; tail round or conic, and composed of twelve quills.

ALGERIAN
CINEREOUS SHEARWATER.*Puffinus cinereus.**Puffinus cinereus,**Nectris cinerea,**Puffinus kuhlii,**Procellaria puffinus,**Puffin cendré,**Grauer Puffin,*CUVIER, *nee* GMELIN.

KEYSERLING AND BLASIUS.

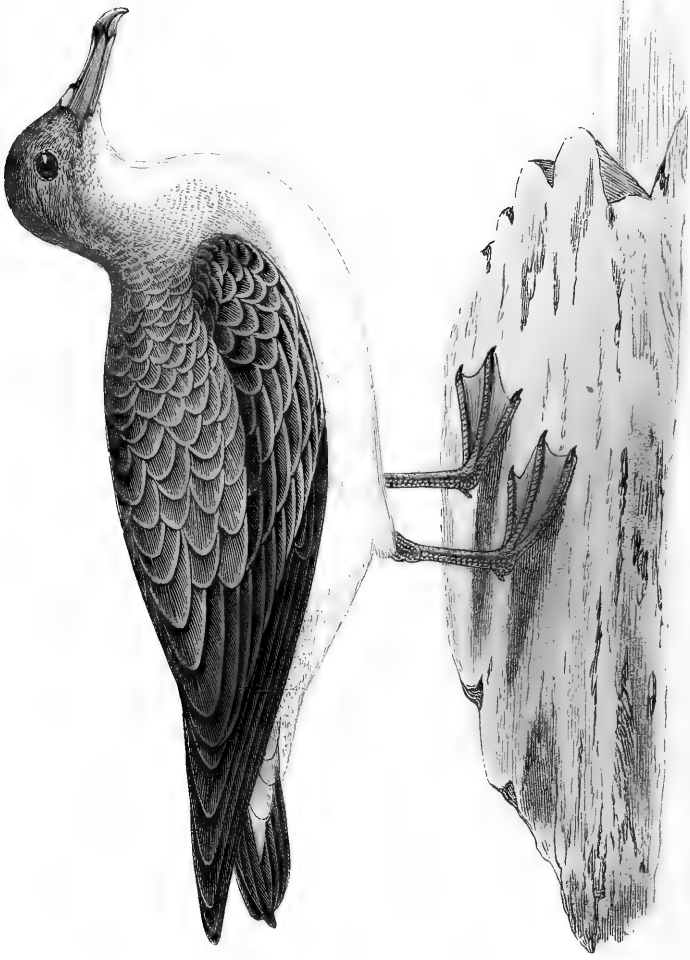
BOIE; *Isis*, 1835, p. 257.TEMMINCK; *Manuel*, 2nd. Edition, 1820,and *Puffinus cinereus*, *Man.*, 1840.

OF THE FRENCH.

OF THE GERMANS.

Specific Characters.—Upper plumage dark brown; lower plumage pure white, with the sides of the neck mottled with grey brown; upper tail coverts light brown, tipped with mottled grey. Length nineteen inches; carpus to tip thirteen inches and a half; beak from gape two inches and a half; depth at base, including nostrils, three quarters of an inch, in middle seven lines; tarsus two inches and a fifth; middle toe two inches and seven tenths.



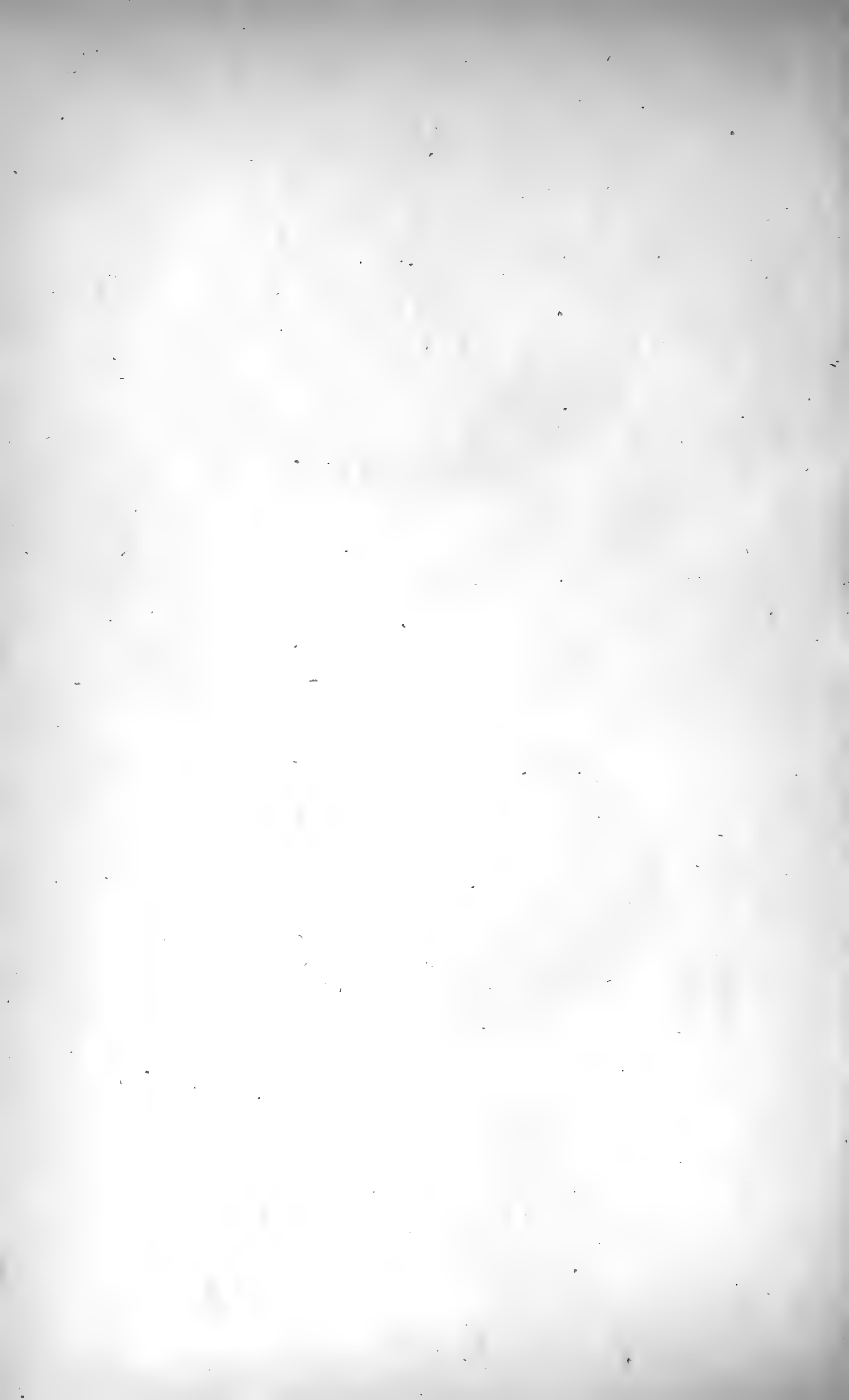


ALGERIAN CINNEROUS SHEARWATER.



1. ALGERIAN CINEREOUS SHEARWATER.
2. ARCTIC CINEREOUS SHEARWATER.





THERE has been a good deal of confusion among the Shearwaters, which seems to have arisen from the general resemblance to each other of some of the species, and their sexual differences. Of the Cinereous Shearwaters there are three which have been more or less thus mixed up—the subject of the present notice, *P. major*, and *P. fuliginosa*. It is the latter which has been taken frequently in the British Isles, and from its resemblance to *P. cinereus*, has generally been described and figured as that bird, although distinguished from it by its smaller size and more slender beak. On the other hand, *P. major* has been taken in Great Britain, and has been figured as *P. cinereus* by Selby and Gould. Mr. Yarrell figures the bird correctly enough, from specimens sent to him by Mr. Mitchell, of Penzance, but in his description he says that he never saw a specimen of *P. major* which exceeded eighteen inches in length, which creates the suspicion of a further mistake, as *P. major* of Faber, the bird which I shall figure and notice next, is upwards of nineteen inches in length, —Degland says upwards of twenty-four inches.

As it is impossible without comparison to form a correct opinion upon the subject, I will figure an undoubted specimen of *P. cinereus* of Cuvier, and also one of *P. major* of Faber; leaving the question whether either or both have been taken in Great Britain, to be decided by British ornithologists.

The Algerian Cinereous Shearwater, as its name implies, is common on the north-west coast of Africa, and about the Mediterranean and Adriatic Seas.

The Cinereous Shearwater is seen especially in the tempest and the storm. In its habits it is crepuscular, feeding during the twilight or early sunrise, and keeping out of sight during the day. It feeds principally on fishes, worms, molluscs, and crustaceans, which it finds tossed about by the waves on the surface of the ocean.

It builds among the rocks, laying, like the rest of its family, but a single white egg.

The male and female have the head, nape, and scapularies greyish brown, the most inferior of the latter, like the rest of the back, wings, and tail, dark brown; upper tail coverts light brown, edged with finely-spotted white. Primaries black, with the broad part of the inner web white, shaded off to light brown. Cheeks and sides of the neck and chest finely-mottled grey; throat, crop, abdomen, and under wing and tail coverts pure white. Beak yellowish, with the point and hook dark brown. Feet and legs livid yellow; iris brown.

My figure is taken from an Algerian specimen sent to me by Mr. Tristram. The egg was sent to me from Malta by Dr. Leith Adams, by whom it was captured with mother.

PALMIPEDES.

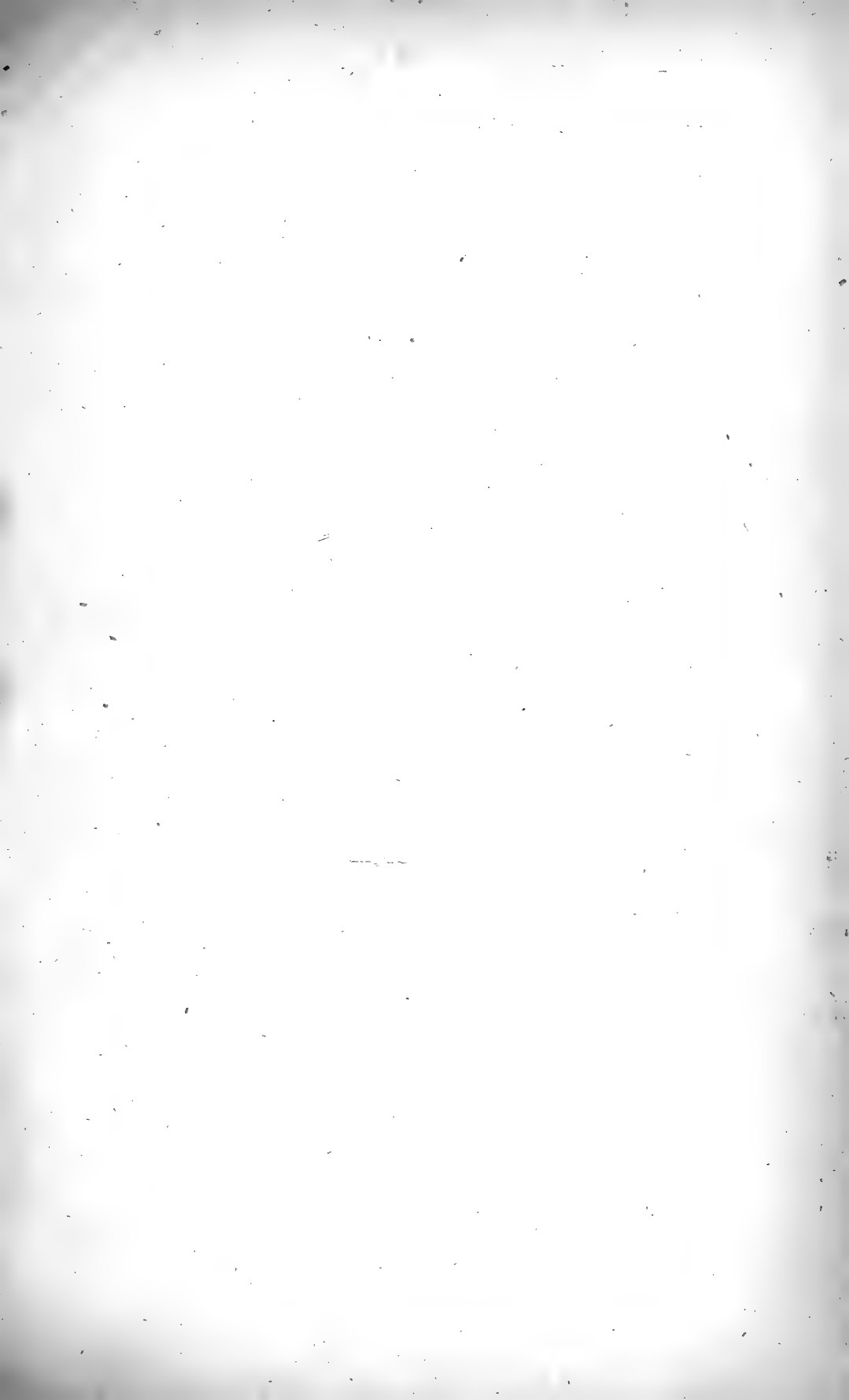
Family *PROCELLARIIDÆ*. (Bonaparte.)Genus *PUFFINUS*. (Brisson.)ARCTIC
CINEREOUS SHEARWATER.*Puffinus major*.

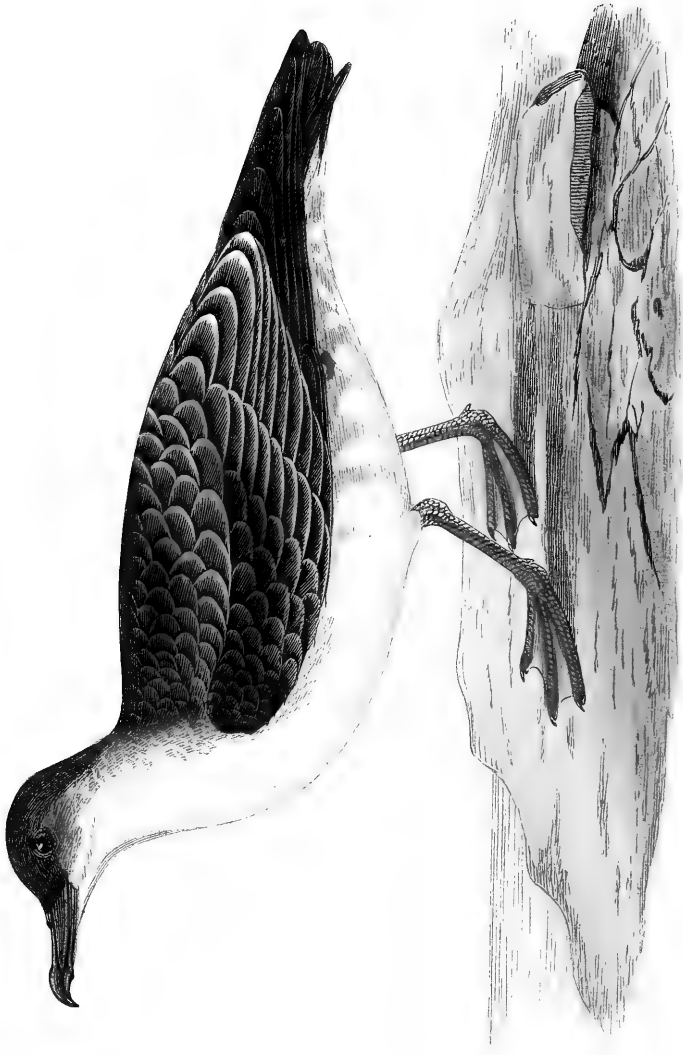
<i>Puffinus major</i> ,	FABER; Prodromus der Island, 1822.
“ “	TEMMINCK; Manuel, vol. iv, p. 507, 1840.
“ <i>cinereus</i> ,	AUDUBON; Nec Auct.
<i>Puffin cendré Artique</i> ,	OF THE FRENCH.
<i>Grosser Grauer Puffin</i> ,	OF THE GERMANS.

Specific Characters.—Head and scapularies of the same dark brown as the wings; nape light grey, forming a kind of collar; throat and sides of neck pure white. Length of dry skin from end of beak to tip of tail nineteen inches; carpus to tip of wing twelve inches and a half; beak from gape two inches; tubular nostrils half an inch; tarsi two inches; middle toe and claw three inches.

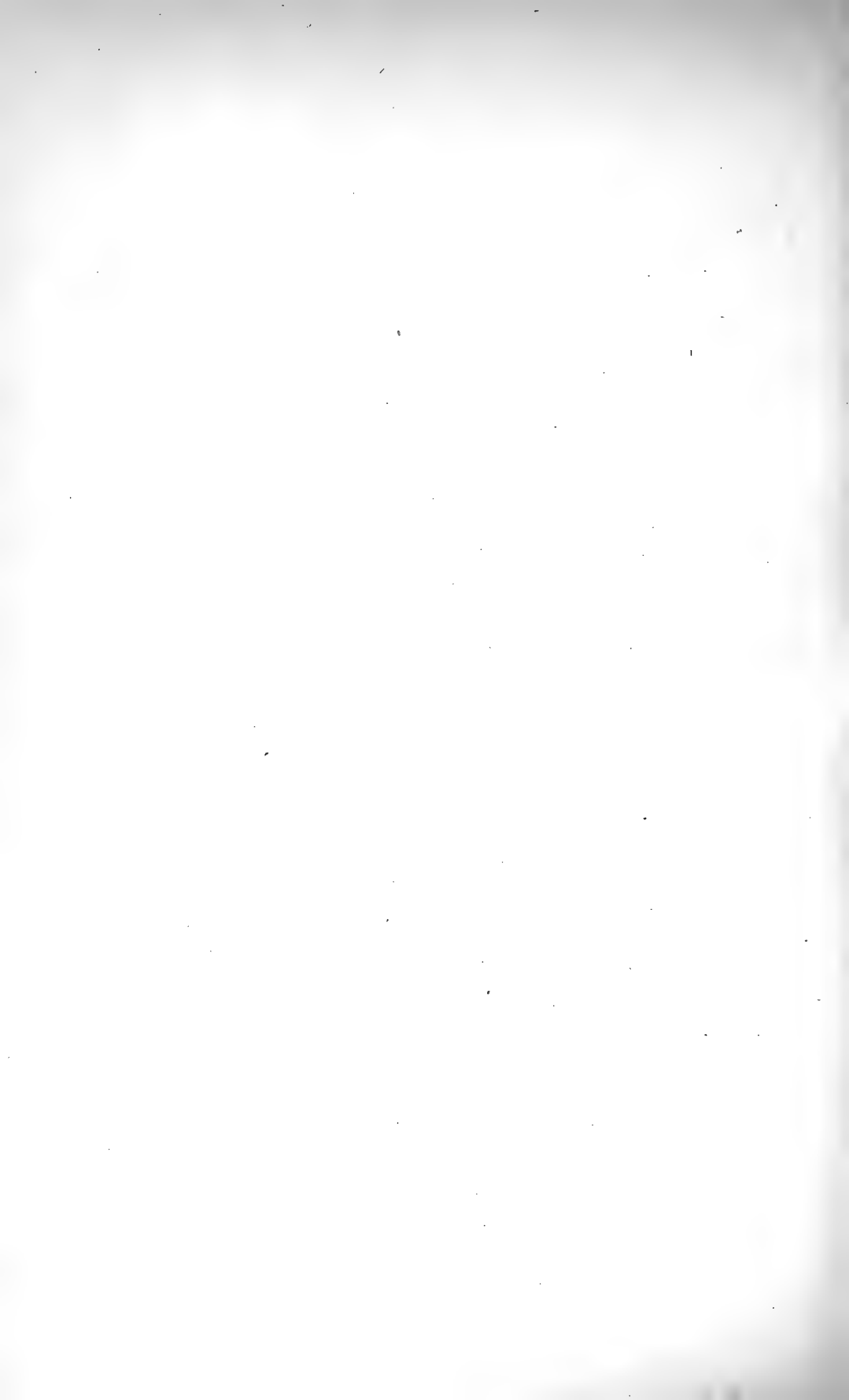
THIS Arctic species which, according to Yarrell, has been taken in the British Isles, I introduce here for the purpose of comparison with the Algerian species last noticed. They are very distinct, and must not, according to the present system of defining species, be considered as varieties of each other, as will be readily conceded upon comparing the two figures and the diagnosis of each.

This species is well known in high latitudes, chiefly in the north-west Atlantic. It is very common in Newfoundland, where, according to Temminck, it breeds in thousands, and it occurs occasionally in the north of Europe. It is the lower figure of Yarrell's "British Birds," vol. iii, p. 624, where an account is given of its capture on





ARCTIC CINEREOUS SHEARWATER.



several occasions in Great Britain. In size and locality it agrees very well with the description of the Wandering Shearwater given by the American writers. Occasionally it is found in the north-west of Europe, but it belongs to the Arctic fauna, and its appearance in our latitudes is purely accidental.

“On approaching the banks of Newfoundland,” says Nuttall, “but far west of soundings, we see the soaring and wandering Lestris, and every day the wild Shearwater, but more particularly in blowing and squally weather; sometimes also in fine weather we see them throughout the day. Their course in the air is exceedingly swift and powerful. With their long wings outstretched and almost motionless, they sweep over the wild waves, fearless of every danger, flying out in vast curves, watching at the same time for their finny prey. Like the Stormy Petrel, they are often seen to trip upon the water with extended feet and open wings; they likewise dive for small fish, and find an advantage in the storm; whose pellucid mountain waves bring to view its shining prey to more advantage; it is therefore often seen most active at such times, watching the sweeping billow as it rises and foams along, harassing and pursuing its quarry with singular address, snatching it from the surface, or diving after it through the waves, on which they are often seen to sit as they mount to the sky, or sink into the yawning abyss of the raging deep.”

Like the other Shearwaters, this species lays a single white egg, which I figure from a specimen sent me by Mr. Tristram.

The male has the top of the head, cheeks, and occiput brown black; the nape ash grey; upper part of the scapularies russet brown, the lower brown, fringed with white. Wing coverts dark brown; primaries and tail black, the inner web of the former not so white as in the last described species; upper tail coverts white mottled in the middle with grey; throat, sides and front of neck, crop, and abdomen white; under wing coverts grey, light brown, and white; flanks and under tail coverts brown; beak black, lighter below and on the claw-like hook at the end of upper mandible. Feet and legs yellow on the inside, darker brown on their outer aspect; iris brown.

My figure is from a specimen kindly sent to me by Mr. Tristram, and is from Greenland.

PALMIPEDES.

*Family PROCELLARIIDÆ. (Bonaparte.)*Genus DIOMEDEA. (*Linnæus.*)

Generic Characters.—Beak strong and cutting, longer than the head, compressed, straight, and curved abruptly at the point; upper mandible deeply seamed on each side, and strongly hooked at the tip; lower mandible smooth, its end distinct, compressed, and truncated at tip. Nostrils in the furrow, distant from the base, separate, covered on the sides, open in front, tubes very short, partly conical, wider before than behind, lying on the sides of the bill. Feet short and robust; tarsus one fourth shorter than the middle toe; webs full and entire; no hind toe. Wings very long; tail round or wedge-shaped, and composed of fourteen feathers. Sexes alike in plumage, but the young differ much from the adult. They moult twice a year, without changing their colours.—NUTTALL.

WANDERING ALBATROSS.

*Diomedea exulans.**Diomedea exulans,*

LINNÆUS.

Albatrus,

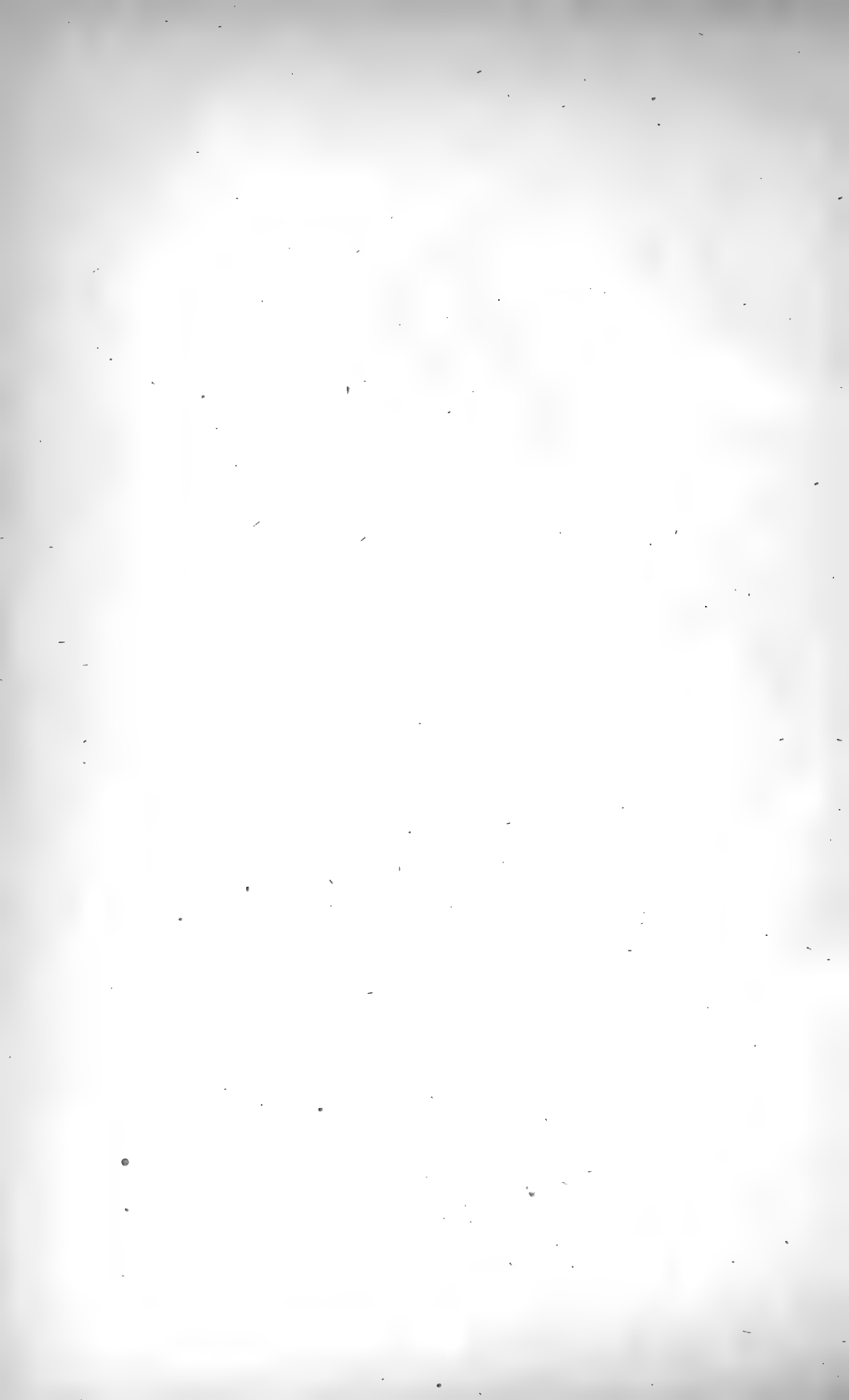
BRISSON.

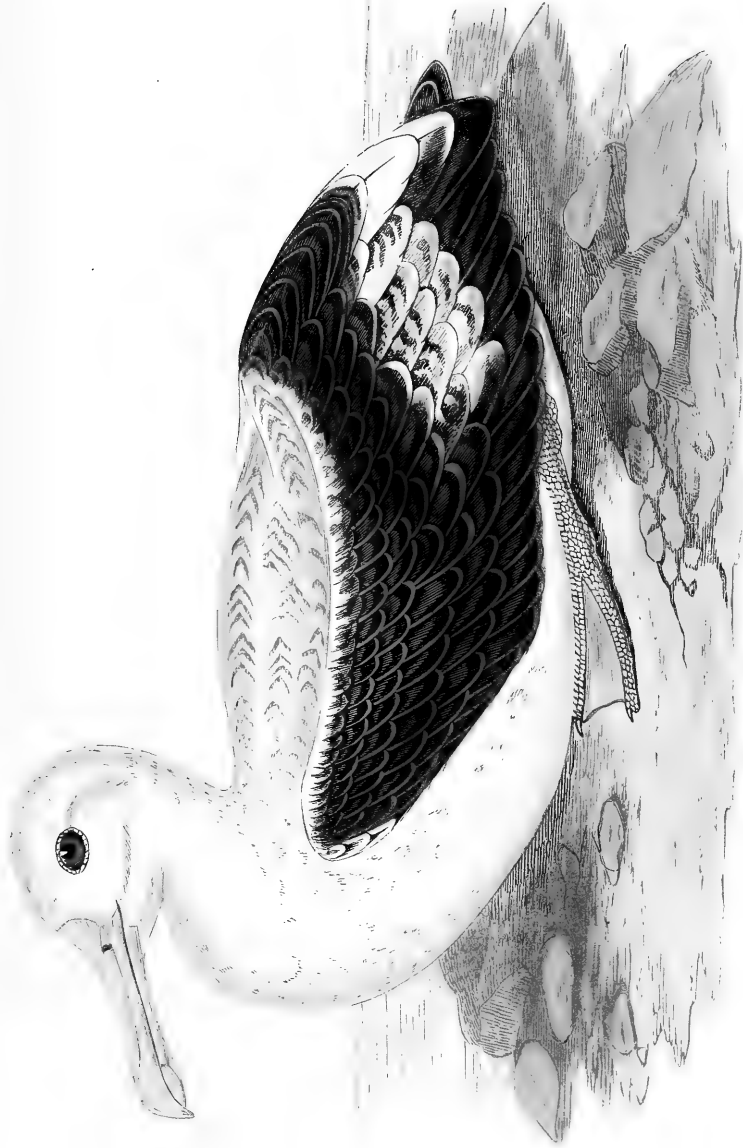
*Mouton du Cap, or**Vaisseau de guerre,*

OF THE FRENCH.

Specific Characters.—Whitish; back and wings lineated with black; quills black, their shafts yellow; tail lead-colour, (young dusky;) head, wings, and tail blackish; a white space round the eye. Length three to four feet; expanse of wings ten to seventeen feet.—NUTTALL.

LATHAM describes four species of Albatross, two of which are recorded as visiting accidentally the seas of Europe, namely, the





WANDERING ALBATROSS.

subject of the present notice and *D. chlororhynchos*, the Yellow-nosed Albatross of Latham, ("Synopsis," v, p. 309.)

The Wandering Albatross, of which but few naturalists have much personal knowledge, inhabits the Atlantic and Pacific Oceans. Its appearance in European seas is rare and accidental; at least but few instances of its having been seen there are recorded. Degland notices one specimen having been captured at Dieppe about 1830, the head of which is preserved by M. Hardy, the well-known naturalist of that place. Another specimen was killed near Anvers in 1833, and three more in the neighbourhood of Chaumont, in November, 1758. There is also a specimen in the museum at Christiana, which Mr. Tristram informs me he has seen, which was killed off the coast of Norway. Notwithstanding these instances, however, ornithologists have been tardy in admitting this species into the European lists. Nuttall, whose descriptions are always interesting, proceeding, as they did, from an accomplished naturalist, who, like Audubon, earned his reputation in the forests and the prairies, has given an excellent account of this bird. "Vagabond," he remarks, "except in the short season of reproduction, they are seen to launch out into the widest part of the ocean, and it is probable that, according to the season they pass from one extremity of the globe to another.

"Like the Fulmar, the constant attendant upon the whale, the Albatross, no less adventurous and wandering, pursues the tracks of his finny prey from one hemisphere into another. Dr. Forster saw them in the middle of the Southern Ocean, six or seven hundred leagues from land. When the flying fish fail they have recourse to the inexhaustible supply of molluscous animals with which the milder seas abound. They are nowhere more abundant than off the Cape of Good Hope, where they have been seen in April and May, sometimes soaring in the air with the gentle motion of the Kite at a stupendous height, at others nearer the water, watching the motions of the flying fish, which they seize as they spring out of the water to shun the jaws of the larger fish which pursue them. Vast flocks are also seen around Kamtschatka and the adjacent islands, particularly the Kuriles and Bering's Island, about the end of June. Their arrival is considered by the natives of these places as a sure presage of the presence of the shoals of fish which they have thus followed into these remotest seas. That want of food impels them to undertake these great migrations, appears from the lean condition in which they arrive from the south; they soon, however, become exceedingly fat. Their voracity and gluttony is almost unparalleled; it is not uncommon to see one swallow a salmon of four or five pounds weight; but as the gullet cannot

contain the whole at once, part of the tail end will often remain out of the mouth; and they become so stupified with their enormous meal, as to allow the natives to knock them on the head without offering any resistance.

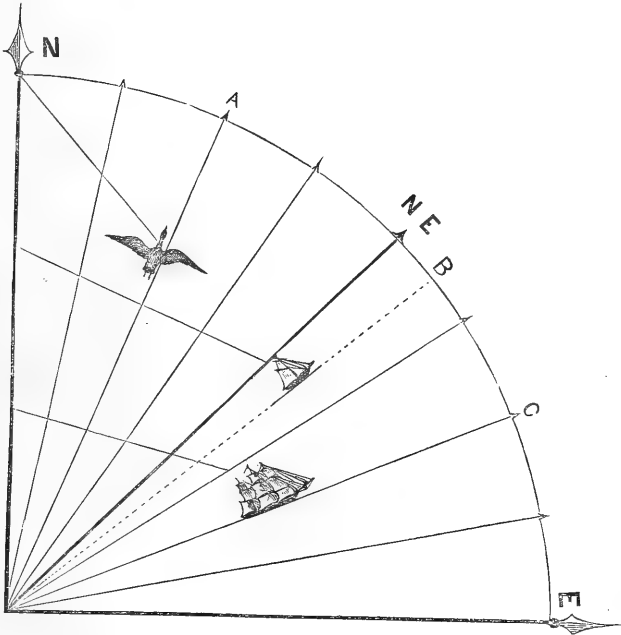
“They are often caught with a hook baited with fish, but not for the sake of their flesh, which is hard and unsavoury, but on account of the intestines, which the Kamtschadales use as a bladder to float the buoys of their fishing-nets. Of the bones they also make tobacco-pipes, needle-cases, and other small implements. When caught, however, they defend themselves stoutly with the bill, and utter a harsh and disgusting cry. Early in August they quit these inhospitable climes for the more congenial regions of the south, into which they penetrate sometimes as low as the latitude of 67°.”

In the “Gatherings of a Naturalist in Australia,” by Dr. Bennett, p. 70, et seq., there is a very interesting account of the different species of Albatross which frequent the Australasian seas, especially of the one now under notice, from which I will make some extracts.

“The large species of Albatross varies in plumage more from age than sexual distinction. In some the wings above are of a dark brownish black, with the back most delicately pencilled, and abdomen white; others have the rest of the plumage dark brown, the head and abdomen white. In the movements of this bird there is no laborious effort, but energy and vigour combined with grace is displayed in all its actions. With what elegance it sails along, cleaving the air obliquely, inclining from one side to the other, descending and skimming close to the rolling waves, its huge pinions appearing almost to touch the water! It then soars aloft with equal boldness and facility of action, as if using the aid of the wings as a sail. So rapid are its movements that, having been seen near the ship, before a few seconds having elapsed it has passed far away, still ascending and descending towards the surface of the water, seeking for food, and ranging over an immense space in a very short period of time. Sometimes they may be seen floating upon the water engaged in cleaning their feathers, and thus imparting an additional gloss to their plumage.”—(Page 79.)

Further on Dr. Bennett illustrates by the following diagram the remarkable power which this bird has of flying within two points of the wind, and of tacking like a ship. “The diagram forms the segment of a circle. N is the direction from which the wind is supposed to be blowing; C is a ship sailing within six points of the wind; B is the course of a cutter which can sail ‘close hauled’ to within four points and a half of the wind; A is the course of the Albatross, which

flies so close to the wind as to keep within two points of the wind, and appears almost to fly against it."



In the Australasian seas Dr. Bennett says the squid or cuttle-fish forms their principal food, after feeding upon which they would return to the ship, and hover about it apparently without any muscular exertion, steering themselves by the tail and wings. Nature has been prodigal in her gifts to this remarkable bird. Under the feathers there is a quantity of fine down, which protects them from the cold; and the extent and size of air-cells in their bones gives them that buoyancy and lightness which enables them to live almost always on the sea and on the wing.

In the twelfth volume of the "Linnean Transactions," Captain Carmichael, in his "Description of the Island of Tristran du Cunha," has an account of the nesting of this species. It gives itself no trouble in constructing a nest, "merely choosing a dry spot of ground, and producing a slight concavity to prevent the egg from rolling out of its place. The egg is white, very large, and of a very peculiar shape, being uncommonly long in proportion to its diameter, and

equally thick, or nearly so, at both ends." The young are fed by disgorging from the parent stomach, food never being carried by the mouth; for, as Captain Carmichael remarks, "the blubber of dead whales, seals, and sea lions, would melt away if carried in the bill to any distance." He further adds:—

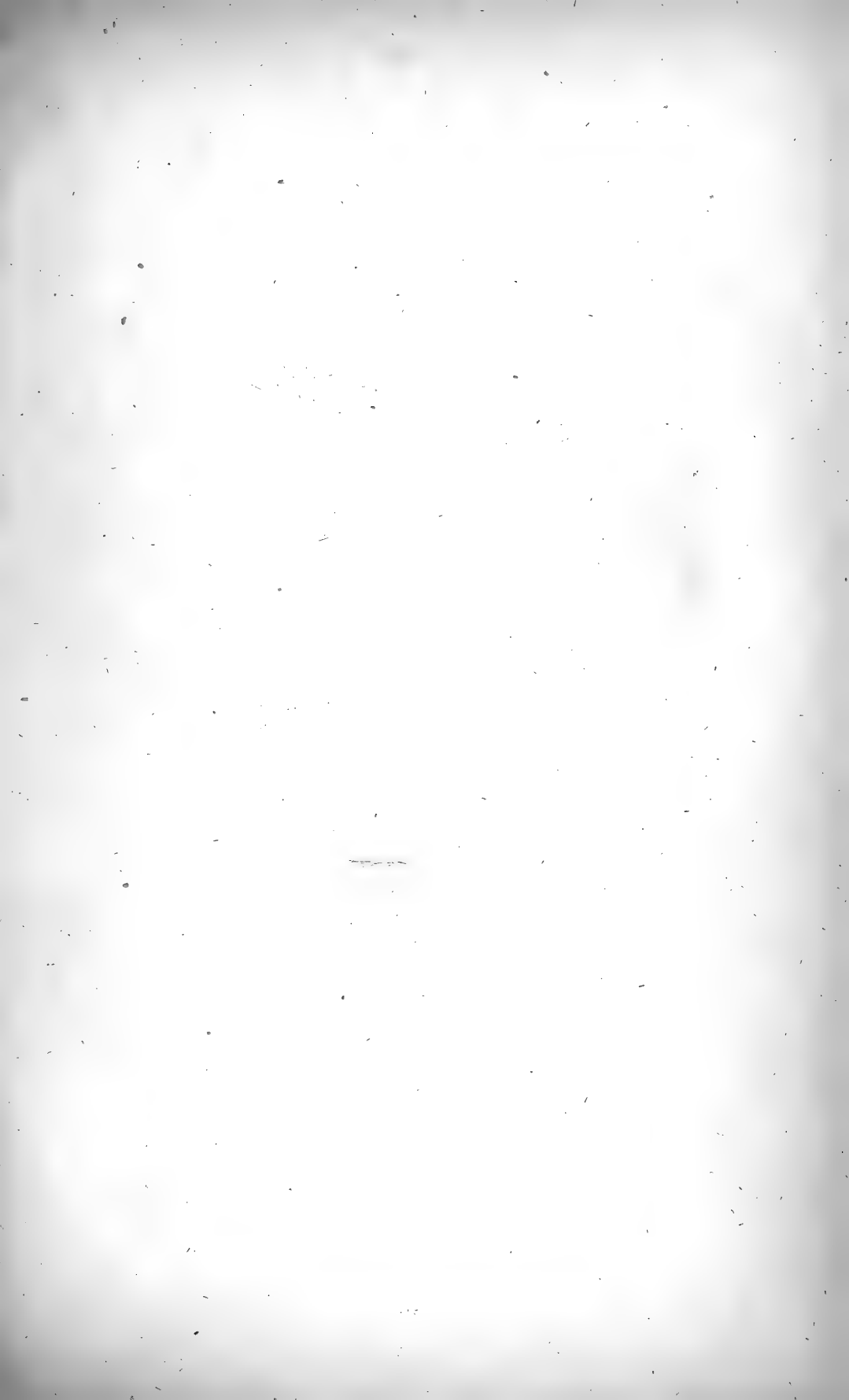
"We could not help admiring the utter unconsciousness of danger displayed by them on our approach; they never shewed the least disposition to move out of the way; even when kicked or pulled off their nests they made not the slightest show of resistance, but quietly returned to their post or stood still until we passed on. Their plumage is in the finest order, copious, and without the slightest stain. They find great difficulty in getting on wing, and must run twenty or thirty yards along the ground, with expanded wings, before they can get fairly under weigh. We had the curiosity to take one of them by the point of the wings and fling it over the rock, yet, though it had several hundred feet of a clear fall, it never recovered itself, but dropped down like a stone. On this account, when not engaged with their young, they usually rest upon the edge of the precipice, from which they can launch at once into the air; and on entering again upon that difficult part of our route, we had to kick upwards of a dozen to the right and left of us before we could get on."— ("Linnean Transactions," vol. xii, p. 490.)

Dr. Bennett remarks that, although the smaller species of Albatross appears in undiminished numbers, the Wandering Albatross has been more rarely seen during the last few years, not only about the shores of Australia, but in its more general range in the latitudes of Cape Horn and Cape of Good Hope.

The plumage of the Albatross differs with age, but not according to sex. Of seven specimens of the Wandering Albatross, obtained by Dr. Bennett on the 8th. of June, in latitude $37^{\circ} 15'$ south, longitude $16^{\circ} 27'$ east, he says, "The back of five of them was more or less beautifully pencilled with black upon a white ground; the upper part of the wings and scapularies being of a very dark brown; the breast, neck, and abdomen were snow white; the upper part of the head white; back part of the neck dark brown; under surface of the wings white; upper part of the tail feathers handsomely marked with black; the under surface of a delicate white; on each side of the neck, near the occiput, and extending a short distance down, there was a streak of delicate rose tint, which beautifully contrasted with the snowy plumage around it. This I only noticed in those birds with the black pencillings on the back. In dead specimens this colour fades. When just killed most persons mistake it for blood, and I



WANDERING ALBATROSS.



thought it was at first. Another specimen had the back, scapulars, and wing coverts of a brownish black colour; under surface of wings white, with a few brown feathers; upper part, sides of head, and back of neck brownish black; breast, abdomen, and front of neck delicate snow white.

“The last bird examined was entirely brown, except the upper part of the head, which was white; the breast and abdomen covered with brown and white feathers prettily intermingled.”

“The mandibles of all these specimens, when first captured, were of a beautiful pink colour, except at the tips, which were of a yellowish white. The intenseness of the pink hue subsided when the bird was reposing on the deck of the ship; but there still remained a delicate and handsome tint of pink over the mandible. In the dead bird the beak became pallid, and at last changed to the yellowish colour observable in museums.” The feet are light bluish; iris brown.

The weight of a Wandering Albatross captured by Dr. Bennett was twenty pounds, while the skeleton only weighed two pounds ten ounces.

My figure of this bird is from Gould's *Birds of Australia*.

It has also been figured by Buffon, pl. enl. 237; Vieillot, *Gallerie des Oiseaux du Museum*, pl. 205.

The egg is after a specimen kindly sent by Mr. Tristram.

PALMIPEDES.

Family *PROCELLARIIDÆ*. (*Bonaparte.*)Genus *DIOMEDEA*. (*Linnæus.*)

YELLOW-NOSED ALBATROSS.

Diomedea chlororhyncos.

<i>Diomedea chlororhyncos,</i>	GMELIN; Syst., 1788.
“ “	LATHAM; Ind., 1790.
<i>Albatros cholororhynque,</i>	OF THE FRENCH.

Specific Characters.—Beak medium sized, black, yellow at the tip, and along the upper ridge and the base of the lower mandible; between the bill and the eyes an obscure black spot, and just over the eye a dusky one. Length three feet; expanse of wing seven feet; bill four inches.

THIS species of Albatross inhabits the South Seas beyond the tropics, and has occurred still more rarely than the last in European seas. Two instances are, however, mentioned by Esmark (Degland, “Orn. Eur.,” p. 359,) as having been killed near Kongsberg, in Norway, in the month of April, 1837; and therefore I suppose it is entitled to the place given to it by Bonaparte and Degland among the birds of Europe.

It ranges, according to Latham, from 30° to 60° in the southern hemisphere, all round the pole, and flies five or six feet above the surface of the sea.

Dr. Bennett, who gives a lengthened account of the “Wandering Albatross,” and also mentions the “Sooty Albatross” as occurring in the South Seas, does not allude by name to the subject of the present notice, except as having been figured by Gould among the birds of Australia. He no doubt, however, includes it among the “smaller species,” which he states, at p. 77 of his “Gatherings of a





YELLOW-NOSED ALBATROSS.

Naturalist," when "placed upon the deck, hopped in the same manner as a Gull, aiding their progress by their wings; they would utter a loud hoarse cry when attempts were made to stop them."

In Captain Carmichael's interesting "Description of the Island of Tristan du Cunha," "Linnean Transactions," vol. xii, p. 469, the breeding habits of four species of Albatross are recorded, and it is worthy of note that those habits, at least of three of them, are essentially different, although the birds are so closely allied. *D. exulans* and *D. spadicea* make no nest, merely laying the egg in a depression of the ground. *D. fuliginosa*, the "Sooty Albatross," is gregarious at the breeding-season; Captain C. saw no less than one hundred nests in the area of half an acre. "They are constructed of mud, raised five or six inches, and slightly depressed at the top." *D. chlororhyncos*, on the contrary, "builds its solitary nest in some sheltered corner, selecting the small drains that draw the water off the land into the ravines. There it runs up its nest to the height of ten or twelve inches, of a cylindrical form, with a small ditch round the base."

"A curious circumstance, with regard to this bird, is that when irritated the feathers of its cheeks are separated, so as to display a beautiful stripe of naked orange skin running from the corners of the mouth towards the back of the head."

All the species lay but one egg.

The following is Latham's description:—"Length three feet; breadth seven. Bill four inches long, hooked at the end, but not very stout; the colour of it is black, except the upper ridge, which is yellow the whole length quite to the tip, where it is hooked; the base of the under mandible is also yellow; irides brown; the head is grey; between the bill and the eyes is an obscure black spot, just over the eye a dusky one; the hind part of the neck dusky, the lower part white; back, scapulars, and wings dusky blue black; rump and under part of the body white; the tail dusky; the legs are pale yellowish white; the fore part of them and the webs dusky."

My figure is taken from Gould's Birds of Australia.

It has also been figured by Latham, Syn., vol. iii, p. 309; and Temminck et Laugier, pl. col. 468.

PALMIPEDES.

Family ANATIDÆ. (*Bonaparte.*)Genus ANSER. (*Brisson.*)

Generic Characters.—Beak as long as the head, or shorter, conic, deeper than thick, and elevated at its base; mandibles furnished with pointed and conical toothlets, formed by the extremities of the transverse lamina; the inferior narrower than the upper; nostrils median, lateral, and simple; thighs placed in the centre of gravity of the body; tarsi thick and elongated; toes of an average length, hind toe free and elevated; claws short and obtuse. Wings medium sized, simple or armed, first and second primary the longest; tail with sixteen or eighteen quills; lore feathered; neck of average length; trachea without folds or swelling in its lower part.

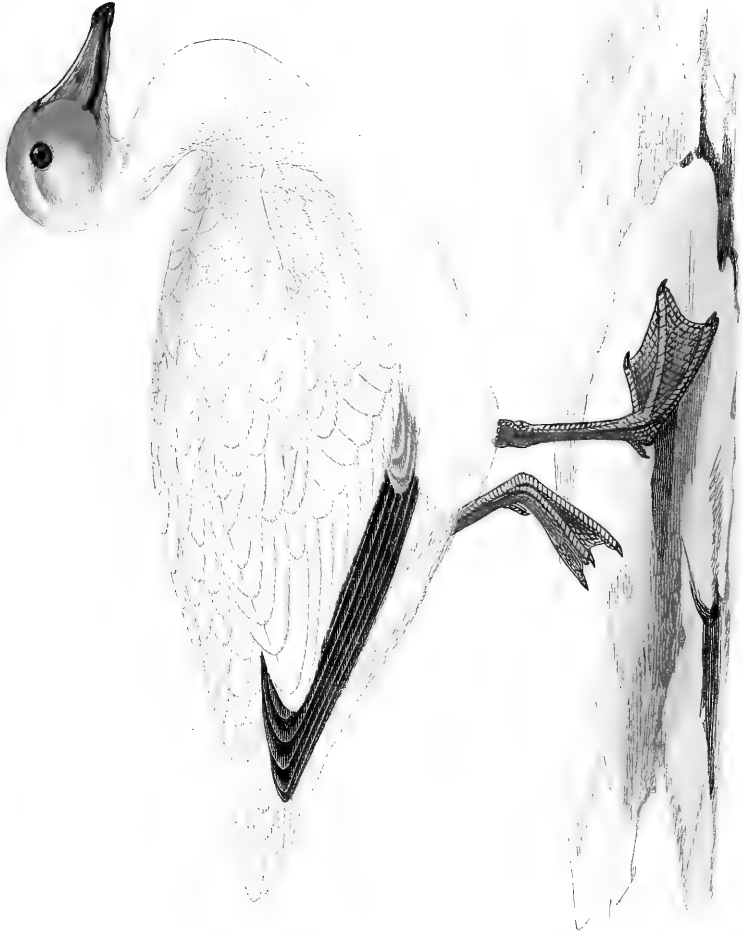
SNOW GOOSE.

Anser hyperboreus.

<i>Anser hyperboreus,</i>	PALLAS; Spicilegia Zoologica, fasc. 6, p. 20, 1780.
“ “	VIEILLOT; Dict., 1818.
“ “	LESSON; 1831. TEMMINCK; 1840.
“ “	KEYSERLING ET BLASIUS.
“ “	SCHINZ. SCHLEGEL.
“ <i>niveus,</i>	BRISSON; Ornith., vol. vi, p. 288.
“ “	MEYER; Taschen. der Deuts., 1806.
<i>Anas hyperborea,</i>	GMELIN; 1788. LATHAM; 1790.
“ “	TEMMINCK; 1820.
<i>Chen hyperborea,</i>	BOIE.
<i>Oie de neige ordinaire,</i>	OF THE FRENCH.
<i>Gemeine Schnegans,</i>	OF THE GERMANS.
<i>Wevois or Wavy,</i>	OF THE AMERICANS.

Specific Characters.—Forehead much elevated; the sides of the beak divided by longitudinal furrows and toothlets.—TEMMINCK.

Length thirty-two inches; carpus to tip sixteen inches and a half; bill two inches three lines; tarsus three inches.—NUTTALL.



SNOW GOOSE.

IN the far-off northern regions of the earth, where snow-covered ground, whether of hill or vale, is the rule of nature; in the bleak and inhospitable wastes of the arctic circle—there it has pleased Providence to locate the bird which is the subject of the present notice. And not more purely white is that eternal snow than, save and except the tips of the wings, is that of this bird's plumage; presenting us with another example of adaptation of colour to that of the creature's home, and of the provision and forethought which has been made and shewn for that creature's protection.

The Snow Goose is an inhabitant of the northern parts of America and Asia, straying accidentally into the interior of Europe, or passing through its eastern parts in its migrations to and from the south. It has occurred in Russia, on the shores of the Caspian and Black Seas and in the Crimea. It is included among the visitors to Greece by Count Mühle and Dr. Lindermayer. Degland records an instance of its capture in the winter of 1829, in the neighbourhood of Arles; but this was a young subject, and, as we shall presently see, probably a distinct species. Temminck says it occurs accidentally in Prussia and Austria, but never in Holland; and Naumann includes it in his work on the "Birds of Germany." A reported instance of its capture in England is mentioned by Degland, but it appears that M. Hardy, of Dieppe, satisfactorily proved that the specimen was not killed in this country.

Brisson described the Snow Goose ("Ornith," vol. vi, p. 288,) as *Anser niveus*. He also described another bird, at p. 275 of the same volume, as *Anser sylvestris freti hudsonis*, which had previously been described by Linnæus as *Anser cærulescens* ("Syst. Nat.," tenth edition,) and which had also been figured by Edwards as the "Blue-winged Goose," (vol. iii., pl. 152.) Latham, writing thirty years after Brisson, describes the young of the Snow Goose as blue until it was a year old; and Temminck, in his "Manuel," 1820, vol. ii, p. 817, described the young bird as differing from its parent materially until it attained the age of four years, and at the same time pointed out that in this immature plumage it was the *Anas cærulescens* of Linnæus, and the *Anser sylvestris freti hudsonis* of Brisson. So it has remained since his day. The American writers, who ought to have been well acquainted with the bird, have all followed Temminck and the other European ornithologists. Nuttall says, ("Ornithology of United States," p. 345, vol. ii,) "It is said the young do not attain the full plumage of the old birds before their fourth year, and until that period they appear to keep in separate flocks."

All this, however, is positively denied by Mr. George Barnston, of

the Hudson's Bay Company, whose opportunities of practical observation in Hudson's Bay, the great locality of the Snow Goose, have been very considerable. In a paper published in the "Ibis," vol. ii, p. 253, entitled "Recollections of the Swans and Geese of Hudson's Bay," Mr. B. denies that *A. cærulescens* is the young of *A. hyperboreus*. He says, "The friendly intercourse that exists between these Geese (Snow Geese) and the Blue Wavies, the *Anser cærulescens*, has perhaps induced some to suppose that they were merely varieties; but this is a mistake. The young White Wavies arrive from the north with their parents, without mixture of other Geese in the flocks; and they have the same white garb as the old birds, but with the head as if it had been soiled with rust of iron, and the bill, as is well known with young birds, tender, soft, and compressible; while, on the other hand, *A. cærulescens* comes down upon the eastern coast also in perfectly distinct flocks, the young birds having a more diffused and darker blue colour, as well as being of smaller size, with the beak more tender. About this there can be no mistake. In the spring James's Bay is frequently crossed by both species of Wavy at Capes Jones and Henrietta Maria; and occasionally two or three Blue may be seen in a large flock of White on the Albany shore, while two or three White may also be observed accompanying the full flocks of Blue on the east main side; but this is not singular, as their cry is almost the same, and they are certainly closely-allied species—but not varieties."

These observations seem to throw much light upon this hitherto somewhat obscure question.

If Mr. Barnston is correct in the inference he has drawn, and I must say I think there is every reason to consider that he is, then we must add another bird to the European list, as there can be no doubt that *A. cærulescens* has been found as frequently in Europe as the Snow Goose.

The Snow Geese breed in great numbers in the wastes of Arctic America, frequenting, according to Richardson, the sandy shores of rivers and lakes, and are very watchful, employing one of their number usually as a sentinel to warn them of any approaching danger.

The eggs are yellowish white, and, according to Nuttall, a little larger than those of the Eider Duck, their length being three inches, and their greatest breadth two.

"The young fly about the close of August, and the whole depart southward about the middle of September. Early in November they arrive in the River Delaware, and probably visit Newfoundland and the coasts of the Eastern States in the interval, being occasionally seen in Massachusetts Bay. They congregate in considerable flocks, are

extremely noisy and gabbling, their notes being shriller than those of the Canada or Common Wild Goose. They make but a short stay in the winter, proceeding south as the severity of the weather increases. They begin to return northwards by the middle of February, and until the breaking up of the ice in March, are frequently seen in flocks on the shores of the Delaware, and around the head of the bay. At this time they are observed to feed on the roots of the reeds, tearing them up like hogs. In their breeding resorts in the fur countries they crop rushes, and collect insects and (in autumn principally) berries for food, particularly those of the crowberry (*Empetrum nigrum*). At this time they are seldom seen on the water, except in the night or when moulting. When well fed the flesh is excellent, being far superior to the Canada Goose in juiciness and flavour."

They are also very abundant in Siberia, forming an article of subsistence to the natives, by whom they are taken in decoys in great numbers, which are buried in the earth, and being frozen, keep very well, thus preserved, till they are "wanted for the table."

Mr. Barnston has, in the article from which I have before quoted, given a very interesting account of the migration of these and other Geese, and of their great slaughter by the natives. He calculates, and gives the basis of his calculation, that, excluding the Brent Goose, nearly eight hundred thousand Geese leave the coasts east of the Rocky Mountains for the place of their hybernation. Supposing that each Goose flies one yard apart, this would give a string four hundred and fifty miles long, and supposing "the rate of flight was forty miles an hour, and the line led by one going straight south, they would take eleven hours in passing any given object." Of this number he calculates that sixty thousand are shot at the various stations.

"In the fall, on some days, when the flocks of young Wavies are numerous, and passing southwards, it is no uncommon thing for a good shot to send one hundred to his lodge between sunset and sunrise. In such cases he generally has two guns in the willow and grass stand or concealment, and his wife or son loads while he attends to the motions of the Geese, brings them round to the bush or wooden decoys by calling, and fires as they pass. These Geese form the staple article of food for rations at the Albany factory.

They are the last to leave the coast for southern climes about the end of September, some weak broods and wounded birds lingering to the first week of October. They are deliberate and judicious in their preparations for their long flight, and make their arrangements in a very business-like manner. They leave off feeding in the marshes for a day or more, keeping out with the retreating ebb tide, and retiring

as it were by steps unwilling at its flow, adjusting their feathers continually, and dressing them with their fatty oil. They are then ready for the first north or north-west wind that blows; and in twenty-four hours the coast that had been resonant with their petulant and incessant cries, and covered patch-like by their whitened squadrons, is silent and deserted—a barren and frozen shore.”

The general plumage of the Snow Goose is white; forehead yellowish; primaries white at their base, and black on their distal half. Iris hair brown; beak, feet, and orbits red, the inferior mandible lighter, and the nails of both blue.

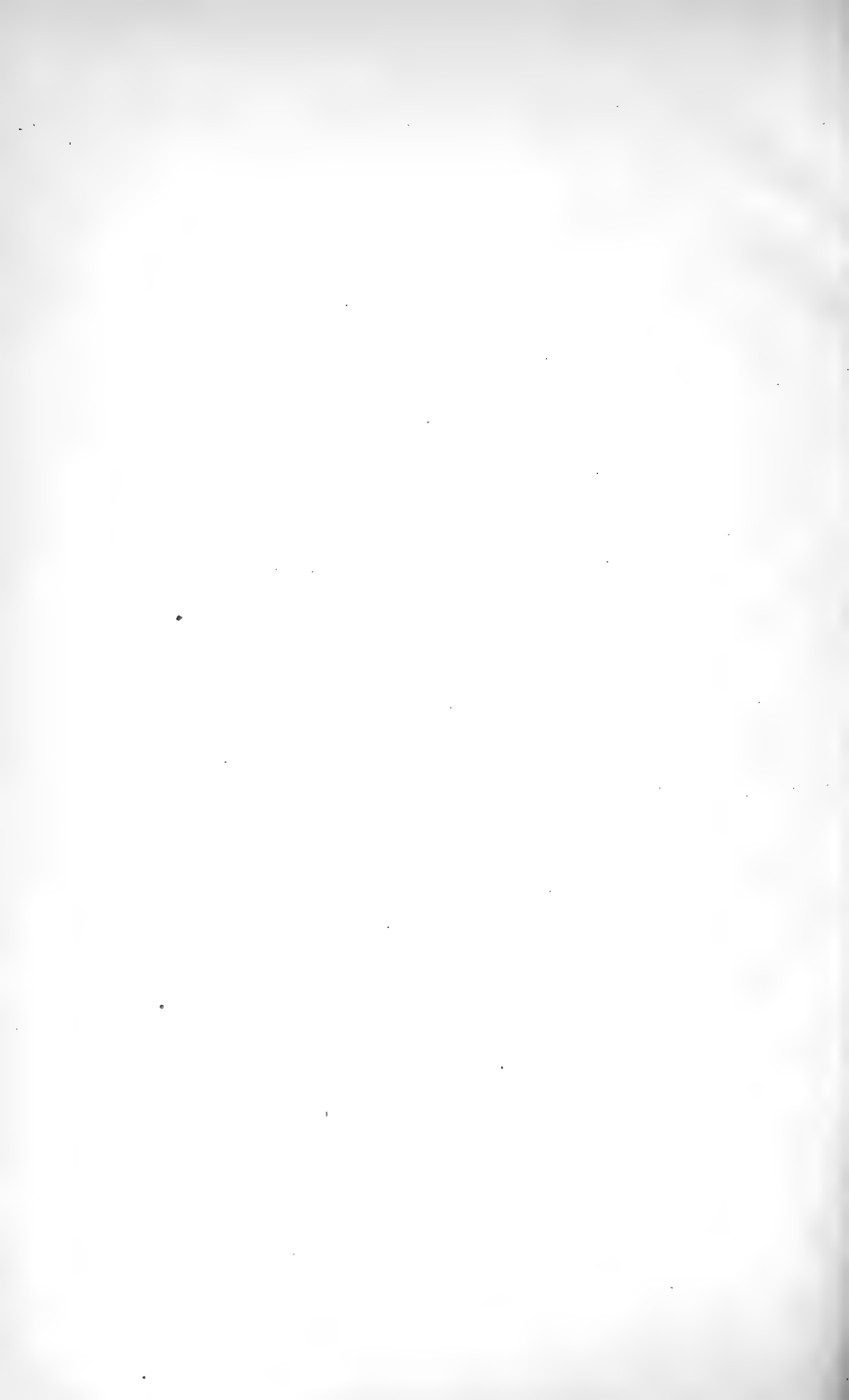
According to all modern authors, the young is described as the species the diagnosis of which will follow this. According, however, to Mr. Barnston, as above quoted, the young are white, with their heads stained with ferruginous.

My figure of this bird is taken by kind permission from the beautiful plate of Mr. Gould, in his *Birds of Europe*.

Figures will also be found by Wilson, *American Ornithology*, vol. viii, pl. 68, fig. 5; Naumann, *Vogel Nacht.*, pl. 23, fig. 46.



BLUE-WINGED GOOSE.



PALMIPEDES.

Family ANATIDÆ. (Bonaparte.)

Genus ANSER. (Brisson.)

BLUE-WINGED GOOSE.

Anser cærulescens.

<i>Anser cærulescens,</i>	LINNÆUS.
“ <i>sylvestris freti hudsonis,</i>	BRISSON.
“ <i>hyperboreus, jun.,</i>	AUCTOR.
<i>L'ois des Esquimaux,</i>	BUFFON.
<i>Blue-winged Goose,</i>	EDWARDS.
<i>Blue Wavy,</i>	OF THE AMERICANS.

Specific Characters.—General colour grey, white below; wing primaries and lower part of back clear ash blue.—LINNÆUS.

Length thirty-one inches; beak two inches; tail five inches and a half; bare part of thigh seven lines; tarus three inches; middle toe three inches; external toe two inches ten lines; internal toe two inches nine lines; hinder toe nine lines. The wings, when closed, extend to three fourths of the length of the tail.—BRISSON.

HITHERTO confounded with the young of the Snow Goose, I have much pleasure in restoring this bird to the place which was assigned to it by Linnæus and that equally accurate observer Brisson. In the notice of the last bird, the Snow Goose, I have given the authority upon which I have done this. Mr. Barnston speaks from his own practical knowledge, gained on the spot, which, of all others in the world, is that most frequented by these birds. He says, “About this there can be no mistake,” namely, that *A. hyperboreus* and *A. cærulescens* are distinct, though closely-allied species. The latter bird he says is “of all the Geese enumerated the least known, and it is possible frequents in summer only James’s Bay and the east

main of Labrador, at the extremity of which peninsula it hatches. Of its winter haunts I cannot speak with certainty, not having seen them either on the Columbian or on the north-west coast. It may be that they adopt the sea-coast in a lower latitude as a home, and are to be found towards Southern Mexico."

"By an Indian report a great breeding-ground for the Blue Wavy is the country lying in the interior from the north-east point of Labrador—Cape Dudley Digges. Extensive swamps and impassable bays prevail there; and the Geese incubate on the more solid and driest tufts dispersed over the morass, safe from the approach of man or other than a winged enemy."—("Ibis," vol. ii, p. 257.)

As to its European locality we may speak confidently of many instances in which it has been called the young of the Snow Goose. Thus, the two specimens described by Temminck in his "Manuel," vol. ii, p. 817, must be referred to this species, and in fact are so mentioned by that author, but with the reservation that *A. cœrulescens* is the young of *A. hyperboreus*.

The birds described in the following extract from Count Mühle's work on the birds of Greece, are, in all probability, referable to this species:—"Very rare among the Geese which come into Greece. They were observed by my friend Lieut. Dillman, who shot in the severe winter of 1841 three of these birds in the lagoons of Emirbey, between Stilida and Thermopylæ. Their white plumage was mixed with greyish feathers, and their feet and beak were blue grey. These specimens were we think the same as figure 3 of Naumann's plate."

The following is Brisson's description:—"Head and neck for nearly all its length is white, the top of the head, however, is russet, and the upper part of the neck is spotted with blackish; base of the neck, the upper part of the back, the scapularies, the crop, and the flanks are of a sombre brown; inferior part of the back, the rump, and upper tail coverts of a bright bluish ash. The abdomen, the upper part of the thighs, and under tail coverts are white, slightly shaded with brown; all the wing coverts bluish ash; primaries blackish; secondaries of the same colour, but are bordered with ash on their external web, and at their tip. Tail composed of eighteen feathers, of a dull brown, bordered with ash; the two middle slightly longer than the laterals, which diminish gradually in length to the most external, which is the shortest, which thus gives roundness to the end of the tail; the beak, and that part of the thigh uncovered by feathers, the tarsi, toes, and webs are red, with the claws black. It is found in Hudson's Bay."

The following is Latham's description:—"Male rather less than a tame Goose. Bill red; iris deep chocolate; crown of head yellowish, as though singed; rest of head and neck white, the last spotted all the way down at the back part with black; lower part of the neck, all round the breast, sides, under the wings, and back dark brown, palest on the breast; wing and tail coverts pale bluish ash-colour; scapularies and tail striped white and grey; greater quills dusky; belly, thighs, and vent white; legs red.

The female has the upper mandible black; base of lower lead-colour, with the tip black; forehead white; between the bill and eye blackish; inner half of each tail feather white, the outer black.

Hab., America. Hudson's Bay. In summer numerous at Albany Fort. Known there by the name Catb, catue, We, We."

My figure is taken from Edwards' plate.

It has also been figured by Wilson, Amer. Ornith., vol. viii, pl. 69, f. 5.

PALMIPEDES.

Family ANATIDÆ. (*Bonaparte.*)Genus ANSER. (*Brisson.*)

LITTLE WHITE-FRONTED GOOSE.

Anser erythropus.

<i>Anser erythropus,</i>	A. NEWTON; <i>Ibis</i> , vol. ii, p. 406, 1860.
“ <i>finmarchicus,</i>	GUNNER; in <i>Leemii de Lapponibus</i> Finmarchiæ, <i>Comm. Notes</i> , p. 264, 1767.
“ <i>minutus,</i>	NAUMANN; <i>Naturgesch. der Vögel</i> Deutschlands, vol. ii, p. 365, pl. 290, 1842.
“ <i>temminckii,</i>	BOIE; <i>Isis</i> , p. 882, 1822, (young,) et <i>Auct.</i> , (adult.)
“ <i>cineraceus,</i>	BREHM; <i>Beitr.</i> , iii, p. 875.
“ <i>medius,</i>	TEMMINCK; in <i>Meyer's Taschenb.</i> , vol. iii, p. 251.
“ <i>brevirostris,</i>	HACKEL.
“ <i>albifrons,</i>	TEMMINCK; (young of <i>A. minutus</i> , Naumann.)
<i>Anas erythropus,</i>	LINNÆUS; <i>Syst. Nat.</i> , ed. 10th., 1758.
“ <i>cinerea fronte-alba,</i>	<i>Faun. Suecica</i> , No. 92, 1746.
<i>Oie naine,</i>	OF THE FRENCH.
<i>Zwerggaus,</i>	OF THE GERMANS.
<i>Fjell-gas,</i>	OF THE SWEDES.
<i>Finmarke-gaas,</i>	OF THE FINNS.
<i>Dwarf Goose,</i>	OF ENGLISH WRITERS.

Specific Characters.—Beak orange, and very small; primaries grey, tipped with black, the shafts white; secondaries and tail quills blackish, the latter bordered with white. Length twenty-two inches.

WE are indebted to Mr. Alfred Newton, in an able paper read to the Zoological Society on the 29th. of June, 1860, and reprinted in the “*Ibis*,” of that year, for clearing up the confusion which





LITTLE WHITE-FRONTED GOOSE.



existed in the nomenclature of this bird. In this paper Mr. Newton clearly establishes the fact that the Little White-fronted Goose is the true *Anas erythropus* of Linnæus, (Syst. Nat., ed. 10, p. 123, No. 7,) and the *Anser cinerea fronte-alba*, No. 92 of the "Fauna Suecica," published in 1746.

This name, *Anser erythropus*, has been applied by most modern ornithologists to the Greater White-fronted Goose, (*Anser albifrons*,) and by Pennant, Latham, and others to the Barnicle (which has black feet) as well. I trust, however, that in all future histories of these birds the synonyme will be omitted, and the specific name *erythropus* applied solely to the subject of the present notice.

Mr. Newton's paper being reprinted in the "Ibis," I shall merely here give a *resumé* of the arguments by which the above facts have been established. It appears that the late lamented Mr. Wolley was only able to find in all his researches in Lapland, two species of Wild Goose inhabiting that extensive district. These Geese were known to the Finns as the "Isohani" or Great Goose, and the "Killio-hani" or Mountain Goose. The former he found was the well-known Bean Goose, and the latter, to his surprise, he found what he termed the small race of the White-fronted Goose, the *Anser minutus* of Naumann. This fact was more surprising to him because he had been assured by the Swedish naturalists that the Mountain Goose was *A. leucopsis*, or the Barnicle, to which Pennant and Latham had erroneously applied the name *erythropus*. Mr. Newton, carrying on his researches, shews that some of the Swedish naturalists were aware that the Mountain Goose was not *A. leucopsis*, as Zetterstedt, in his Travels in Lapland, (Resa genom Sweriges och Norriges Lappmarker, af Joh. Wilh. Zetterstedt, 2 vols. 8vo, Lund., 1822,) as well as Gunner, in some notes to Leem's work upon Lapland, points out, (as indicated by Mr. Wolley in his catalogue of eggs published in 1857,) that this Mountain Goose was a distinct species, to which he gave the name of *Anser finmarchicus*.

Mr. Newton has kindly sent me an extract from Leem's work and Bishop Gunner's notes in Latin, of which the following is a translation:—"In Eastern Finmark it is said there is found a certain species of Wild Goose, distinct from others both in colour, and in being of a smaller size. They are characterized by their dark brown back, white belly spotted with black, and a white collar about the eyes. The flesh of this kind is not of a disagreeable flavour, nor do their eggs differ much in goodness from those which domestic geese lay." Upon this Bishop Gunner makes the following note:—"This lesser species is commonly called Finmark-Gaas—the Finmark Goose, and is much less

than the *Anas anser*, (Grey Lag,) but about the size of the Eider Duck, (*A. mollissima*.) The beak is, however, shorter than in either of these. Nay, the beak of the Grey Lag is twice as large and long. The forehead is white, from whence also a white band descends, reaching to the bend of the upper mandible on both sides. Head and neck fuscous, with a blacker vertex. The temples are black; but the cheeks and inner part of the throat are sometimes of a paler colour. The beak is yellow and the feet are red. There can scarcely be a doubt that this *A. finmarchicus mihi*, which has just been described, is the *Anas erythropus* '*cinerea fronte-alba*,' Fauna Suecica, 116, and *Anas helsingegaas* of Clausius, in Exot., 368.

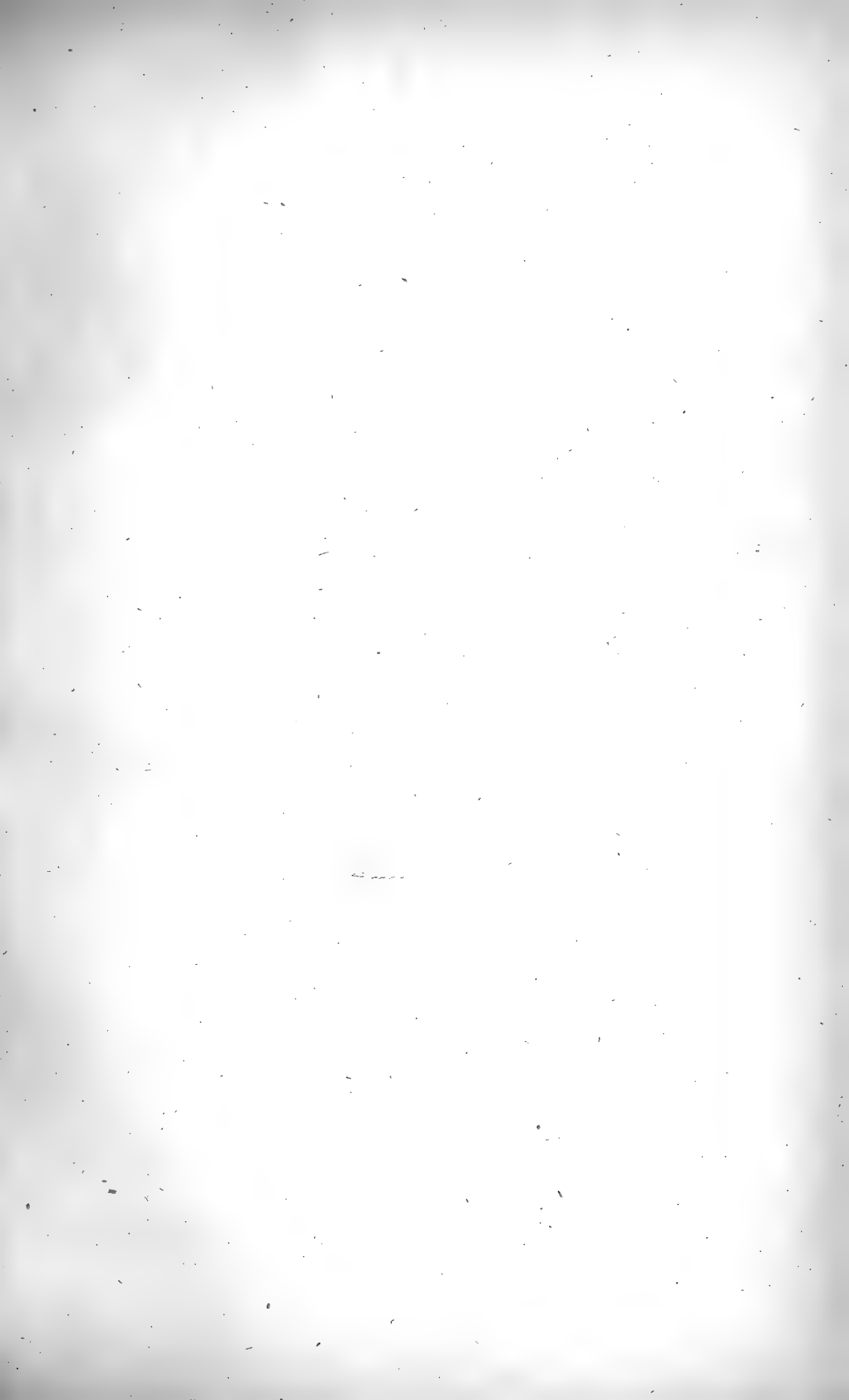
"In 'Ornith. Brännichii,' p. 13, No. 54, there is a variety of Wild Goose from Cimbria, with a forehead all white, and the abdomen spotted with black, which variety is the Trappe-gaas, or Laughing Goose of authors. Our *A. finmarchicus* or *A. erythropus* might easily be confounded with the variety of Brunnich did the size permit."—From pages 264-65 of "Canuti Leemii Professoris Linguæ Lapponica, de Lapponibus Finmarchiæ," etc., commentatio, etc.: una cum J. E. Gunneri, Episcopi Dioecese, Nidors, (Thron djem,) and S. S. Theologiæ Doctoris Notis, etc. Copenhagen, 1767, 4to.

As therefore neither *Anser leucopsis* nor *A. albifrons* occur in Lapland, nor in the district mentioned by Linnæus, the fact seems fully established that *A. erythropus* is the subject of the present notice, as made out by Mr. Newton. In a private letter to me M. De Selys-Longchamps expresses the same opinion.

The Little White-fronted Goose inhabits Lapland, Sweden, Norway, and Finland, and has been captured in Hungary, Germany, Holland, and Belgium, according to M. Dubois, (Ois. de la Belgique, No. 139,) who records an instance of its capture near Brussels in 1858. It also occurs in Greece. Count Mühle says, "I have often found this pretty little Goose in Greece. In size it scarcely exceeds the Common Duck. I believe that it breeds in Greece, since I have for many years shot the old female in the month of June, when all foreign Ducks and Geese have long disappeared. They remain constantly in the swamps, which are thickly overgrown with reeds and rushes, and were with trouble hunted out (probably from the nest) by dogs."

Lindermayer says that neither he nor Erhardt were fortunate enough to procure specimens in Greece, but admits that it is often seen in the markets at Athens, which places its occurrence in Greece beyond all doubt.

Though its general appearance is very similar to that of the White-fronted or Laughing Goose, the subject of the present notice is







1. CLUCKING TEAL.

2. FALCATED TEAL.

3. LITTLE WHITE-FRONTED GOOSE.

easily distinguished by its smaller size and more delicate form; the wings are also proportionately larger and more pointed. Their manners and habits of flight are very similar to those of Geese in general. In their long migrations they form an oblique line, one after the other; and M. Dubois states that they will sometimes follow flocks of Harvest Geese, at the same time keeping at a distance from them. If these last fly down on a field or piece of water, they also stop, but they do not then approach nearer their companions of the voyage than while travelling. They are very fond of swimming about, which they do with great agility. They feed upon roots, grain, and water lentils. They are not very wild, but at the same time cautious, and keep at a long range from the sportsman's gun.

I am sorry Mr. Wolley has not given us more particulars of their breeding habits in Lapland. The eggs are scarce in collections, and smaller than those of *A. albifrons*. That figured is from my own collection: it was sent me by the late Mr. Wheelwright.

The adult male and female have the top of the head, forehead, throat, and front of cheeks, and the under and upper tail coverts, pure white; rest of the head, neck, and crop, grey, with those parts nearest the white front of the head darker; scapularies and back dark brown grey, with transverse lighter bands; upper wing coverts blue grey; lower same colour as the back, edged with white; primaries same blue grey as the upper coverts; secondaries black; tail grey, margined with white at the tip, and white at the base; abdomen black, bordered with white; and the flanks the same dark grey brown as the back, each feather edged with lighter, and separated from the edge of the wing, when folded, by a white streak; beak orange; feet and legs red.

In the young bird the white of the forehead is replaced by hair brown; and all the under parts are brown, the white and black plumage being entirely absent.

It has been figured by Naumann, pl. 291, and a very good drawing of the old and young bird is given in Dubois' Birds of Belgium, part 139, pl. 294.

PALMIPEDES.

Family ANATIDÆ. (*Bonaparte.*)Genus ANAS. (*Linnæus.*)

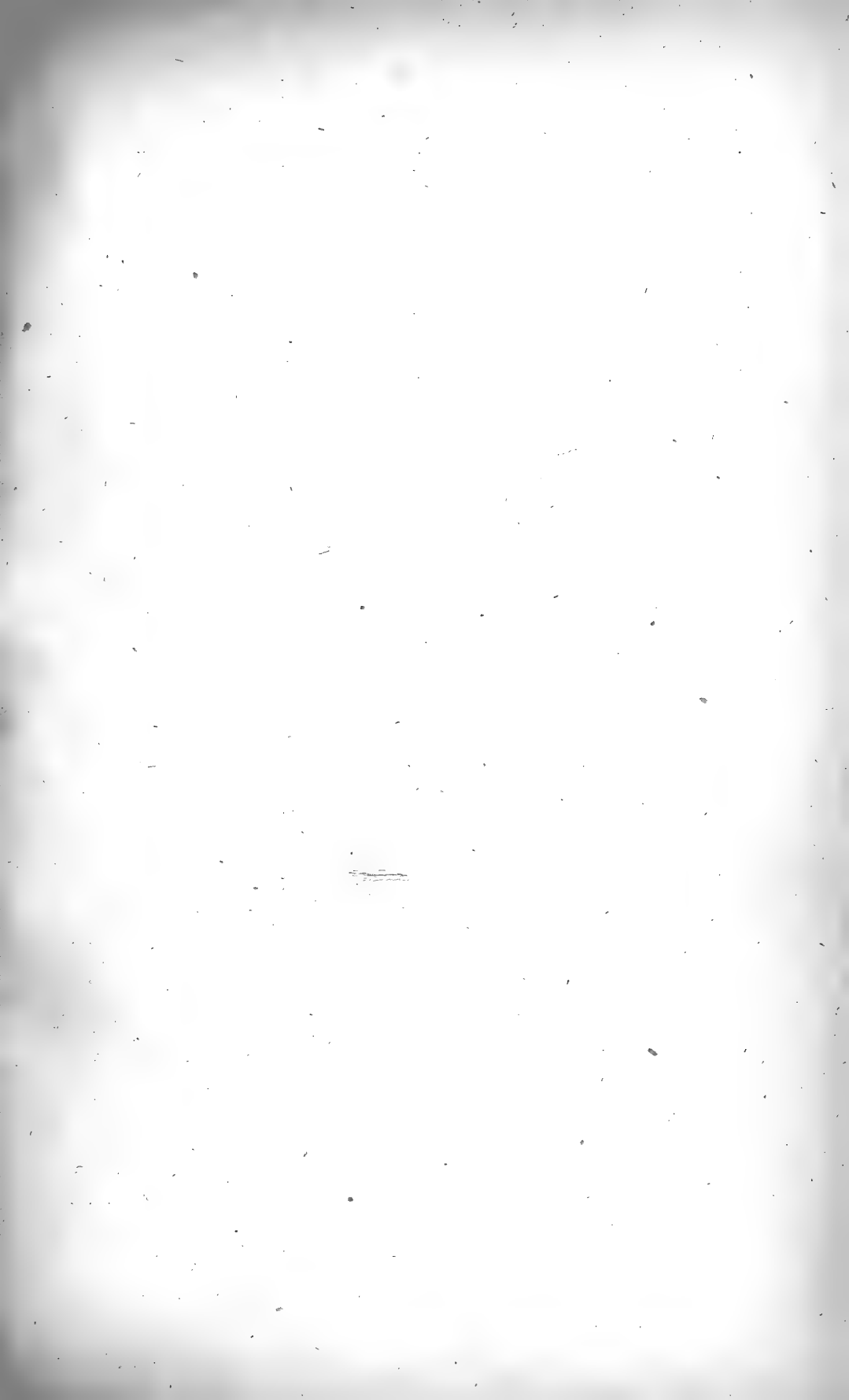
Generic Characters.—Beak broad, flattened in the greater part of its length, with mandibles pectinated on the edges. Nostrils basal, oval, covered by membrane. Tarsi short, compressed, placed rather under the centre of the body; anterior toes of medium size; hind toe without pendant lobe or membrane. Wings medium size, rather long, narrow, and pointed; tail conic. The body is boat-shaped; windpipe more or less enlarged, and ossified at its bifurcation. Sexes differ in plumage.

CLUCKING TEAL.

Anas glocitans.

<i>Anas glocitans,</i>	PALLAS; Acta Stockholmiensia, 1779, vol. xl, pl. 33, f. 1.
“ “	TEMMINCK; Manual, vol. iv, 2nd. edit., p. 533, (excl. synonym.) 1835.
“ “	BRANDT; Animalium Rossicorum novorum, fascic. 1, p. 28, pl. 4.
“ “	MIDDENDORFF; Sibirische Reise, vol. ii, p. 230.
“ “	SCHRENCK; Vogel des Amur-Landes, 1860.
“ <i>formosa,</i>	TEMMINCK ET SCHLEGEL; Faun. Japon.
<i>Canard Glousseur,</i>	OF THE FRENCH.

Specific Characters.—Two large quadrangular patches of fawn-colour, separated by a black band bordered with white, on the side of the head; from the eye a band of rich glossy green extends backwards, and passing round the occiput, forms a demi-collar. Speculum black, edged with white, and above with dark glossy green and russet; lower part of the flanks near the tail terminated by a broad transverse band of pure glossy silvery white, (male.) Tail with sixteen quills. Length of male fifteen inches and a half; carpus to tip eight inches and a fifth; tarsus one inch and three







CLUCKING TEAL.



tenths; middle toe and claw one inch and three tenths; beak from forehead one inch and a half; from rictus one inch and four fifths; breadth of beak below three fifths of an inch. Female.—Length fifteen inches; carpus to tip seven inches; tarsus one inch and one tenth; middle toe and claw one inch and three fifths; beak from forehead one inch and three tenths, from rictus one inch and a half; breadth of beak below half an inch.

THIS beautiful Teal must not be confounded with the Bimaculated Duck of the English authors. Pennant, it is true, identified his bird of that name with the *Anas glocitans* of Pallas, (“British Zoology,” vol. ii, p. 602, pl. 100, fig. 2, ed. 1776.) Yarrell, (“British Birds,” first and second edition, vol. iii, p. 260,) figures a Duck as the Bimaculated Duck of Pennant, and describes it as identical with *Anas glocitans*. This bird was, however, a hybrid between the Pintail and the Wigeon, and in the last edition of Yarrell’s work has been very properly withdrawn. In the fourteenth volume of the “Linnean Transactions,” Mr. Vigors describes a male and female Teal, taken in a decoy at Maldon, in Essex, as the true *Anas glocitans*, and the Bimaculated Duck of Pennant. But he makes this identification on the authority of Pennant, expressing himself a doubt whether they are the same, as his specimen differed from the figure in the “Acta Stockholmiensia,” and at the same time admitting that Pennant’s figure was a very good representation of his male bird, though they differed in the numbers of tail feathers, that of Pennant having only twelve, while Mr. Vigors’ specimens had both sixteen. Nothing has ever been known about Pennant’s specimen, said to have been “taken in a decoy in 1771, and communicated to me by — Poore, Esq.”

By comparing, however, Pennant’s figure with that of the true *Anas glocitans* of Pallas, which, through the kindness of Mr. Tristram, I have the opportunity of figuring, it will be at once perceived that the birds are totally different, and consequently that neither the figure of Pennant nor Yarrell, nor the description of Vigors in the “Linnean Transactions,” refer to the true *Anas glocitans*, of whose capture in England we have no proof whatever. This will not now admit of the slightest doubt. I have therefore thought it better to drop the word Bimaculated altogether, as applied to the *Anas glocitans*, and to translate the specific word *glocitans* into the perhaps less euphonious, but more expressive name of “Clucking,” which was applied to it owing to the note being similar to the “cluck” of a hen.

The “Clucking Teal” is an inhabitant of the cold and inhospitable

wastes of the far north. It is a form more truly indigenous to Siberia and the northern parts of Russia than to any other country. In Siberia it was found by Pallas on the borders of Lake Baikal and the banks of the Lena. Its range extends to the Amur-Lande, Japan, and China.

From a recent notice given by Dr. Leopold Von Schrenck, in his "Vogel des Amur-Landes," published at St. Petersburg in 1860, I extract the following:—"The Amur specimens of this beautiful Duck agree fully with Siberian specimens in our museums, with the known descriptions of Pallas, Brandt, and Middendorff, and with those of Temminck and Schlegel in the "Fauna Japonica." In the breeding plumage of the Amur male, the fawn-coloured patches on the cheeks and sides of throat vary in being darker or lighter."

"In Amur-Lande *A. glocitans* is much less plentiful than the Common Teal, (*Anas crecca*), and it appears later in the month of April: Middendorff first saw it in May. I shot a young individual on the 31st. of August, (Sept. 12th.,) 1854, with fully-developed wings. I met with small flocks of young individuals in the late summer of 1856, on the Upper Amur, as far as the Ustj-Strelka rather often. A specimen was brought to me from the upper Dseja on August 16th., (28th.;) it was a dead fully-grown male still in its summer plumage, having been driven down by the stream: it was stiff, but quite fresh."

Middendorff, in his "Sibirische Reise," vol. i, part 2, p. 230, gives a long and interesting account of this Teal, from which I extract the following:—"Although the most common species of Duck on the Boganida, 70° north latitude,) it does not nevertheless extend upwards as far as the river Taimyra. They were not observed on the Boganida before the 12th. of June. On the 3rd. of July seven fresh-laid eggs were discovered in a nest under a willow bush adjacent to the bank of the river. On the 24th. of July the feathers on the head, on the shoulders, and on the wings of the downy young ones had already commenced making their appearance; but nevertheless on the 4th. of August they were unfledged. On the 28th. of July a male was shot which had already put on the plumage of its sex. The last bird of this species remained on the Boganida until the 23rd. of August."

"This species likewise frequently appeared in the Stanowoj Mountains on the river Aim, and in Udkó-j-Ostróg, where they arrived, in the early part of May."

"The eggs are small, and of a bluish yellow colour, the smallest being fifty millemetres (two inches, English) in its long diameter, and

thirty-five millemetres (or one inch and two fifths, English) in its lesser diameter."

"In whatever numbers collected together, these birds were very shy, but less so, however, when paired. They make a horrible noise while they uninterruptedly cause their loud quacking (clucking?) notes to be heard."

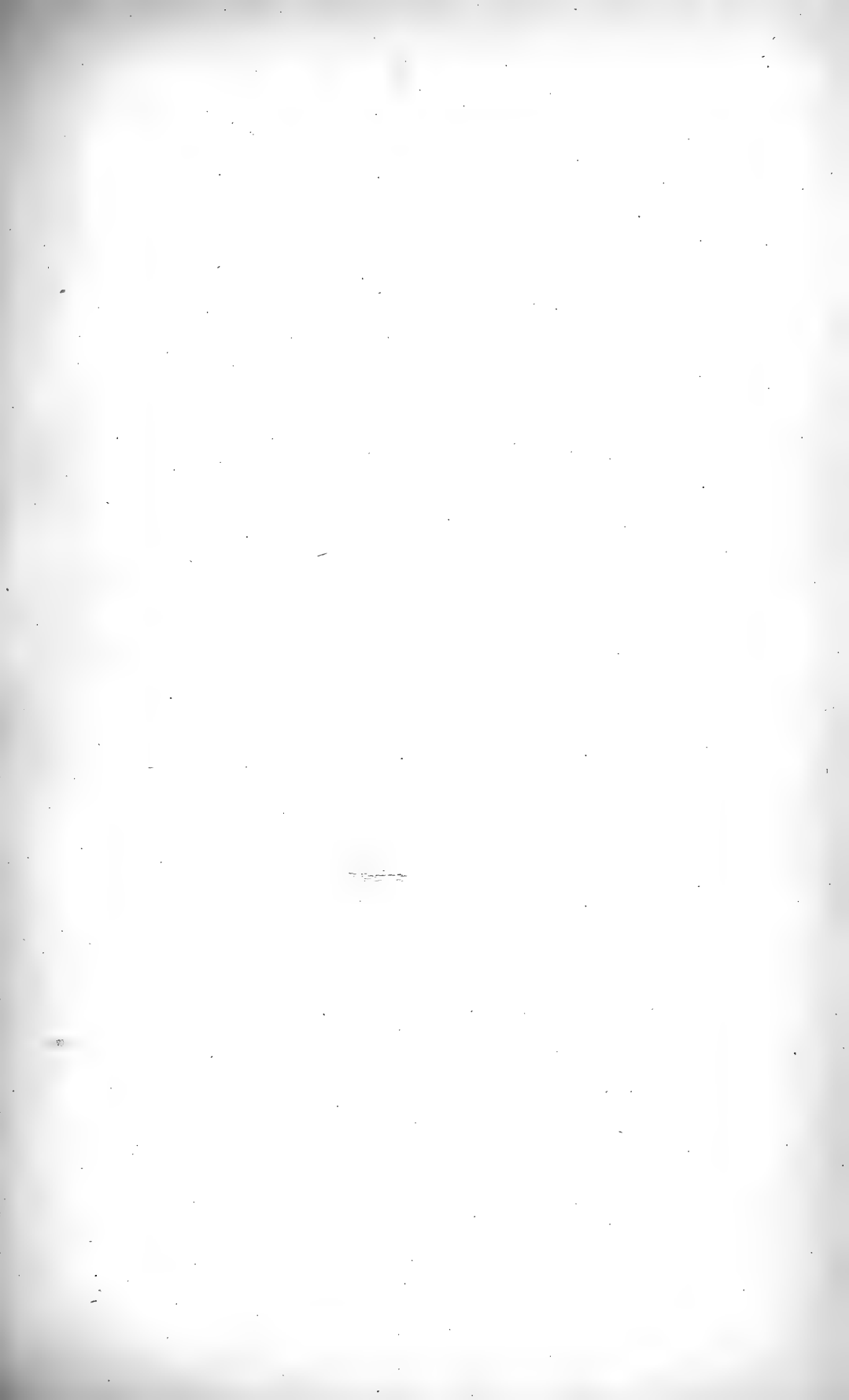
I have much pleasure in giving a copy of one of the eggs alluded to by Middendorff in the above extract from his interesting work.

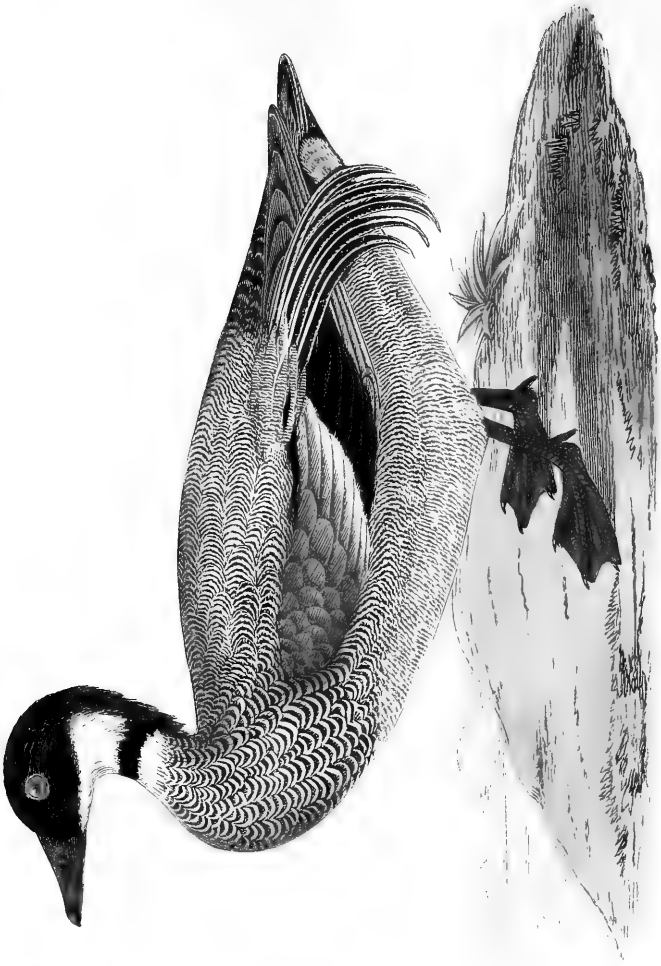
The adult male in breeding plumage has the forehead, vertex, and occiput of a rich purple brown, the feathers forming a distinct crest; this crest is bounded on each side by a white narrow band from the anterior angle of the eye to the occiput; beyond this white band there is a rich glossy green band, extending round the nape, and thus forming a demi-collar; the cheeks and sides of the head are occupied by two quadrangular patches of fawn-coloured feathers, separated by a black white-bordered band, which extends obliquely from the lower eyelid to the posterior border of the large oval black patch on the throat; another black band extends from the posterior angle of the green collar to the side of the neck obliquely, being parallel to the anterior band, and forming the posterior border of the second fawn-coloured patch, which latter extends broadly in front of the gular black spot, and separates it from the breast; posteriorly the green demi-collar is also bounded by a black band, mingled laterally with silver-white feathers, which separates it from the neck posteriorly. From the nuchal black band to the scapularies, the neck posteriorly is marked by very finely-marbled grey with a line of darker brown feathers down the centre; the scapularies, which are long and dependant, are above rich hair brown, becoming below darker, bordered more or less with white or brown, the outer feather on each side being long and pointed,—its outer web velvet black, bordered with russet brown, and its inner web pure silvery white; upper tail coverts brown, flanked on each side by a broad silvery band; tail dark brown. Between the scapularies and the upper wing coverts there is a line of finely-marbled grey, continuous with that on the posterior part of the neck; upper wing coverts rich hair brown, the lowest being long, broad-pointed, and dependant, having their outer webs edged with a fawn-coloured streak, on the outside of which is a velvet black border; the speculum formed by the secondary quills and lower coverts has above an ochreous edging, then glossy green, in the middle velvety black, and beneath silvery white; primaries, of which the second is the longest, brown, darkest on their outer web and tips. The throat is velvety black, and separated from the chest by the above-

mentioned fawn-coloured band; upper parts and sides of chest vinous purple, faintly spotted with black; crop and sides lighter vinous-colour, distinctly and thickly spotted with round black spots, which grow fainter as they go downwards. Abdomen white; flanks marbled grey above and below, white in the middle; under wing coverts clear brown, some of the feathers edged with pearly white; under tail coverts velvet black tinged with purple, bordered laterally with ochreous, and terminating nearly at the end of the pointed tail with light spotted grey. Beak black, with the nail glossy brown; feet and legs light brown.

The female is a plainly-coloured bird, having all the upper parts rich brown, the feathers on the back being bordered more or less broadly with russet; primaries brown, the speculum having the upper russet border as broad as the other, the four colours—russet, green, black, and white—succeeding each other in about equal proportions; sides of the head and neck marbled grey; throat white; chest rich brown, with darker oval and irregularly-shaped spots; middle of the abdomen dirty white; lower part and under tail coverts the same, but thickly spotted with brown; flanks in large spots of two shades of brown; beak black, with the nail brown; feet and legs light brown.

I have the greatest pleasure in giving correct drawings of the male and female of this rare European bird, the specimens having been obtained at great cost by Mr. Tristram, through Dr. Middendorff himself, from the Caspian Sea.





FALCATED TEAL.





PALMIPEDES.

Family ANATIDÆ. (*Bonaparte.*)Genus ANAS. (*Linnaeus.*)

FALCATED TEAL.

*Anas falcata.**Anas falcata,*

" "

" *drepanopterus,**Querquedula falcata,*

PALLAS. LATHAM.

MIDDENDORFF. SCHRENCK.

MESSERSCHMIDT. BRANDT.

BONAPARTE.

Specific Characters.—Male.—Top of the head and cheeks a rich metallic brown; sides of the head and nape metallic green; the feathers of both these regions being prolonged at the nape, so as to form a crest of brown and green; a black collar round the pure white neck. Five or six of the scapularies on each side very long and strong, and extending in a falcated or sickle-shaped form over the wing. Length (male) nineteen inches, carpus to tip ten inches; longest sickle-shaped scapular feather eight inches; beak from rictus two inches; breadth at base five eighths of an inch; tarsus one inch and a half; middle toe and claw two inches.

THIS very beautiful Duck is an Asiatic species, inhabiting Siberia and Amoor Land in considerable numbers. Its title to a place in the European list rests upon its accidental appearance in Sweden, Hungary, and Germany. The Prince of Canino records a fine male specimen as having been captured in the neighbourhood of Vienna, and he gives Hungary as its European locality in the "Conspectus Avium Europæarum." Mr. A. Newton is my authority for its occurrence in Sweden.

As an accidental and extremely rare visitor only can this elegant bird be admitted into the European avi-fauna. Its real home is in

the eastern part of Siberia, from the River Jenisei to the Lena, and beyond Lake Baikal, as stated by Pallas in his travels, vol. iii, p. 701, and in the "Journey to Georgia," 1772, p. 168. Latham says it probably winters in the Mongolian deserts, and he states that he received a live specimen from China, which lived for some time among "other poultry, and was pretty familiar." Middendorff, in his "Siberische Reise," vol. ii. p. 231, gives an account of it in Siberia, and figures the female and its egg. More recently, Dr. Leopold Von Schrenck has given a long and somewhat prolix history of the young birds as he observed them in the Amoor Land, ("Vogel des Amur-Landes," vol. i, part 2, p. 476.) From this work I quote the following:—

"*Anas falcata* is a very plentiful Duck in Amoor Land. According to Pallas it first appears in Siberia in the spring, and I shot my first specimen near Nikolajevschen Posten, on the 6th. (18th.) of May, 1855. It might probably have been found there about the end of April, since Middendorff notes its appearance at Udskoi-Ostrog as early as the 3rd. of May, and at Utschur on the 14th. On the 28th. of May (June 9th.) I found *A. falcata* at Borbi, on the upper part of the Mariünskischen Posten, already paired, and the male in full breeding plumage. In the summer of 1856, on the 1st. (13th.) of June, I shot an old male on the Jäi-Flusse, which appeared to be without a mate, and had probably already bred. More than a month later, on the 6th. (18th.) of July, 1855, Herr Maack killed an old female near the mouth of the Ssungari-Mündung, which certainly had a very worn and faded plumage, but yet showed no trace of moulting. Middendorff observed the young near Udskoi-Ostrog on the 4th. of August, with the wing feathers just sprouting out, and I shot a similar specimen on the 22nd. of August, (September 3rd.,) near the mouth of the River Komar, but I found young ones near the Nikolajevschen Posten on the 8th. (20th.) of September, with fully-developed wings, and on the 19th. of September they had no trace of breeding plumage." "I killed three specimens in a few minutes, one after the other, as they swam towards me when hidden on the banks of the river."

Middendorff says,—“This Duck nested abundantly in the Stanowoj Mountains, as far up as the immediate neighbourhood of the ridges themselves.”

The adult male in breeding plumage has the forehead, top of the head, and cheeks a rich brown, the latter tinged with metallic green; from the eye extending backwards to the occiput and nape, where they unite and form a crest, is a broad band of rich metallic green

feathers; the neck and throat are pure white, surrounded by a rich velvet black collar; upper part of the back, chest, and upper wing coverts grey and white, in zigzag, more or less curved, and circular lines; upper wing coverts grey, terminating above in black, below in much lighter mottled grey, while five or six of the feathers rising immediately beneath them are much prolonged and sickle-shaped, extending over the wing; these falcated feathers have white shafts with the outer webs black, beautifully fringed with white, and the inner web black, going off into lighter grey; lower part of the back, rump, and upper tail coverts, brown, with the tail velvety black, flanked on each side by a broad fan-like expanded cream-coloured tuft of feathers with black bases; the secondaries are rich dark green on their outer webs, forming the speculum, light brown on their inner webs; primaries light brown; abdomen mottled grey; the flanks, down to the tail, richly and beautifully marked by waves, zigzags, and circular lines of grey and white; under wing coverts white. Legs and feet black brown; beak pitch black.

The female, according to Middendorff's figure, ("Sibirische Reise," vol. ii, pl. 23,) has the head, back, and breast dark brown, with the edges of each feather russet; lesser wing coverts whitish; speculum dark green; wings and tail dark brown; beak and feet black.

Of the young Dr. Schrenck (opus cit.) says:—"Of my five young specimens, four are from Amur and one Kamschatka. There are four males and one female, in youthful plumage, the males fully fledged, the female with down on its wings. Both sexes are at first sight very similar, but they are easily distinguished on examination. The young female has a great resemblance to the old one, but differs in being darker and unicolorous above, while the under parts, from the chin to the under tail coverts, have the same colour and markings, the under tail feathers being grey brown, bordered only with rust yellow, while in the adult female they are marked with this colour in the middle concentrically. On the upper parts next to the dark colouring of the head there is a broad band, from the forehead to the neck, which is almost unicolorous brown black, but when seen in light it has a feeble greenish lustre, and near the eyes the feathers have a slight yellowish grey border. The cheeks and auditory orifices are entirely as in the old female, streaked with yellowish grey and black; the throat duller and almost unicolorous brown grey, whilst the streaky markings of the old bird are hardly visible; the shoulders and upper part of the back are likewise duller and unicolorous. The lower part of the back to the rump and the upper tail feathers are almost unicolorous black brown, the first scarcely marked, the

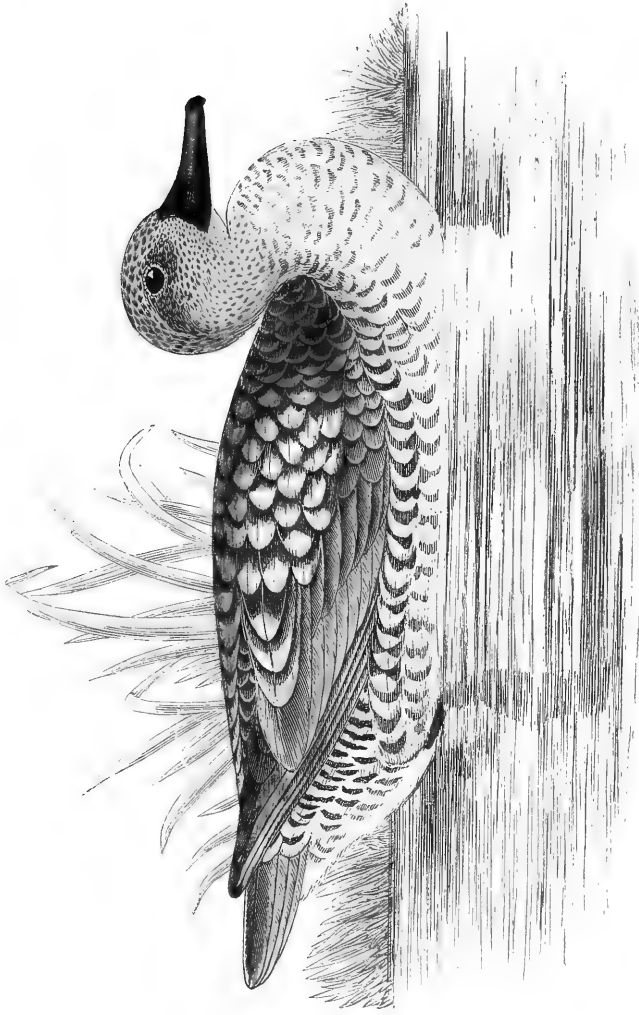
latter with rust yellow borders; tail feathers black brown, with scarcely visible whitish borders; the wings are duller than in the old female; upper wing coverts grey brown, and the lesser and middle often marked at the points with blackish borders. The tips of the greater wing coverts, which have a well-formed speculum, are not clear white, but only greyish white; the speculum has a dull greenish lustre; primaries unicolorous black brown, somewhat lighter on the inner webs of the upper parts."

"The advanced but still youthful clothing of the young male has a great resemblance to the female in the same seasonal dress, especially the under parts; the head, throat, lower part of back, rump, upper tail feathers and coverts are precisely the same; while the shoulders, upper parts of back, and wings are distinct; on the shoulders and lower part of the throat especially are found unicolorous black brown feathers, with rust yellow borders. The feathers on the upper part of the back, which are black brown, are mixed with some having yellow borders, and others with very delicate waved bands or spots. These marks are like those on the old male, but differ in colour, being blackish grey or dark grey and white in waves; the cross bands in old ones are much more numerous and decided." The wings of the young male differ from those of the female in having a strong green polished speculum, and a clear grey on the upper part of the wing.

The young of *A. falcata*, whether male or female, are distinguished from the old birds by having a shorter and stouter beak, having the basal half somewhat flattened, and from the nostrils keel-shaped, which last mark is lost in the old bird. This difference in the size and form of the beak in young birds, accounts for the discrepancies in some of Dr. Schrenck and Middendorff's specimens. The female's beak is sometimes as long or longer than that of the male.

My figure is taken from a very fine male specimen in breeding plumage, from the Amoor, kindly sent me by Mr. Tristram. The egg is from a specimen in my own collection. It was sent me by Schlüter, of Halle, having been taken by Dr. Drybowski in Siberia.

The adult male has also been figured by Brandt, *Descript. et Icon. Anim. Rossic.* pl. 3; and the adult female by Middendorff, *Sibirische Reise*, vol. ii, pl. 21, fig. 2.



MARBLLED DUCK.

PALMIPEDES.

Family ANATIDÆ. (Bonaparte.)

Genus ANAS. (Linnæus.)

MARBLED DUCK.

Anas angustirostris.

<i>Anas angustirostris,</i>	MENETRIES; Cat., p. 58, No. 205.
“ <i>marmorata,</i>	TEMMINCK; Man., iv, 1840.
<i>Dafila marmorata,</i>	EYTON; Anat., p. 114, No. 4.
<i>Querquedula angustirostris,</i>	BONAPARTE; Birds, 1838.
<i>Canard Marblé,</i>	OF THE FRENCH.
<i>Schmalschnäblige Krikente,</i>	OF THE GERMANS.
<i>Shihib,</i>	OF THE MOORS (FAVIER).
<i>Ruhilla,</i>	OF THE ANDALUCANS (IRBY).

Specific Characters.—Beak strait. General plumage light brown, darker on the back, and marbled with white. No speculum on the wings. Length fourteen inches and a half; carpus to tip eight inches; tarsus one inch and a half; middle toe and claw two inches; beak from forehead one inch and four fifths; beak from rictus two inches and one tenth.

THIS Duck was first figured I believe by Mr. Gould, in his “Birds of Europe,” part 9, having previously, according to Schlegel, been described by Edward Menetries, in his “Catalogue Raisonné,” published at St. Petersburg in 1832, as *Anas angustirostris*. This name, according to modern rules, ought to stand, although I preferred the use of Temminck’s name in the first edition.

The Marbled Duck inhabits the south of Europe, the north of Asia, and Africa. In Europe it has been captured in Sardinia, according to M. Cantraine, which, however, is the only Mediterranean locality in which he found it, and there it was very rare. This

does not agree with the account given by Lord Lilford, who says, in his paper on the Ornithology of the Ionian Islands, ("Ibis, vol. ii, p. 353,)—"I saw a boy at Butrinto with a mutilated specimen of this rare Duck in his hand, which he had just killed on the lake; he said it was alone when he shot it. I once flushed three Ducks at Phanari which puzzled me very much at the time, but which I have now no doubt belonged to this species; and an officer of the garrison of Corfu described to me a small Duck he had killed near Arta, which I think can have been no other but this. The Marbled Duck is not uncommon in the Island of Sardinia, and very common at Tunis in January and February." Captain Loche mentions its occurrence in the great lakes of Algeria, where we find the word *Marmora* pedantically enlarged into "*Marmaronetta angustirostris*," according to a paper of Prince C. Bonaparte, in the "Comptes Rendus." Lake Halloula is given as its locality, but Mr. Tristram looked for it in vain during his visit to that most interesting and productive piece of water. Deputy Surgeon-General Stewart writes to me as follows about this bird:—"I procured a pair of this Duck, hitherto new to the Indian fauna, close to Kurrachee, February, 1862. There were four or five more in the same flock on a small lake, or rather pool. I thought it was altogether new, but Blyth undeceived me. I have since seen specimens procured in Guzerat, north of Bombay, by Capt. Butler, of the 83rd. regiment."

Lieut. Col. Irby, in his "Ornithology of the Straits of Gibraltar," has the following about this bird:—"This Duck on both sides of the Straits appears in spring, to remain only for the breeding season, and is exceedingly abundant in Morocco, where, at the lakes of Ras-Dowra, in April, I saw flocks numbering many hundreds; and they are frequently exposed for sale in Tangier market."

"Favier says that they arrive during March and April, departing in October, and that after the Common Teal they rank as the most common Duck in the country. On the Spanish side I heard of three being seen at the end of February, and saw six or seven myself on the 23rd. of March, but the majority do not appear until late in April, though I have noticed them on the sea near Gibraltar early in that month. As a rule they all leave by September, but of course stragglers remain later.

"The Marbled Duck breeds during the last week in May, nesting in patches of rushes. The nest is like that of a Teal, containing a good deal of down from the breast of the female; and eleven eggs appear to be the usual complement. The latter much resemble those of the Common Teal, being of a yellowish-white colour. Favier

states that they also nest in rushes during May and June, and that incubation lasts from twenty to twenty-seven days.

"I was unable to find the Marbled Duck near the Casa Vieja, or about the Laguna de la Sanda, nor could I ascertain that it is known there, but in the marshes of the Guadalquivir, especially near the Coto del Rey, it is not uncommon.

"In flight the Marbled Duck somewhat resembles the female Pintail, but it is more of a Teal, as Lord Lilford observes. I found them wary, and difficult to approach; but in the dusk they 'flight' very low, and by watching the direction taken by them for one night you may on the next evening be tolerably certain of shooting a good many, and they are excellent eating.

"The males resemble the females in their sombre dress, being of a dull brown colour, marbled with light grey-brown, not having a white feather in the plumage; the alar speculum is pale creamy-brown. The bill is narrow, hence the specific name. Total length fourteen inches and a half; tarsus 1.2 inches."

Doderlein (op. cit.) says of this bird:—"I am of opinion that this species may sometimes occur in Sicily, though hitherto unnoticed. A specimen in fact exists in the Museum of Syracuse, which the Director says was taken in the neighbourhood of that city. Also Baron Caraso told me that he had seen a specimen in 1866 near Girgenti, and the clever ornithologist, Von Heuglin, asked me if I had the opportunity to send him a specimen of this rare species from Sicily, a request that I could not comply with. I am persuaded it will ultimately be found in Sicily, the more so because it is very common in Algeria, and has been met with in Sardinia by Cantraine and by the diligent Cara."

Salvadori says this species has only been found in Sardinia, where it is very rare, as it does not appear that it has been found since Cantraine sent two individuals to Temminck, and a third received by Durazzo from Cara, which was figured by Bonaparte in the "Fauna Italica," and which, if I do not err, is now in the Museum of the University of Geneva. The Museum of Cagliari in 1862 did not possess any individual. This species has been found rather commonly in Algeria, Tunis, in Palestine, and on the borders of the Caspian Sea.

According to M. Cantraine it feeds on insects and worms; and Degland says that it breeds in Algeria, that its eggs are white, very lightly tinged with russet, and that the ends are nearly of the same size. Great diameter four centimetres and six or seven millemetres, the smaller three centimetres three or four millemetres.

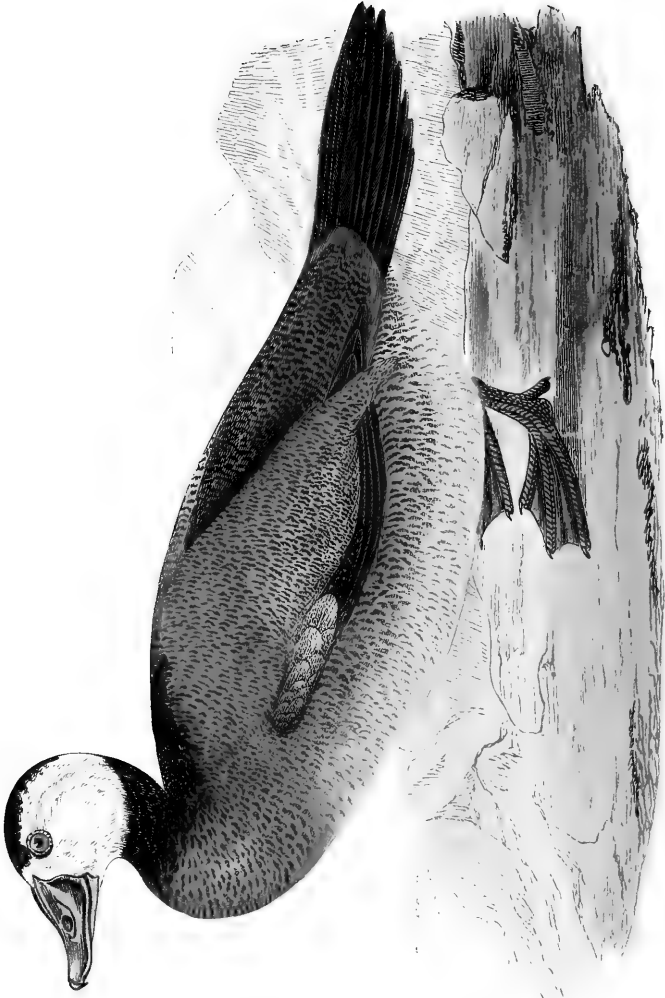
The adult male has the top of the head and nape, scapularies, back, and upper tail coverts dark clay brown, marbled with white, the scapularies being broadly bordered with that colour; the wing coverts the same colour, but only very slightly fringed with white or unicolorous; primaries of a richer brown, the outer web having a bluish tinge, and marked with bluish white near the ends of the outer webs of the first six, contrasting with the dark brown tips of the feathers; secondaries unicolorous clay brown. Throat and cheeks finely-marbled light brown and white; chest and crop, flanks, and under tail coverts barred transversely with brown upon a ground which is lighter than the dirty white of the abdomen; tail above light brown, tipped with white, below dirty white. Beak black brown, the nail darker glossy, and much bent downwards, so as to produce a kind of hook; feet and legs black brown; iris brown.

The female is, according to Temminck, like the male. Its plumage generally brighter; the striæ and brown bands paler, and the white of the abdomen purer.

My figure is taken from a fine specimen sent me by Mr. Tristram, which came from Alexandria.

It has also been figured by Bonaparte, Faun. Ital., fascic 46, fig. 1, (male,) and fig. 2, (young female;) and by Gould, B. of E., pl. 373.





WHITE-HEADED DUCK.

1887



PALMIPEDES.

*Family ANATIDÆ. (Bonaparte.)*Genus FULIGULA. (*Stephens.*)

Generic Characters.—Beak of a form and length very variable, more or less elevated at the base and depressed towards the point. Nostrils a short distance from the base. Legs more behind the centre of gravity than in the genus *Anas*, and the tarsi more compressed; toes long, the two outer ones being larger than the tarsus; hind toe with distinct depending membrane. Wings rather short; tail more or less stiff. Trachea dilated and ossified at its bifurcation.

WHITE-HEADED DUCK.

Fuligula mersa.

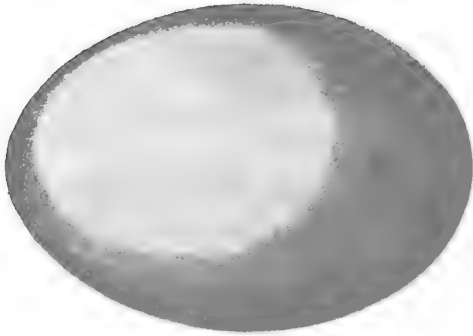
<i>Fuligula mersa,</i>	DEGLAND; Ornith. Europ., 1849.
<i>Anas mersa,</i>	PALLAS; Voy., 1776. SCHLEGEL.
“ <i>leucocephala,</i>	SCOPOLI, according to GMELIN, Syst., 1788.
“ “	LATHAM. TEMMINCK.
<i>Erismatura leucocephala,</i>	BONAPARTE; 1838.
<i>Undina mersa,</i>	KEYSERLING ET BLASIUS; 1840.
“ <i>leucocephala,</i>	GOULD.
<i>Fuligule couronné, Canard</i>	
<i>couronné, or Canard Nympe,</i>	OF THE FRENCH.
<i>Europäische Nymphenente,</i>	OF THE GERMANS.
<i>Gobbo ruginosa,</i>	SAVI.

Specific Characters.—Beak very thick; wings very short; tail very long, conic, with the quills very stiff and pointed, forming a series of furrows; no speculum. Length seventeen inches; carpus to tip six inches and a fifth; tarsus one inch and a half; middle toe and claw three inches; beak from forehead two inches; beak from rictus two inches; circumference at swollen base of beak three inches and four fifths.

THIS singular and interesting Duck is an inhabitant of the eastern parts of Europe, and the central and eastern parts of Siberia. It is very common in Russia, the Ural Mountains, Livonia, and Finland, frequenting the marshy lakes of those countries. It is observed, according to Temminck, only during its passage, in Hungary and Austria, but I have an egg sent me by Mr. Wheelwright, which is said to have been taken in the former country. It is very rare in France. One young specimen is recorded by Degland as having been killed in the south of France; another in the swamps near Dieppe, by M. Hardy; and M. Bouteille states that he purchased four specimens in January, 1846, killed in the marshes of Grenoble. It occurs in Sardinia, and Savi states, "It is said not to be rare in Hungary. I know that in winter it is frequently met with in Sardinia. Professor Rauzani, in the December of 1808, had two young males which were killed in the Valley of Comacchiesi. In October, 1818, three adult individuals were met with in the ditches of the Madonna dell' Acqua. The following year a young female was brought to me from our market, and last winter I bought there two young specimens, male and female, which were said to have been killed on Lake Maciuccoli. According to Gerini, in the "Florentine Ornithology," it was once very common in the marshes of Bientina, but is now no longer, or very rarely caught there."

Salvadori says "it is rare in Continental Italy, especially in the western parts, less rare in the south, and rather frequent in Sardinia. They say at Venice, where it is very rare, it appears in acutely cold winters. It has never been observed in Piedmont. Accidentally in Lombardy. In Liguria, and perhaps also in Emilia. Two were killed in the Comacchiesi marshes in December, 1808, mentioned by Rauzani. Savi mentions that some individuals are always found by him in autumn and winter in Tuscany, when it appears, according to the *Storia delli Uccelli*, that it was once very common in the marshes of Bientina. It is occasionally found in the Roman States (Bonaparte). It is not announced by Costa among Neapolitan birds, but I am certain it is found there, as I obtained it myself at Naples, killed in the neighbourhood. It appears to be rare in Sicily, where it is sometimes met with in the southern marshes. Finally, in Sardinia it is rather common; and it appears that it occurs in spring or end of winter, and nests there."

They say that it nests in the middle of the reeds in very thick and well-hidden places. It nests in fact on the stems of aquatic plants, and it is often covered above with the same materials. The eggs, in number from eight to ten, are very large, of an azure



1. ARCTIC GARROT.

2. WHITE-HEADED DUCK.



white, and differ from all other *Anatidæ* by the shell being hard and rough, and rude to the touch, as though covered with sand.

Degland says that it occurs in Greece, but no mention of it is made by Count Mühle or Dr. Linder Mayer, in their ornithological catalogues of that country. It is, however, not uncommon on the borders of the Black Sea. Dr. Carte, on the zoology of the Crimea, says,—“Two or three were seen in the harbour of Balaklava, in the month of February, 1855, fishing for small fish, shrimps, etc., diving with great ease, and remaining under water a considerable time. An allied species is found in the salt-water lagoons of Australia and Tasmania.” Lord Lilford says it is common, and he believes resident in the Ionian Islands, on Lake Butrinto, and on the lagoons of Nicopolis. It is much more common on the opposite African coast. It occurs, according to Captain Loche, in all the great lakes of Algeria, and he mentions that of Halloula. Mr. Salvin says he found it commonly in the lagoon of El Baheira, and he saw it at Djendeli and Zana, in the Eastern Atlas, (“Ibis,” vol. i, p. 364.) Favier says that it occurs on its passage at Tangier. Colonel Irby says it no doubt breeds near Cadiz, but he never met with it on the Spanish side of the Straits. Mr. Tristram found it on the Lake of Bou Guizoun, in June, 1856, and at Tuggart, in Northern Africa, in December of the same year, (“Ibis,” vol. ii, p. 82.) He also fell in with it, and obtained the nest and eggs, at the Lake of Halloula, his visits to which I have before had occasion to refer to with pleasure.

“We found two nests of the White-headed Duck, (*Erismatura mersa*,) among the sedge, containing the one three, the other eight eggs. These are very large for the size of the bird, almost perfectly elliptical in shape, and a line longer and wider than those of the Velvet Scoter; of an extremely rough texture, unlike that of any other Duck, more resembling the egg of the Bean Goose, but far more coarsely grained, and of a dull white colour. The habits and flight of the bird are more like those of a Grebe than a Duck. It often saves itself by diving, and remains under water a considerable time.” Mr. Tristram did not meet with this Duck in Eastern Algeria. Mr. Tristram does not say that the nests he found were floating. Temminck says they float like the nest of a Grebe.

The bird when swimming is submerged in the water, except its head, and its stiff tail acts as an excellent rudder to steer it about. Its legs are placed beyond the centre of gravity, so that it cannot walk. It is, however, an expert diver, as stated by Mr. Tristram, and for this its organization beautifully adapts it.

I am very glad to have the opportunity of figuring a male bird from Halloula, sent me by Canon Tristram.

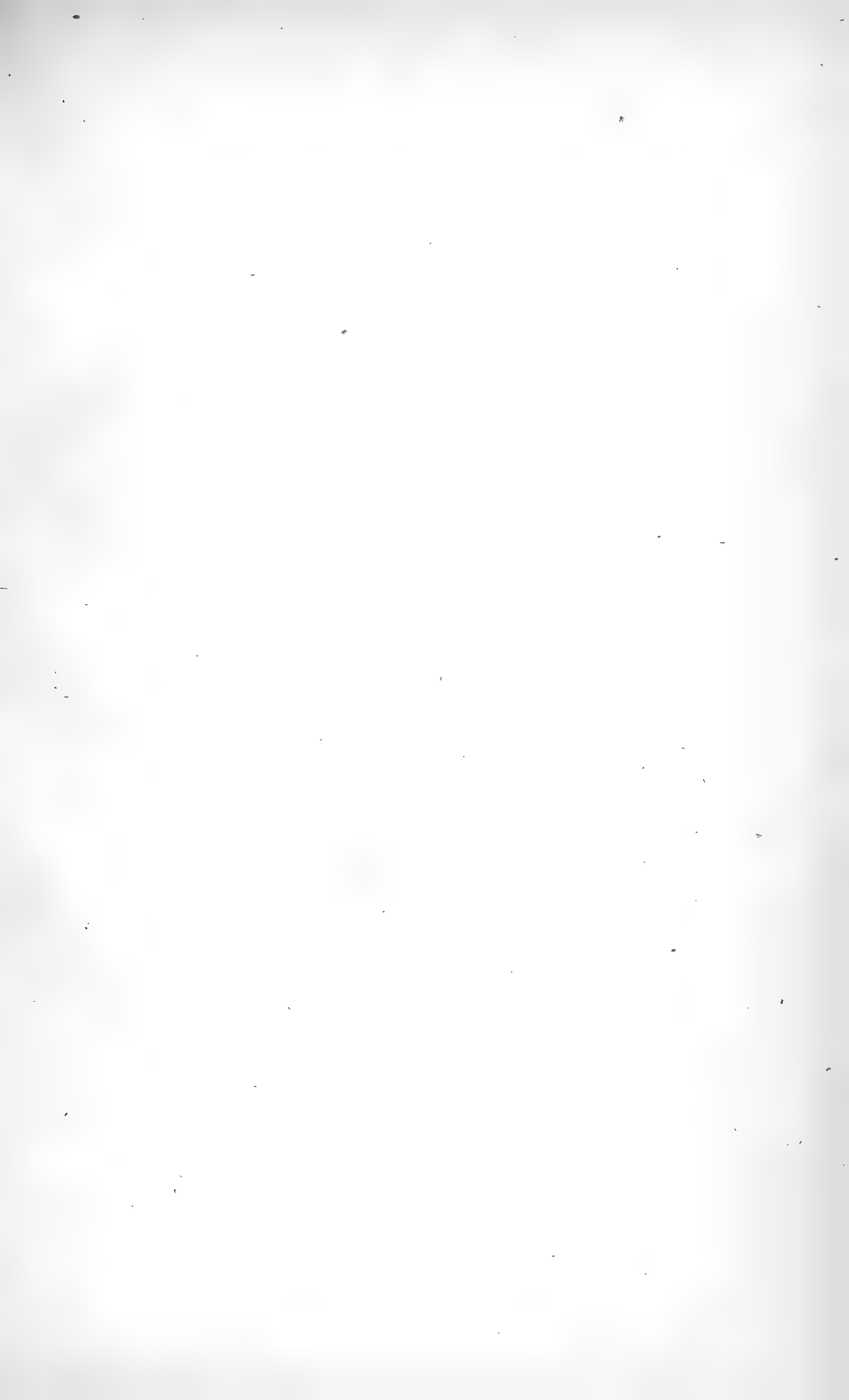
This specimen, killed on the 15th. of April, 1856, and therefore in the breeding plumage, has the top of the head and occiput black, with the forehead, nape, cheeks, and base of under mandible white; neck and throat black; back, scapularies, upper wing coverts, and flanks reddish brown mottled with grey and white; the sides of the chest and upper tail coverts deep red brown; tail black; lesser wing coverts dull brown, edged with minute black and white spots; primaries and secondaries very short, and brown; chest deep red brown, spotted with black; crop and abdomen dirty glossy (Grebe-like) white, covered thickly with black spots, more or less distinct. The short and singularly inflated beak, the very small nail, and the legs and feet black.

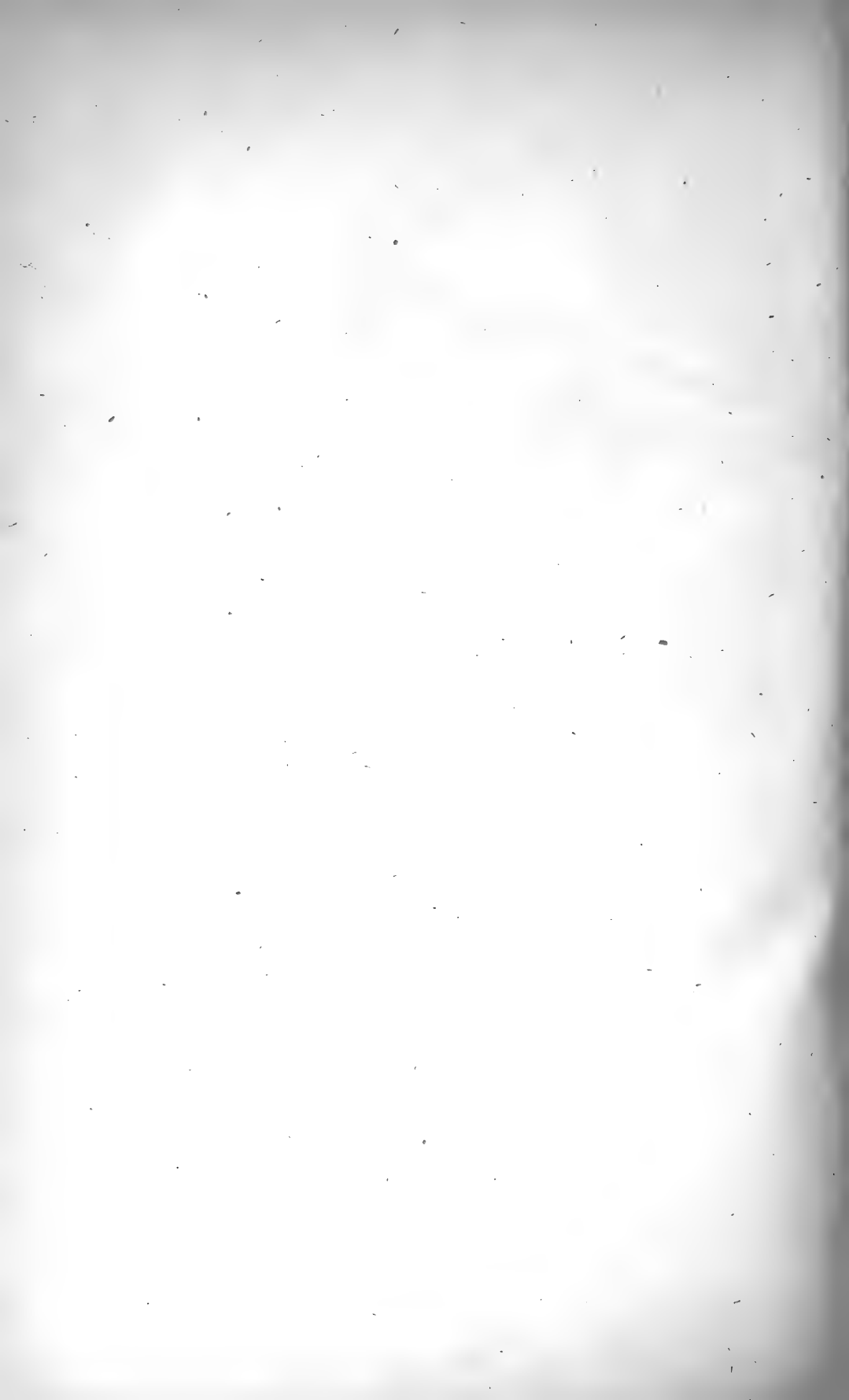
My figure of the egg is from my own collection, in which I have a long series taken in South Russia.

It has also been figured by Bechstein, *Taschenb. Deut.*, vol. ii, p. 444, No. 29; Naumann, *Vogel Nachtr.*, pl. 40, fig. 79, (male and female;) Stor. *Degli Uccelli*, pl. 577; Savigny, *Egypte*, pl. 10, f. 2; Gould, pl. 383.



ARCTIC GARROT.





PALMIPEDES.

Family ANATIDÆ. (*Bonaparte.*)Genus FULIGULA. (*Stephens.*)

ARCTIC GARROT.

Fuligula barrowii.

<i>Fuligula barrowii,</i>	DEGLAND; Orn. Europ., vol. ii, p. 446, 1849.
<i>Clangula barrowii,</i>	RICHARDSON; Faun. Bor. Amer., p. 456, No. 216.
“ “	BONAPARTE; 1838.
“ <i>islandica,</i>	Revue Critique, 1840.
“ <i>scapularis,</i>	BREHM; Vog. Deut., p. 952, Sp. 5.
<i>Anas barrowii,</i>	GMELIN. TEMMINCK; Manual, 4th. Part, p. 551, 1840.
“ <i>islandica,</i>	SCHINZ; Europ. Faun., 1840.
“ <i>clangula,</i>	FABER; Prod. Island., p. 71, Sp. 5.
<i>Platypus barrowii,</i>	REINHARDT; Faun. Greenl., p. 24, Sp. S. fig. 3.
<i>Glaucion islandicum,</i>	KEYSERLING ET BLASIUS; Die Wirbelt, 1840.
<i>Garrot Arctique,</i>	OF THE FRENCH.
<i>Artische Schellente,</i>	OF THE GERMANS.
<i>Rocky Mountain Garrot,</i>	RICHARDSON.
<i>Barrow's Duck,</i>	GOULD.

Specific Characters.—Head and upper part of the neck pansy purple, with a large white crescent before each eye; the white speculum separated from the band on the coverts by a black stripe, (male.) The female is like the Golden Eye, but the beak, as in the male, also is shorter, and narrower towards the point. Length twenty-two inches and a half; wings nine inches and a half; beak one inch and one third; tarsus one inch and seven lines; middle and outer toe each two inches and a half.—NUTTALL.

THIS diving Duck is closely allied to, and probably a race of the Golden Eye, and was figured and described in the “Faun. Bor. Amer.” of Richardson and Swainson.

It is an inhabitant of the Arctic regions of Europe and America, being especially located in Iceland, on the borders of Lake Maytavan. In America it appears to be exclusively confined to the Rocky Mountains, for which reason it was called by Richardson the Rocky Mountain Garrot.

Very little has been recorded of this bird since the appearance of Richardson and Swainson's work. It nests on the rocks, among the herbage, and lays ten or twelve eggs, which are of a clear green colour, and many of which have found their way into British collections for the Golden Eye, from which indeed it differs very little. Great diameter two inches and two fifths, smaller one inch and four fifths.

Temminck says that the old birds migrate from Iceland before the females, and the young of the year leave a considerable time after the old birds.

In its habits the Arctic Garrot does not differ from the Golden Eye.

The adult male has the head and two inches of the neck bright pansy purple, with a greenish reflection on the ears. Forehead and chin brownish black. Dorsal plumage, wings, and broad tips of the long flank feathers mostly velvet black. The crescent-shaped patch from the rictus to the sides of the forehead, lower part of the neck, shoulders, tips of the outer scapulars, lower row of lesser coverts, tips of the greater coverts, six secondaries, and the under plumage white; space round the thighs, tail, and its lateral under coverts brocolli brown. Bill blackish; legs orange; webs black. The feathers of the forehead terminate on the bill in a semicircular outline. The feathers of the occiput and nape are longer than in the common Golden Eye, and form a more decided crest; wings two inches and a half shorter than the tail.

In the female the head and adjoining part of the neck are umber brown, and without any white mark; dorsal plumage pitch black; its anterior parts, particularly the shoulders and the base of the neck all round, edged with ash grey; a white collar round the middle of the neck. Flanks clove brown, edged with white. Intermediate coverts blotched with white and black; greater coverts white tipped with black; secondaries as in the male. Both mandibles orange at the point, their tips and posterior points black. Feet as in the male.—(Nuttall.)

My figure is taken from Richardson and Swainson's Faun. Bor. Amer., pl. 70. The egg is one brought by Mr. Procter, of Durham, from Iceland.

The bird has also been figured by Gould, pl. 380.

The genera *Colymbidæ* and *Podiceps* would, in the natural order, follow here. There are, however, none which I can introduce into this work. The only species which may be considered to have a claim are the following, introduced without reason, I think, into the European lists.

Podiceps cornutus arcticus, Schlegel.—The Arctic Grebe is not, as far as I can perceive, in any way distinct from the Slavonian Grebe, (*P. cornutus*, Latham.) A specimen sent me by Mr. Tristram differs in no respect whatever from that bird. In a long article by Kjällbölling, in "Naumannia," 1854, p. 307, et seq., entitled "Notes on the Ornithology of 1853-4," the question of the specific identity of the two birds is very ably treated. Dr. K. arrives at the conclusion that the so-called *P. cornutus arcticus* is only the female of *P. cornutus*, Latham. Therefore, he says, *P. arcticus* must be struck out of the European lists.

Podiceps longirostris.—A so-called species, said by Prince Bonaparte to inhabit the Island of Sardinia, having the size of *P. cristatus* and the plumage of *P. rubricollis*, with a beak longer than the tarsus. I must confess my entire disbelief in either of these birds as distinct species. The *Podiceps nigricollis* of Sanders is the *P. cornutus* of Latham.

PALMIPEDES.

*Family PELECANIDÆ. (Bonaparte.)*Genus PELECANUS. (*Linnaeus.*)

Generic Characters.—Beak long, straight, thick, and much depressed; upper mandible flattened, terminated by a strong nail or hook; inferior mandible formed by two bony branches, depressed, flexible, united at the tip; from these two branches depends a large fold of skin in the form of a pouch. Face and throat naked; nostrils basal, opening longitudinally; legs strong, short; three toes in front and one behind, the latter articulated internally, but on the same plane as the others, all united by a membrane; claw of middle toe without denticulations. Wings medium size; the first primary shorter than the second, which is the longest; greater wing coverts and secondary quills, nearest the body, as long as the primaries.

DALMATIAN PELICAN.

Pelecanus crispus.

<i>Pelecanus crispus,</i>	BRUCH; Isis, 1832.
“ <i>onocratulus, var. orientalis,</i>	LINNÆUS.
<i>Pelecanus onocratulus,</i>	PALLAS.
<i>Pélécane frisé,</i>	OF THE FRENCH.
<i>Riesen-Pelikan,</i>	OF THE GERMANS.

Specific Characters.—A small reddish naked space round the eyes, which space is narrow at the base of the beak, where the frontal feathers form a double festoon. Tarsi short; feet blackish. Plumage generally argentine white. Length six feet; from carpal joint to tip of wing twenty-five inches; beak from forehead fourteen inches and three tenths; beak from rictus fifteen inches and three tenths; naked space about the eyes two inches by one inch and three tenths; tarsus three inches and a half; middle toe and claw five inches and a half.





DALMATIAN PELICAN.

THE Pelicans form a distinct and well-marked genus, with which, thanks to the spirited proprietors of the Zoological Gardens, most people are very familiar. The singular character of the birds in the gardens—their awkward gait, their voracity, the huge bag suspended beneath the lower mandible, which they fill with the fish most nimbly by a kind of side shovelling or scooping with their long flat beak, at once arrest the attention and excite the interest of the observer. But look at the Pelican in his own wild haunts—look at him dashing like a lump of lead into the sea after his prey, or waiting about eddies and waterfalls with the same object—and then watch them in immense troops, flying in the form of an oblique line or semicircle, and he appears a very different bird to those which we see in confinement.

Pelicans live upon rivers, lakes, or on the sea-coast. They usually fly low, but sometimes ascend to a great height. They are good swimmers, and can perch upon trees, but they do not prefer this mode of resting, generally taking to the water. They feed principally in the morning and evening, and continue catching fish until their huge œsophageal pouches are filled, when they retire to some lone and insulated retreat to digest their enormous meals, as though aware of their danger when gorged.

This pouch, which holds in some instances as much as a dozen quarts of water, prevents the proper articulation of their voice, which is, consequently, as Nuttall has remarked, “a mere hoarse, hollow, and indistinct sound, sometimes bordering on a grunt.” Latham says that they will sometimes unite together in the form of a circle, and beat the water with their wings, so as to frighten the fish, which consequently become an easy prey. They breed on rocks near the water, generally in places difficult to get at. They lay from two to four eggs. They are very much attached to their young; hence the old legend that they will feed them with their own blood, which is however, a mere fable, arising from the fact that they feed them by disgorging the contents of their pouches. Equally fabulous is the story of their bringing water in their pouches into the desert, to sustain the camel in his thirsty journey. The Egyptians, however, call the Pelican the Camel of the River, and the Persians the Water Carrier, which has evidently arisen from their performing this office for their young.

The Pelican is said to attain to a great age. Gesner, on the authority of Cullman, gives an instance of one which lived eighty years. Its flesh is bad both to taste and smell.

I have selected the rarer of the two European species to notice

first, as I have, by the kindness of Mr. Tristram, a fine specimen before me.

The Dalmatian Pelican, equally with the White Pelican, inhabits the east of Europe and north of Africa, but is also common in Hungary, Dalmatia, Moldavia, the Crimea, Greece, and the Ionian Islands. It is also found in Algeria, according to Captain Loche and Mr. Tristram; and it ranges even to China, as noted in the "Ibis," vol. ii, by Mr. Swinhoe.

Salvadori (Fauna d'Italia) says of this bird:—"Bonaparte has been the first, as far as I know, to announce this species as an Italian bird, (Faun. Ital., introd.) But to do away with every doubt, it would have been necessary that Bonaparte should have adduced some proof to sustain his assertion. Later Contarini has asserted that it sometimes appears in Venetia, and it appears other Venetian ornithologists have repeated this upon his authority. I do not think any other announcement has been made, and although it is not improbable that it should occur in Italy, as it is found in Dalmatia and Greece, still I cannot conceal the doubt of there being some error in the determination of the species by Contarini, and I therefore announce it very doubtfully."

Of its occurrence in Greece we have the testimony of several writers. Count Mühle, "Orn. Griech.," p. 132, says,—“It is very plentiful in Greece the whole year through, and on many lakes and swamps, such as Zigeri, Kopai, and Paralynti, are broad colonies of them. They are also very plentiful on the lakes of Missolonghi and Thermopylæ. In places incredibly difficult to reach, where floating islands are found, they place their nests very thickly together, supported among the reeds and rushes, and generally soaked with wet. The whole neighbourhood of these congregated nests is covered with their dull white dung and a multitude of foul fish which they have dropped about, and which makes the spot horribly offensive.”

“My friend, Lieut. Freyberg, assured me that after much search in these breeding-places, he had found in a nest—if we may call the hole they use by such a name—a full-grown young one, and another only covered with down, which can only be explained by the supposition that two females had each laid an egg in the same nest.

“The yellow grey young birds have a very unsightly appearance, and these never-satisfied screamers, with their shrill shrieking voice and the unformed head hanging on their crop, make an unsightly picture.

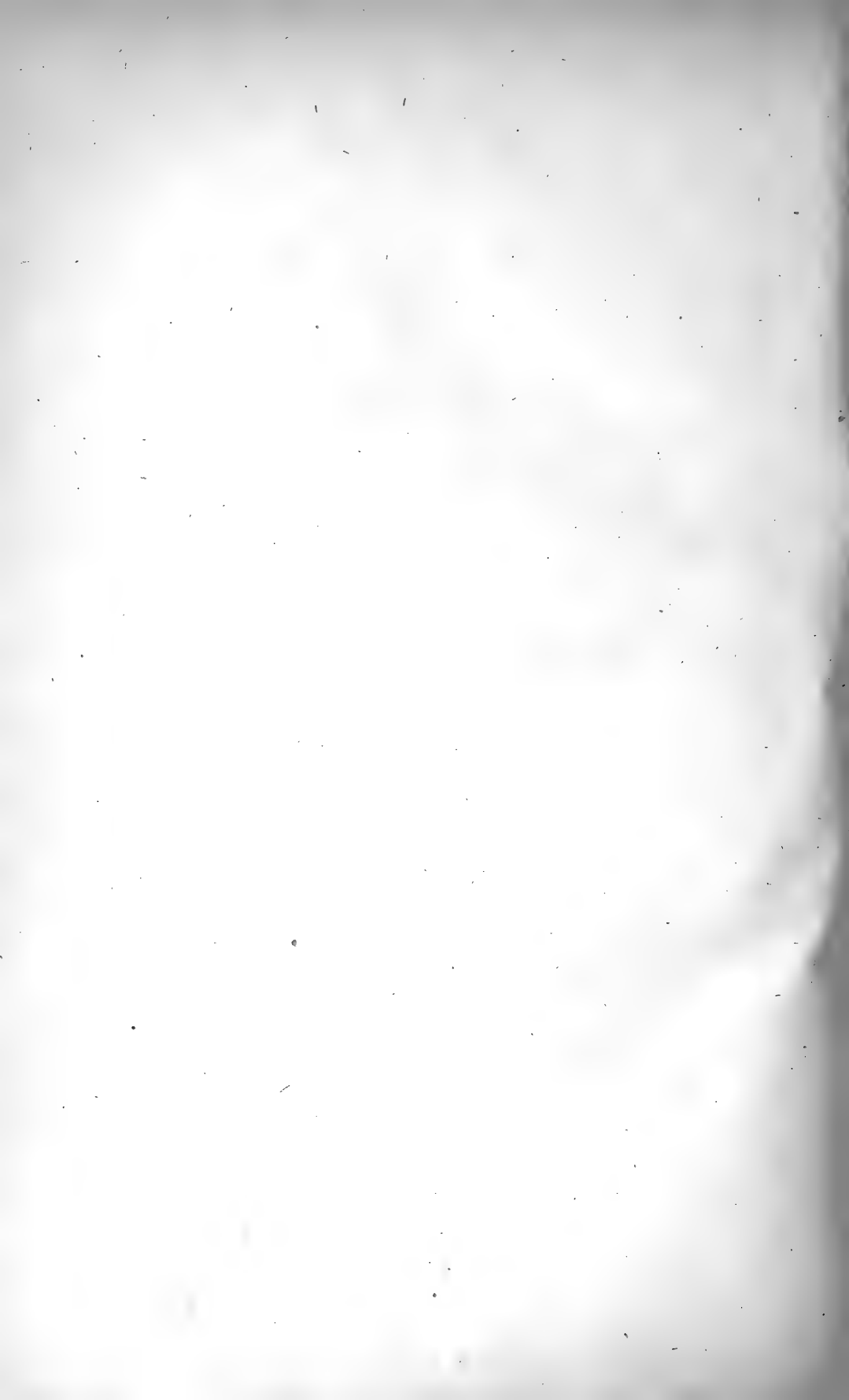
“Near the nest the old ones are not shy, and if you can get to



1. LITTLE CORMORANT.

2. DALMATIAN PELICAN.

3. WHITE PELICAN.



their ground you may kill as many as you like. They fly gracefully and lightly, and describe as many circles as the Gulls. I have never seen them fishing together, but they seem to like the company of the Cormorant. When they have stuffed themselves with food, they may be seen sitting and resting on the low rocks along the shores of the sea."

Lord Lilford says it is common in the Ionian Islands throughout the year, on the coasts of Epirus, and that it breeds at Suttanich, on the Gulf of Arta.—("Ibis," ii., p. 355.) Mr. W. H. Simpson also met with it in Western Greece, and gives the following graphic description:—"Time was, and not so long ago, when *Pelecanus crispus* lived in hundreds all the year round, from the rocky promontory of Kourtzolari, hard by the mouth of the Achelouïs, on the western extremity of the lagoon, to the islands of Ætolieo, up its northern arms, and on the east to the great mud flats which mark the limits of the present delta of the Phidaris. Now-a-days a solitary individual may be seen fishing here and there throughout the lagoon, but the small remnant of this once mighty host have made their last stand upon the islands which divide the Gulf of Procopanisto from the Gulf of Ætolieo. Here, towards the end of February last, the community of Pelicans constructed a group of seven nests,—a sad falling off from 1838, when thirty-five nests (the remains of which had not then disappeared) were grouped in contiguous proximity upon a neighbouring islet. It needs not the nose of a pointer to discover the locality, even if the large white birds themselves were not a sufficient guide. As we approached the spot in a boat the Pelicans left their nests, and, taking to the water, sailed away like a fleet of stately ships, leaving their newly built establishment in possession of the invader. The boat grounded in two or three feet of mud, and when the party had floundered through this, the seven nests were discovered to be empty. A fisherman had plundered them that morning, taking from each nest one egg, all of which we of course recovered. The nests were constructed in a great measure of the old reed palings used by the natives for enclosing the fish, though with these were mixed such pieces of the vegetation of the islet as were suitable for the purpose. The seven nests were contiguous, and disposed in the shape of an irregular cross, the navel of the cross, which was the tallest nest, being about thirty inches high, the two next in line on each side being about two feet high, the two nests forming each arm of the cross a few inches lower, and the two extremes at either end being about fourteen inches from the ground. These latter, it is presumed, were intended for the junior partners

of the firm in the same way that the great bear of the nursery tales has a big seat, his wife a middling seat, and the little bears a small seat. The eggs are chalky, like those of the *Pelecanidæ* generally, very rough in texture, and some of them much streaked with blood."—"Ibis," vol. ii, p. 395.

Dr. Baldamus, in "Naumannia" for 1852, relates the following capture of this bird:—"On my return from Orsova to Parosova I saw in the steamboat a Pelican fly past near the water, and it went on six hundred paces ahead of us. The captain gave me permission to shoot from the steamer, and I killed it within thirty paces, as it was soaring over the bowsprit. This was in the current of Klissura, and the bird must either have come over the high rocks from the Valley of the Danube or from Wallachia. This bird nests in the swamps between the Danube and the Theiss, and I received two young ones and the old female, which lived some weeks on live and dead fish."

In the same journal for 1853, p. 23, Dr. J. F. Naumann says:—"On the upper Sarpa Ponds (colony of Sarepta) is a most interesting breeding place of this bird. I looked for them unfortunately too early, but the construction of the nest could be well observed. It was placed very deep in the rushes of the pond. After half an hour's trial we succeeded in making a passage through mighty rush thickets, where the Swans and Ducks were swimming about. The nests were placed on the narrow banks, close to one another, and they appeared as though they were swimming together among the roots of the old rushes and reed stems, and they were placed so thickly that they did not sink when stood upon or walked over. The nest was very narrow for the size of the bird."

The following account, by Dr. Cullen, of Kustendji, was published by me in the "Field," of July, 1870:—

"The Dalmatian Pelican (*Pelecanus crispus*, Bree, B. of E., vol. iv., 1st. ed., p. 167).—Anyone living in the Dobrudsha must have yearly opportunities of verifying the truth of Mr. Simpson's statement in the 'Ibis,' that this Pelican is to be seen in the early summer in flocks of hundreds and thousands. That the Dobrudsha should be so favourite a resort for this bird is explained by reference to the physical structure of the country. At various parts along the coasts, and often at but short distances inland, there are numerous large fresh-water lakes, some of them of great depth, and more or less filled with an almost tropical growth of reeds often twelve to fifteen feet high. We were fortunate enough to discover one of these not far from the Danube, partly surrounded by low hills, about six miles long, and sub-divided by the reeds into several small lakelets, each of which

the telescope enabled us from the high ground to see was tenanted by a separate colony. The largest lakelet was entirely enclosed with a thick wall of reeds like a park with a ring fence, through which the boatman was with difficulty persuaded to penetrate. It required two hours' hard labour to force the boat through; and so secure did the Pelicans feel in their nests, that they allowed themselves to be examined through a break in the reeds.

The labour was, however, well repaid, for when we burst into their sanctum we found a colony of thirty-one nests, arranged, as in all the other lakelets, in the shape of a horseshoe, placed a short way in front of the wall of reeds, and at an almost uniform distance from each other. They were all made of pieces of old reeds, and formed truncated pyramids from a foot and a half to two feet above the water, the apex slightly hollowed out, and apparently very small for so large a bird. The boatmen, who had lived near the lake and fished it for thirty years, said they never laid more than two eggs, and only in one nest out of upwards of a hundred examined did we find so many as three. All the birds were sitting with their backs to the wall of reeds, facing and looking towards the centre of the horseshoe, so that, from whatever quarter a cause for alarm might spring, immediate notice could be taken of it. No other bird of any description was seen in this paradise of Pelicans. The eggs vary much both in size and appearance. The length varies from four inches and one tenth to three inches and one tenth, while in breadth the difference was from two inches and a half to two inches and three tenths. Some of them were beautifully smooth and polished; others, again, were coarse, rough, and uneven, like badly cut chalk. In the pouch of one bird seventeen fishes were found, from four inches to nine inches long. The expanse of wings was eleven feet."

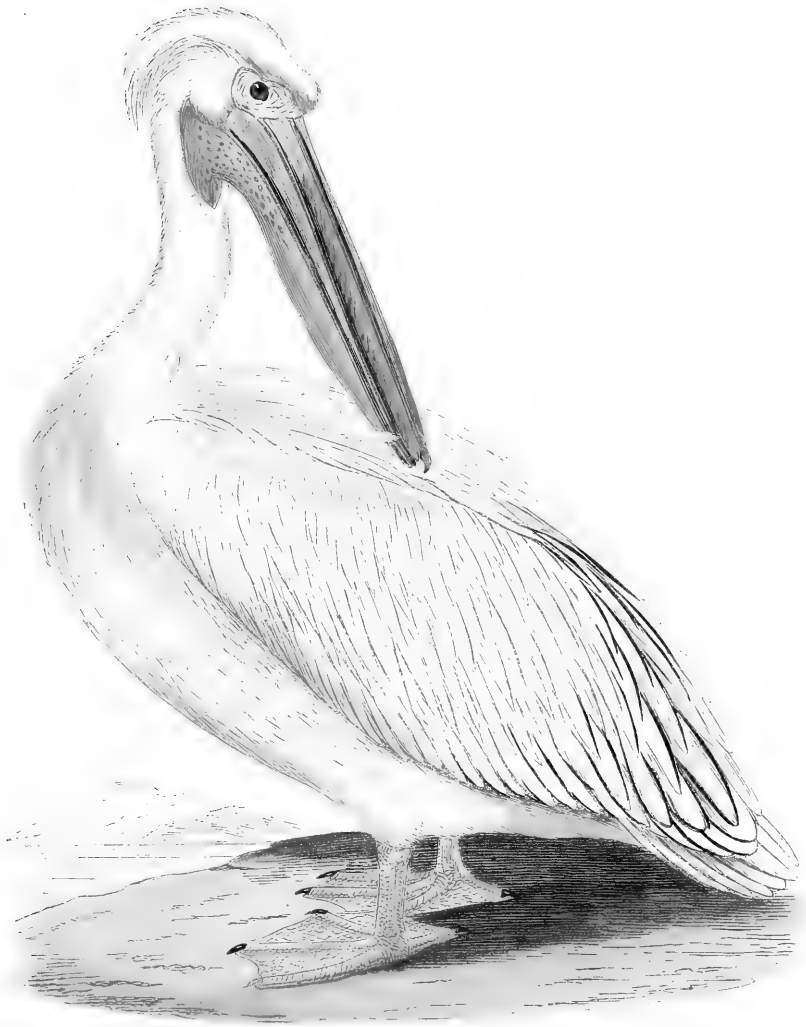
The adult male and female have on the head and neck an abundant coiffure of long white feathers, slightly twisted and silky; all the feathers of the head and neck are narrow filaments more or less contorted; those of the crop are straight, awl-shaped, shining, and of a yellowish tinge; the abdomen greyish white; all the upper parts, including the wings, are covered with long white feathers, of which the shafts are blackish; tail of silvery white, with black shafts; primaries black, with their bases silvery white, running into grey on the inner web,—the tips are also greyish; the secondaries white, with their extremities silvery grey. The eye is surrounded by a yellowish red naked patch, of which the tint becomes bluish near the beak; superior mandible grey, spotted with blue and red. The guttural pouch orange, more or less varied with yellowish grey, and on each

side a yellowish grey spot. Legs and feet ash-colour; iris clear yellow.

The young have no crest; the pouch is greyish, more or less tinged with yellowish; their plumage is grey, mixed with bright brown.—(Temminck.)

My figure of the bird is from a specimen kindly sent me by Mr. Tristram. The egg is from the Dobrudsha, in my own collection, sent to me by Dr. Cullen.

The bird has also been figured by Brandt, *Animal. Rossic. Nov. Icon.*, fas. 1, pl. 6; Gould, *B. of E.*, pl. 406; Naumann, *Vogel. Deutsch.*, pl. 283.



WHITE PELICAN.





PALMIPEDES.

Family PELECANIDÆ. (*Bonaparte.*)Genus PELECANUS. (*Linnæus.*)

WHITE PELICAN.

Pelecanus onocratulus.

<i>Pelecanus onocratulus,</i>	LINNÆUS.
“ <i>roseus,</i>	EVERSMAN.
“ <i>minor,</i>	RÜPPELL.
<i>Pélécan blanc,</i>	OF THE FRENCH.
<i>Gemeiner pelikan,</i>	OF THE GERMANS.
<i>Pellicano,</i>	SAVI.

Specific Characters.—The eye is placed in a large naked patch, which is broad at the base of the beak, where the feathers of the forehead form one point; tarsi long; legs livid. Plumage rose colour. Length from five to six feet, and sometimes larger.

THE White or Common Pelican, or The Pelican of authors, inhabits in Europe the same localities as those mentioned for the Dalmatian Pelican. It has occurred also, but accidentally, in France, Italy, and Sicily. A young subject was shot by M. Hollandre on the 4th. of October, 1838, in the pond of Fouligny, in the Department of Moselle, and is recorded in the “Faune de la Moselle,” p. 191. Degland records the capture of one in June, 1849, in the neighbourhood of Guête, and three others near Libourne, in the Department of the Gironde, which he supposes were flying to the grounds in which they ordinarily lived, and which were then the theatre of war. Mr. W. H. Simpson (“Ibis,” vol. iii., p. 366,) describes what must have been a magnificent sight, namely, a flock of Pelicans, which he supposed were of this species, numbering *several thousands*, flying

northwards in the Dobrudsha. Lord Lilford ("Ibis," vol. ii., p. 355,) says that the White Pelicans pass in enormous numbers over Corfu southwards in November, and that a few remain about the coasts of Epirus throughout the winter.

Count Mühle says,—“This Pelican is also very rare in Greece. I believe that it comes there to breed, but is only seen singly now and then in winter. Among all my specimens of Pelicans I have only one of this species, which was killed in April in the lake of Missolonghi. It was a female, and about to lay, as a mature egg was taken out of its body.” Dr. Lindermayer says that it is much rarer in Greece than *P. crispus*, only a solitary one being seen in the large lakes now and then. He does not speak of its breeding there with certainty. It is found, according to Captain Loche, in Algeria, but only accidentally. In Egypt, the Rev. E. C. Taylor says, “Ibis,” vol. i., p. 54, “This magnificent bird is tolerably numerous, and generally distributed. It is usually to be seen standing on sandbanks in the bed of the river, and is a characteristic feature of Nile scenery.” Dr. G. Hartlaub includes it among the birds of West Africa, and gives Senegambia, on the authority of Lichtenstein, and Mozambique, on the authority of M. Verreaux, as localities, (“Ornithologie Westaflicas,” p. 259.)

Doderlein (op. cit.) says:—“The passage of this bird through Modena, though uncertain and irregular, is not at all rare. In particular in the valleys of Reggiano and Guastullesse, where in 1844 four individuals were captured out of a flock of six or seven (Tognoli), and succeeded by five more in 1846. In the museum of the University of Modena three specimens are preserved, one of which was killed in the spring of 1843 in the valley of Porto-Vecchio, and another was given by Count Pietro Gundini, which had been taken in the south of Nierandola, and the third more recently from Nonantola. Tognoli also had a beautiful individual killed in Reggiano, with its feathers preserving quite their beautiful rosy tint.

“In Sicily it occurs accidentally. Flocks of them may be often seen in the marshes of Catania and Lentini, where, according to Il Patti, they stop for a short time with their young in the winter months during a passage, but not periodically. The same birds are found during the period of passage, but more rarely, in the waters of Camerana, Terra-Nova, Trapani, Mazzara, and even at Mondello, near Palermo, some of which are taken by local hunters, and may be seen in the ordinary collections of the island. Benoit describes the capture of a young bird in the lake of Faro, near Messina, and of five other adults in 1834 near Olivieri. Another male, killed more

recently, was given to the museum of Palermo by Signor Eusebio Panvini Mortillaro. During the autumnal passage of these birds in Sicily one may often see them accompanied by the young birds of the year, and one of the latter, taken near Catania, clothed in its primitive ashy dress, is found in the beautiful ornithological collection of Baron Anteri. It occurs accidentally in Sardinia."

Salvadori (Fauna d'Italia) writes of this bird:—"This Pelican is taken accidentally in Italy, and at intervals more or less long it has been seen in every part. Sometimes it appears in numerous flocks, as recorded by Savi and others, and as happened in the spring of 1858, when a flock of upwards of one hundred individuals appeared on the Po near Casali. Exhausted by hunger and fatigue they were nearly all killed, even with sticks. Four individuals taken alive were carried into the royal park of Stupinigi. Althammer adds that similar appearances are not rare on the Po, Mincio, and Lombano Lakes, ('Naumannia,' 1858, p. 167.) Some years a flock of six or seven individuals descend upon the mouths of the river Tenna, upon the Adriatic shores, and three were killed by a single shot. From the state of exhaustion and fatigue in which they come amongst us, they appear to have been driven into Italy by contrary winds, which surprised them during their voyage. It is common in Egypt, in Sona, and Eastern Europe."

At one time almost all Pelicans fell under Brisson's name of *onocratulus*, and Nuttall has given a long description of this bird as an inhabitant of America. It does not, however, I believe, occur there, the two American species being *P. trachyrhynchus* of Latham, and the *P. fuscus*, or Brown Pelican, of Linnæus.

The White Pelican is very similar in its breeding habits to its congener and very near ally, *P. crispus*. It nests among water plants, generally on the ground, or among the thick herbage, and lays two or three large white eggs, the surface of which is rough and calcareous.

The male in breeding plumage is white, tinged with rose, and with a long occipital crest; the crop yellowish, and the primaries black; beak bluish grey in the middle and above and below on its posterior half, the rest yellow, becoming whiter near the tip, with the lateral bands, borders of the mandibles, and the nail, red; the naked part on the face flesh-coloured, with the front swollen, forming an oval brick red protuberance; the pouch yellow ochre, veined with bluish red; lower part of thighs, tarsi, and toes rose, shaded anteriorly and in the articulation with orange; iris dark sealing-wax red, with whitish rays, and the conjunction projecting, and of an orange red.

In winter there is a frontal protuberance; the face whitish; iris brown; the conjunction sealing-wax red; the guttural pouch bright yellow; and the legs livid red.

The female resembles the male, but is smaller, and the beak shorter.

Young of the year have the head, neck, and upper parts, whitish ash, darker grey on the back, on the scapularies, and wing coverts, with the borders a brighter tint; primaries, beak, and naked parts of the cheeks, and throat, livid; legs ashy brown; iris brown.—(Degland.)

My figure is from a specimen in the Zoological Gardens.

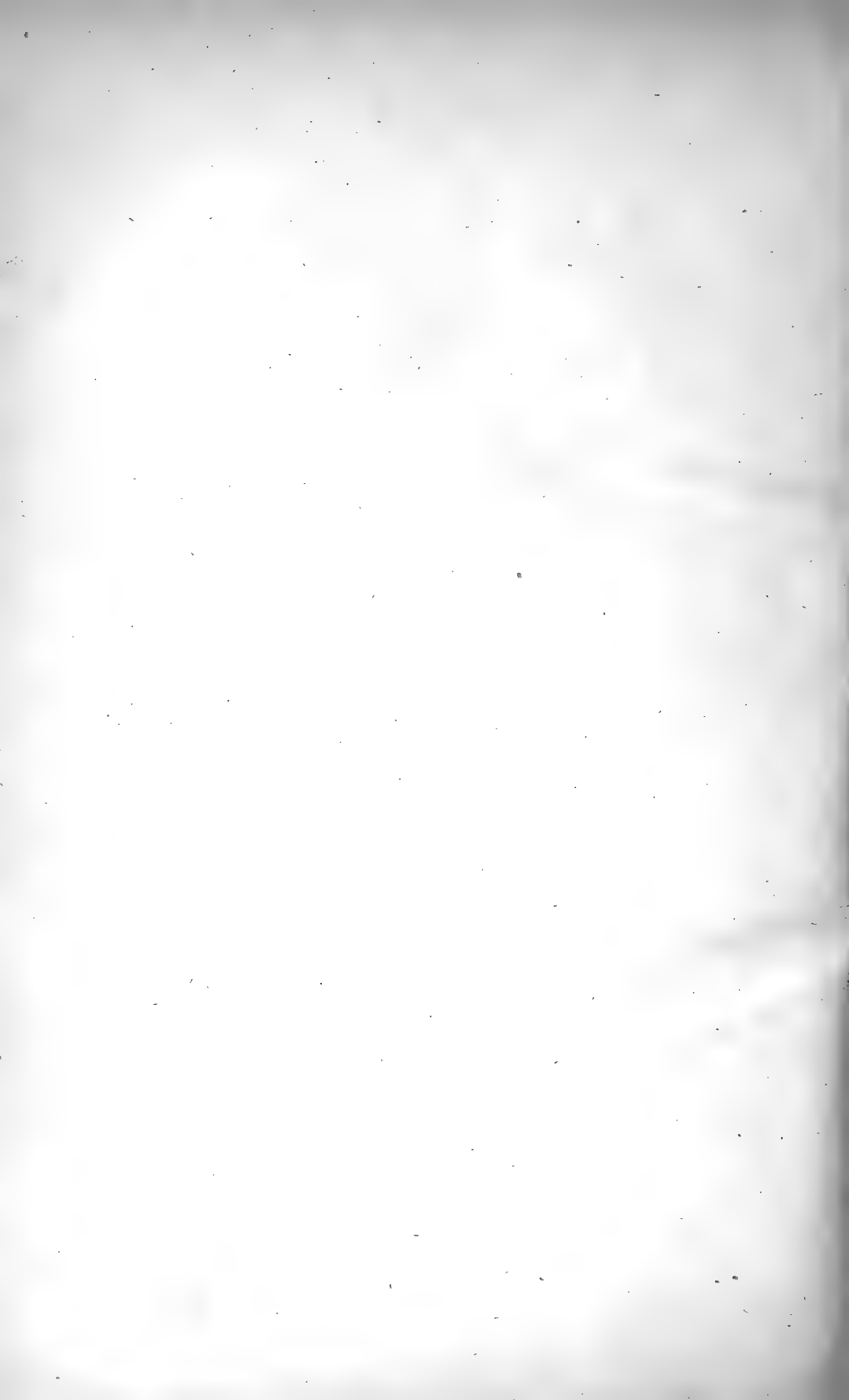
The egg was sent me by Schlüter, of Halle, and is in my own collection.

The bird has also been figured by Buffon, pl. enl. 87, (adult,) 965, (young;) Roux, Orn. Prov., pl. 342, (young;) Edwards, pl. 92; Stor. Degl. Ucc., pl. 499 and 500; Naumann, pl. 282; Gould, B. of E., pl 405.



LITTLE CORMORANT.





PALMIPEDES.

Family PELECANIDÆ. (*Bonaparte.*)Genus CARBO. (*Meyer and Wolff.*)

Generic Characters.—Bill moderate, or long, straight and compressed, culmen rounded; upper mandible much curved near the point, hooked; inferior mandible compressed; the base connected with a membrane which extends to the throat. Face and throat naked; nostrils basal, linear, hid. Legs strong, short, much drawn into the abdomen; three toes in front and one behind, the hind toe articulated to the inner surface of the tarsus, all united by a membrane; claw of the middle toe serrated on the inner edge. Wings of moderate length; the first feather slightly shorter than the second, which is the longest.

LITTLE CORMORANT.

Carbo pygmæus.

<i>Carbo pygmæus,</i>	TEMMINCK; Man., 1820.
<i>Pelecanus pygmæus,</i>	PALLAS.
<i>Hydrocorax pygmæus,</i>	VIEILLOT.
<i>Phalacrocorax pygmæus,</i>	BONAPARTE.
<i>Cormoranus pygmæus,</i>	DUBOIS; Ois. de la Belgique, part III, pl. 230.
<i>Cormoran pygmée,</i>	OF THE FRENCH.
<i>Zwergscharbe,</i>	OF THE GERMANS.
<i>Dwarf Shag,</i>	LATHAM.

Specific Characters.—Beak shorter than the head, and slender; tail long, the feathers straight and stiff. Length twenty inches and a half; from carpal joint to tip seven inches and a half; beak from forehead one inch and three tenths; beak from rictus two inches; tarsus one inch; middle toe and claw two inches and a half; tail six inches, and, in the specimen figured, only ten quills.

THE Little Cormorant is an inhabitant of the eastern parts of Europe and Asia. It is common in Hungary and Dalmatia, and is found along the shores of the Black and Caspian Seas. It occurs also in Greece, and occasionally wanders into Germany, Belgium, France, and Italy, but not, as stated by M. Dubois, by mistake, into the British Isles. It is very abundant, according to Lord Lilford, in Epirus, in the Ionian Isles, where it does not "appear to have any particular preference for salt water to fresh, as it is often to be found in ditches and flooded meadows far from the sea."—"Ibis," vol. ii, p. 355.) Lord Lilford also saw it in Albania. In Italy it clearly has come under the notice of Savi, but at the time he wrote he seemed to connect it with the young of the Shag. In Greece Count Mühle says that although it is taken on all the great lakes, it is far less plentiful than *Carbo cormoranus*, (The Cormorant.)

"It prefers the large lakes and swamps to the sea, which it only frequents in winter. It probably breeds there, though I cannot say anything with precision about its nidification, for it is taken throughout the whole summer. Naumann's remark that it climbs up the reeds is very correct, and in this it resembles *Ardea minuta*. It is very shy, and has a great tenacity of life, so that many when hard hit are lost by the sportsman, and consequently it is very difficult to get perfect specimens for preservation."

Salvadori (op. cit.) writes of this bird:—"It is very rare in Italy, where it is only captured accidentally. It has been observed in Venetia, Tuscany, Neapolitan Territories (Costa), and in Sardinia. An individual killed not far from Turin, on the Po, October 28th., 1866, is preserved in the Museum of Turin. I myself had the good fortune to find two individuals on the north of the river Tenna, October 2nd., 1856, and to kill one of them, which is preserved in my own collection. It appears that it has been found more frequently in Sardinia than elsewhere, since I know of three individuals which have been taken there: one in the museum of Cagliari, a second in that of Turin, and a third in that of Geneva."

Doderlein (op. cit.) records one specimen seen in the market of Naples by Mr. Beck, in March, 1854, which was announced and figured by the illustrious Professor Orazio Cortio in his "Fauna Neapolitana." It was also observed the same year by Benoit near the Neapolitan Preparatoire, from which it is supposed that it may be eventually found in Sicily, the more so as it occurs in Tuscany, Sardinia, and even on the Po near Turin (Salvadori.)

Gerbe attributes to Nardo that this bird nests in the vicinity of Venice, but in the "Prospetti" of Nardo this is not mentioned. It

appears to me that he thus puts in doubt its appearance in Venice, and anyway it is not very probable that it breeds there; the more so as this is not mentioned by Ninni in his recent catalogue of the birds of this region. It is without doubt this species that ought to be referred to the individual mentioned by Savi, which was killed in the moat of the Lazaretto of Livorno in August, 1830."

Dr. Lindermayer says that it breeds along the Island of Euboa, in the inland lakes, and the surrounding country.

"The Little Cormorant," says M. Dubois, "frequents the lakes in the interior of the continent, as well as the sea; but it loves, above all things, extensive marshes which are full of reeds and other aquatic plants, and cut into channels of deep water, full of fish, where they can constantly seek their food, for they are very voracious, and wage a constant war against the finny tribe. When they wish to rest they place themselves on the trunk of a tree, or post surrounded with water, where they remain for hours without moving.

"Their immobility seems to be a source of the greatest pleasure to them in fine weather. Plunged into a half sleepy condition, it is at such times easy to cover them with the gun; but the sportsman is often deceived when he thinks by their sudden fall into the water that they are mortally wounded, as they often rise to the surface again far beyond his reach. They swim with an inconceivable dexterity, and they can hardly be seen when they are in the water, as they only show a small part of the head and the top of the back.

"They are very sociable, above all to their congeners; they are seen united in large numbers in the places where they breed, and they live there peaceably, even with birds of another species. To construct their nest they generally choose a site which is dangerous to approach. They select the trunk of a willow which is surrounded by mud and slime, which forbids all approach even in a boat. Two or three nests are sometimes found on the same stump, composed of small branches and reeds, which they build up to a rather considerable height; and the white dung which they constantly deposit gives the nest the appearance of having been coarsely plastered with lime. They lay towards the end of May five or six eggs, rarely more. The male and female alternately incubate."

The Little Cormorant is not the smallest of its genus, and therefore, as Temminck has observed, the name *pygmæus* is inappropriate. It is, however, much smaller than the Shag, *S. graculus*, and differs from it strongly, in the size of the beak, and length of the tail and dorsal plumage. It is altogether a smaller made bird, and no mistake can be made between the two when compared together. It is more

than probable that the young of the Shag has been taken for it, and hence may have arisen the statement of its having been captured in Great Britain.

This bird differs in plumage according to age and season more than sex. The male and female have all the plumage of a lustrous greenish black; the border which surrounds the feathers of the back and wings of a brilliant black, which seems highly polished; very fine white streaks appear on the neck, head, and thighs; these are the shafts, and are only feathered at their end, so that they form upon all the indicated parts very small whitish dots. These partially barbed feathers are only seen during the period of reproduction; they disappear before the autumnal moult. The occipital plumes are elongated into a crest, like the Cormorant or Shag. Primaries and tail feathers of a dark greenish black; beak, naked parts of the eyelids, and throat black; feet blackish grey.

In winter there is no crest or white feathers about the head, neck, and thighs, but there are some white points about the eyebrows.

The young of the year have the head, nape, and back of the neck blackish grey, darker inferiorly; centre of the back and scapularies greenish black, while the sides of the back and the wing coverts are light grey, each feather broadly tipped with black, and finely edged with white; upper tail coverts glossy black; primaries, secondaries, and tail greenish black; the naked parts in front of the eyes and on the throat yellow; the rest of the throat and the abdomen white; front of the neck mottled grey; flanks and under tail and wing coverts black; beak yellow, with zigzag transverse brown markings; feet brown.

The young (light coloured) is from a female specimen sent me by Mr. Tristram. The male bird and egg are from the Dobrudsha, and are in my own collection, having been sent to me by Dr. Cullen.

The bird has also been figured by Savigny, in his work on the Birds of Egypt, pl. 8, fig. 1; Gould, B. of E., pl. 409; Dubois, Oiseaux de la Belgique, part 111, young and adult.

IN the "Annales des Sciences Naturelles" for August, 1806, p. 460, M. Payraudeau described what he called a new species of this genus, under the name of *Phalacrocorax desmarestii*. Many writers have considered this a distinct species, under the name of the Mediterranean Shag, as it seems to be located only in the northern part of that sea. Temminck, however, in the fourth volume of his "Manuel," says that he could not find a single constant variation from *Carbo cristatus* (*C. graculus* of authors,) to our Common Shag.

In the present uncertain, and I may say unsatisfactory way of determining species, it would, I think, be premature to call this bird anything more than a local variety of the Common Shag. This is also the opinion expressed to me in a private letter by M. De Selys-Longchamps. It is made a variety also by Blasius, in his "Verzeichniss der Vögel Europa's," published in 1861.

THE following Birds require a word or two of notice in this place, as claiming a position in the European avi-fauna. I am sorry that I cannot do more than mention them here:—

Calamodyta agricola, Ferdinand, (*Salicaria capistrata*, Severzow), is reported to me by Von Heuglin as a very good species, of which he had received skins from South Russia. "It is easily distinguished by its short wings, which are cut in a peculiar manner. It resembles in colour, slightly, *C. palustris*. It measures in length five inches; beak half an inch; wing 2.3; tail 2.1; tarsus 0.85. First quill very short, the third longest, the second about 0.22 of an inch shorter than the third, about equal to seventh, the fourth about equal to the third. Superciliary lines very pronounced—white. First quill as long as the greater wing coverts. First tail feather a quarter of an inch shorter than the fourth. At the base of the beak above on each side three bristles sufficiently long. Pileus dusky brown, circumscribed." I am sorry not to have a skin to figure.

Fringilla Spodiogena, Bonaparte, (Algerian Chaffinch, Dresser, B. of E., part 18), is stated by Degland and Gerbe to have occurred in southern Europe, but the instance they quote is not satisfactory. It is stated to have been once taken near Marseilles (Jaubert). Mr. Dresser, who figures the bird, considers it a good species. The female, however, is not distinguishable from *F. cælebs*, our well-known bird.

Anthus Seebohmi, Dresser, is a new species of Pipit, discovered on the Petchora river by Messrs. Seebohm and Harvie. It is to be figured and described by Mr. Dresser in the next number of his Birds of Europe, which will be too late for any farther notice in this edition.

Ammomanes cinctura, Dresser, (*Melanocorypha cinctura*, Gould, Voyage of Beagle, 1841).—Gould's Desert Lark has occurred once in Malta. It has been well figured by Dresser, B. of E., p. 35 and 36, as it comes within the western Palæarctic region. It is tolerably common in North Africa. Tristram says (Ibis, 1859, p. 423,) that it

is more strictly confined to the southern Sahara than *A. Deserti*. It is distinguished from the latter by being smaller, and having a distinct dark band at the end of the tail.

Otocorys bilopha, Rüppell, Algerian Shore Lark.—This bird has been figured by Dresser, B. of E., No. 23. It is the desert form of our Shore Lark, and is an inhabitant of North Africa and Arabia. It is said sometimes to have occurred in Spain, for Lord Lilford is quoted by Degland and Gerbe as the author of this statement. Lord Lilford writes to Mr. Dresser that he never saw the bird in Spain, but that he saw several specimens in 1864 in the Museum at Valencia, "which I was assured by Senor Cisternas were killed there, and I have no doubt as to the accuracy of the statement."

Ardea melanocephala, Wagler, Black-necked Heron, is figured by Dresser, vol. i., upon the authority of Degland and Gerbe, in whose work two specimens are said to have been captured in Europe.

In concluding the work I have to express my sincere thanks to Mr. Harting for having very kindly looked over the proofs of the group of waders for me, and for several most useful additions, which are of great value as coming from that naturalist's special subject of study. I have also to tender my best thanks to Mr. Swinhoe for the loan of Thrushes, and to Mr. Gould for several other skins. To Mr. Dresser, the distinguished author of the "Birds of Europe," now in course of publication, I also offer my best thanks and acknowledgements.

I beg to wish a happy new year to everybody, and I trust that my second edition may meet with the same amount of support as was accorded to the first, and that my effort to produce a cheap and yet exhaustive work upon the fragment of the European fauna which is contained in these volumes may prove successful and useful. In conclusion I have again to thank my publisher, Mr. Fawcett, for the superior manner in which the work has been got up, for the excellent printing and paper, and for the great amount of care which has been bestowed upon the plates.

Colchester,

December 31st., 1875.

LIST OF EUROPEAN BIRDS.

[In this List E. means Europe. C. Central Europe. EE. Eastern Europe. S., South, W., West, N., North of Europe. As., Asia. Af., Africa. Am., America. Yar. and Mor. refer to the volumes of Yarrell and Morris on British Birds in which the species is to be found. (?) doubtful, either as to species or authority of occurrence, though admitted by authors into the list. (a) accidental, though more or less frequent visitors. (b) stragglers into Europe.]

CLASS—AVES.

DIVISION I.—HETEROPHAGA,

(The young of which cannot at first feed themselves.)

Order 1.—RAPACES.

FAMILY I.—VULTURIDÆ.

Genus 1.—*Otogyys*, Gray.

1. (a) *O. nubicus*, Smith. Africa, France, Greece. Northern Sociable Vulture, Bree, 1.

Genus 2.—*Vultur*. Lin., 1756.

2. *V. monachus*, Lin. Cinereus, Gm. Cinereous Vulture, Bree, 1.

Genus 3.—*Gyps*. Sav.

3. *Gyps fulvus*, Lin. *Occidentalis et orientalis*, Schl. S.W. *Rupellii*, Brehm. Africa, N.E., Blasius. Griffon Vulture, Yar., 1, Mor., 1.

Genus 4.—*Neophron*. Sav.

4. *N. percnopterus*, Lin. S. *Fulvus*, Bodd. *Meleagris*, Pall. *Ægyptiacus*, Steph. *Albus*, Daud. Egyptian Vulture, Yar., Mor.

Genus 5.—*Gypaëtus*. Storr, 1784.

5. *G. barbatus*, Lin. S. *Grandis*, Storr. Bearded Vulture, Bree, 1.

VOL. V.

FAMILY II.—FALCONIDÆ.

Genus 6.—*Falco*. Lin.

6. *Falco islandicus*, Gm. *Candicans*, Blasius. N.W. Iceland Falcon, Yar., 1.
7. *F. candicans*, Gm., Schleg. N.W. Greenland. Greenland Falcon, Yar., 1, Mor., 1.
8. *F. gyr-falco*, L. *F. gyr-falco norvegicus*, Wolley, Bree, 1st edition. *Candicans*, Blas. N. Sweden and Norway. The Gyr-falcon, Bree, 1.
9. *F. sacer*, Schleg. *Lanarius*, Tem. *Laniarius of Authors*. E. Saker Falcon, Bree, 1.
10. *F. lanarius*, Schleg. S.E. *F. feldeggi*, Schleg. Dalmatia. *Alphanet*, Schleg. Greece and Egypt. *Tanypterus*, Licht. Nubia. *Cervicalis*, Licht. *Lanarius græcus*, Schl. *Lanarius capensis*, Schl. Lanner Falcon. S.E. Bree, 1.
11. *F. peregrinus*, Lin. E. Peregrine Falcon, Yar. and Mor.

X

12. *F. barbarus*, Lin. S. Barbary Falcon, Bree, 1.
 13. *F. æsalon*, Gm. *Regulus*, Pall., Sharpe. Merlin. E. Yar., 1, Mor., 1.
 14. *F. subbuteo*, Lin. E. Hobby, Yar. and Mor.
 15. *F. eleonoræ*, Géné. S. Eleonora Falcon, Bree, 1.

Genus 7.—*Tinnunculus*.

16. *T. alaudarius*, Gray. *Tinnunculus*, Lin. *Cerchneis tinnuncula*, Sharpe. Kestrel. E. Yar., 1, Mor., 1.
 17. *T. cenchris*, Naum. *T. tinnunculoides*, Tem. S. SE. *Cerchneis*, Naumann, Sharpe, Cat. Lesser Kestrel, Bree, 1.

Genus 8.—*Erythropus*. Brehm, 1828.

18. *E. vespertinus*, Lin. SE. E. Red-footed Falcon, Yar., 1, Mor., 1.

Genus 9.—*Astur*. Lacépède, 1801.

19. *A. palumbarius*, Lin. E. Goshawk, Yar., 1, Mor., 1.

Genus 10.—*Accipiter*. Brisson, 1760.

20. *A. nisus*, Lin. E. Sparrow-hawk, Yar., 1, Mor., 1.

Genus 11.—*Melieræ*. Gray, 1840.

21. *M. Gabar*. S. Little Red-billed Hawk, Bree, 1.

Genus 12.—*Micronisus*. Gray, 1840.

22. *M. brevipes*, Severzow. Gurneyi, Bree, 1st edition. Levant Sparrow-hawk. S. Bree, 1.

Genus 13.—*Circus*. Lacépède, 1801.

23. *C. rufus*, Gm. E. Marsh Harrier, Yar., 1, Mor., 1.
 24. *C. cyaneus*, Lin. E. Hen Harrier, Yar., 1, Mor., 1.
 25. *C. pallidus*, Sykes. C. SE. Pale-chested Harrier, Bree, 1.

Genus 14.—*Aquila*. Brisson, 1745.

26. *A. chrysaetos*, Lin. *Fulvus*, Lin. N. and EE. Golden Eagle, Yar., 1, Mor., 1.
 27. *A. heliaca*, Sav. Mogilnik, Strickland. *Imperialis*, Authors. The Imperial Eagle, Bree 1.
 28. *A. adalberti*, Brehm, 1860. Spain. Adalbert's Imperial Eagle, Bree, 1.

29. *A. orientalis*, Cabanis. *Bifasciata*, Brooks. *Clanga*, of Authors, nec Pallas. Mogilnik, Sharpe, Cat. of Birds, 1. Caspian Bifasciated Eagle, Bree, 1.

30. *A. culleni*, N. Sp., Bree, 1. EE. Cullen's Tawny Eagle. (?)

31. Striated Eagle (?) *A. mogilnik*, Dresser. E. Bree, 1.

32. *A. nævia*, Meyer. *Maculata*, Dresser. *Hastata*, Brooks. *Falco clanga*, Pallas. E. N. C. Spotted Eagle, Bree, 1.

Genus 15.—*Nisæetus*. Hodgson, 1836.

33. *N. bonelli*, Jerdon. S. Bonelli's Eagle, Bree, 1.

34. *N. pennatus*, Sharpe, Cat. of Birds. *Aquila pennata*, of Authors. E. S. Booted Eagle, Bree, 1.

Genus 16.—*Circaëtus*. Vieill.

35. *C. gallicus*, Gm. *Brachydactylus*, Tem. Short-toed Eagle. C. S. Bree, 1.

Genus 17.—*Haliaëtus*. Sav., 1809.

36. *H. albicilla*, Lin. *Ossifragus*, Gm. E. White-tailed Eagle, Yar., 1, Mor., 1.

37. (b) *H. leucoryphus*, Pall. *H. macei*, Vigors. E. SE. Pallas's Sea Eagle, Bree, 1.

Genus 18.—*Pandion*. Sav., 1809.

38. *P. haliaëtus*, Lin. E. Osprey, Yar., 1, Mor., 1.

Genus 19.—*Buteo*. Cuvier, 1800.

39. *B. vulgaris*, Bechst. *Buteo*, Lin. E. Common Buzzard, Yar., 1, Mor., 1.

40. *B. desertorum*, Daud. *Tachardus*, Bree, 1st edition. *Cirtensis*, Sav. *Capensis*, Schl. *Buteo*, Var., Blasius. SE. African Buzzard, Bree, 1.

41. *B. ferox*, Gm. *Rufinus*, Rüpp, Bree, 1st edition, Bl. *Hypoleucus*, Pall. S. EE. Long-legged Buzzard, Bree, 1.

Genus 20.—*Archibuteo*. Brehm, 1828.

42. *A. lagopus*, Gm. E. Rough-legged Buzzard, Yar., 1, Mor., 1.

Genus 21.—*Pernis*. Cuvier, 1817.

43. *P. apivorus*, Lin. E. Honey Buzzard, Yar., 1, Mor., 1.

Genus 22.—*Milvus*. Cuvier, 1800.

44. *M. regalis*, Bp. *Milvus*, Lin. E. Ictinus, Sharpe. Kite, Yar., 1. Mor., 1.
 45. *M. migrans*, Bodd. Ater, Gm. Bree, 1st edition. Korschun, Sharpe, E. Yar., 1, Mor., 1.
 46. *M. Ægyptius*, Gm. Parasiticus, Lath. S. EE. Arabian Kite, Bree, 1.

Genus 23.—*Elanus*. Sav., 1809.

47. (*b*) *E. melanopterus*, Daudin. Cæsius, Sav. Cæruleus, Sharpe. Greece and Germany. Black-winged Kite, Bree, 1.

Genus 24.—*Nauclerus*. Vigors, 1825.

48. (*b*) *N. furcatus*, Lin. England. Yar., 1, Mor., 1.

FAMILY III.—STRIGIDÆ.

Genus 25.—*Syrnium*. Sav., 1809.

49. *S. ulula*, Lin. Funerea, Latham, Bree, 1st edition. Nisoria, Bechst. Hudsonia, Gm. N. Hawk Owl.
 50. (*b*) *S. funerea*, Lin. Canadensis, Briss. England. American Hawk Owl, Yar., 1, Mor., 1.
 51. *S. aluco*, Lin. E. Tawny Owl, Yar., 1, Mor., 1.
 52. *S. cinereum*, Gm. *S. lapponicum*, Retz. N. Lap Owl, Bree, 1.
 53. *S. nebulosum*, Forst. N. Barred Owl, Pennant.
 54. *S. uralense*, Pallas. EE. NE. Ural Owl, Bree, 1.

Genus 26.—*Otus*. Cuvier, 1800.

55. *O. capensis*, Smith. E.E. Cape Eared Owl, Bree, 1.

56. *O. brachyotus*, Lin. N. C. Short-eared Owl, Yar., 1, Mor., 1.

57. *O. vulgaris*, Flem. E. S. otus, Lin. Long-eared Owl.

Genus 27.—*Glaucidium*. Boie, 1826.

58. *G. passerina*, Lin. Pusilla, Daud., Bree, 1st edition. N. Least European Sparrow Owl, Bree, 1. Pigmy Owl, Dresser.

Genus 28.—*Nyctea*.

59. *N. nivea*, Daud. *Nyctea*, Lin. N. Snowy Owl, Yar., 1, Mor., 1.

Genus 29.—*Athene*. Boie, 1822.

60. *A. noctua*, Retz. Passerina, Tem. Psilodactyla. Meridionalis, Schl. S. Little Owl, Yar., 1, Mor., 1.

Genus 30.—*Bubo*. Dun, 1806.

61. *B. maximus*, Sibb. PE. 435. S. bubo, Lin. Scandiaca, Lin., Var. NE. Yar., 1, Mor., 1.
 62. *B. ascalaphus*, Sav. S. Egyptian Eared Owl, Bree, 1.

Genus 31.—*Scops*. Sav., 1809.

63. *S. zorca*, Gm. S. Scops, Lin. Scops-eared Owl, Yar., 1, Mor., 1.
 64. (*b*) *S. asio*, Lin. N. Am., England. American Mottled Owl, Yar. Supplement.

Genus 32.—*Nyctalia*. Brehm, 1828.

65. *N. Tengmalmi*, Gm. Funerea, Lin. Passerina, Pall. N. Tengmalm's Owl, Yar., 1, Mor., 1.

Genus 33.—*Stria*. Sav., 1809, nec Lin., 1735.

66. *S. flammea*, Lin. E. White or Barn Owl, Yar., 1, Mor., 1.

Order 2.—OMNIVORES.

FAMILY IV.—CORVIDÆ.

Genus 34.—*Corvus*. Lin.

67. *C. corax*, Lin. E. Raven, Yar., 2, Mor., 1.
 68. *C. corone*, Lin. E. Carrion Crow, Yar., 2, Mor., 1.

69. *C. cornix*, Lin. E. Hooded Crow, Yar., 2, Mor., 1.

70. *C. frugilegus*, Lin. E. Rook, Yar., 2, Mor., 1.

71. *C. monedula*, Lin. E. Jackdaw, Yar., 2, Mor., 1.

72. *C. monedula nigra*. S. Frisch. Black Jackdaw, Bree, 2.

- Genus 35.—*Pica*. Brisson, 1760.
 73. *P. caudata*, Keys. and Blas. E. Magpie, Yar., 2, Mor., 1.
- Genus 36.—*Cyanopica*. Bp., 1850.
 74. *C. Cookii*, Bp. SW. Azure-winged Magpie, Bree, 2.
- Genus 37.—*Garrulus*.
 75. *G. glandarius*, Lin. E. Jay, Yar., 2, Mor., 1.
 76. *G. Krynicki*, Kulen. Bull. Acad. Moscov, 1839. S. E. Black-headed Jay, Bree, 2.
 77. *G. infaustus*, Lin. N. Siberian Jay, Bree, 2.
- Genus 38.—*Nucifraga*. Brisson, 1760.
 78. *N. caryocatactes*, Lin. E. Nut-cracker, Yar., 2, Mor., 1.
- Genus 39.—*Pyrrhocorax*. Vieillot, 1816.
 79. *P. pyrrhocorax*, Lin. Alpinus, Vieillot. SW. Alpine Chough, Bree, 2.
 80. *P. graculus*, Lin. SW. Chough, Yar., 2, Mor., 1.

FAMILY V.—STURNIDÆ.

- Genus 40.—*Pastor*. Tem., 1815.
 81. *P. roseus*, Lin. SE. Rose-coloured Pastor, Yar., 2, Mor., 1.
- Genus 41.—*Sturnus*. Lin., 1735-66.
 82. *S. vulgaris*, Lin. E. Starling, Yar., 2, Mor., 1.
 83. *S. unicolor*, La Marm. S. Sardinian Starling, Bree, 2.

FAMILY VI.—AMPELIDÆ. Sw., 1831.

- Genus 42.—*Ampelis*. Lin., 1735.
 84. *A. garrulus*, Lin. E. Bohemian Waxwing.
- Genus 43.—*Agelaius*. Vieillot, 1816.
 85. (b) *A. phœniceus*, Lin. England, N. America. Red-winged Starling, Yar., 2, Mor., 3.

Order 3.—ANISODACTYLA.

FAMILY VII.—CERTHIIDÆ.

- Genus 44.—*Certhia*. Lin., 1766.
 86. *C. familiaris*, Lin. E. Common Creeper, Yar., 2, Mor., 2.
- Genus 45.—*Tichodroma*. Ill., 1811.
 87. *T. muraria*, Lin. E. Wall Creeper, Bree, 3.

FAMILY VIII.—SITTINÆ.

- Genus 46.—*Sitta*. Lin., 1735.
 88. *S. europea*, Lin. N. The Nuthatch, Yar., 1, Mor., 2.
 89. *S. cæsia*, Wolff and Mayer. C. S. Var. Europea, Blas.
 90. *S. sibirica*, Pall. E. Asiatic Nuthatch, Bree, 3. Var. Europea.
 91. *S. syriaca*, Ehrenberg. SE. Dalmatian Nuthatch, Bree, 4.

FAMILY IX.—UPUPIDÆ.

- Genus 47.—*Upupa*. Lin., 1735-66.
 92. *U. epops*, Lin. E. Hoopoe, Yar., 2, Mor., 1.

FAMILY X.—MEROPIDÆ.

- Genus 48.—*Merops*. Lin., 1756.
 93. *M. persica*, Pall. Savignyi, Cuv. E. SE. Blue-cheeked Bee-eater, Bree, 4.
 94. *M. apiaster*, Lin. E. Common Bee-eater, Yar., 2, Mor., 2.

FAMILY XI.—ALCYONES.

- Genus 49.—*Alcedo*. Lin., 1756.
 95. (b) *Alcedo haleyon*, Lin. Ireland, N. America. Belted Kingfisher, Yar., 1, Supt., Mor., 3.

96. *A. ispida*, Lin. E. Kingfisher, Yar., 2, Mor., 2.

Genus 50.—*Ceryles*. Boie, 1828.

97. *C. rudis*, Lin. SE. Black-and-white Kingfisher, Bree, 4.

FAMILY XII.—CORACIADÆ.

Genus 51.—*Coracias*. Lin., 1758-66, nec 1735.

98. *C. garrula*, Lin. C. S. Roller, Yar., 2, Mor., 2.

Order 4.—CHELIDONES.

FAMILY XIII.—CYPSELINÆ.

Genus 52.—*Cypselus*. Illiger, 1811.

99. *C. cadacuts*, Lath. Australia. Once captured near Colchester. Mor., 2.

100. *C. apus*, Lin. E. Common Swift, Yar., 2, Mor., 2.

101. *C. pallidus*, Shelly. S. W. Mouse-coloured Swift, Bree, 4.

102. *C. melba*, Lin. Alpinus, Scop., Tem. S. W. Alpine Swift, Yar., 2, Mor., 2.

FAMILY XIV.—HIRUNDINIDÆ.

Genus 53.—*Hirundo*. Lin., 1766.

103. *H. rustica*, Lin. E. Swallow, Yar., 2, Mor., 2.

104. *H. rufula*, Tem. Daurica, Selys. S. Rufous Swallow, Bree, 4.

105. (b) *H. purpurea*. N. Am., England, Yar., 2, Mor., 2.

Genus 54.—*Cotile*. Boie, 1822.

106. *C. riparia*, L. E. Sand Martin, Yar., 2, Mor., 2.

107. *C. rupestris*, Scop. S. Crag Swallow, Bree, 4.

Genus 55.—*Chelidon*. Boie, 1822.

108. *C. urbica*, Lin. E. Martin, Yar., 2, Mor., 2.

FAMILY XV.—CAPRIMULGIDÆ.

Genus 56.—*Caprimulgus*. Lin., 1756-66.

109. *C. europeus*, Lin. E. Goatsucker, or Nightjar, Yar., 2, Mor., 2.

110. *C. ruficollis*, Tem. S. W. Russet-necked Nightjar, Bree, 4.

FAMILY XVI.—LANIIDÆ.

Genus 57.—*Lanius*. Lin., 1758.

111. *L. excubitor*, Lin. E. Grey Shrike, Yar., 1, Mor., 1.

112. *L. meridionalis*, Tem. S. Great Grey Shrike, Bree, 2.

113. *L. nubicus*, Licht. SE. Personatus, Tem. Masked Shrike, Bree, 2.

114. *L. rutilus*, Latham, Bp. Rufus, Briss. Senator, Lin. *L. auriculatus*, P. Z. S. Müller. C. S. Woodchat Shrike, Yar., 1, Mor., 1.

115. *L. collurio*, L. C. S. Red-backed Shrike, Yar., 1, Mor., 1.

116. *L. cucullatus*, Tem. Tchagra, Boie, Bree, 1st edition. S. Hooded Shrike, Bree, 2.

117. (b) *L. phænicurus*, Pall. E. As. Heligoland.

FAMILY XVII.—MUSCICAPIDÆ.

Genus 58.—*Muscicapa*. Briss., 1760.

118. *M. grisola*, L. E. Spotted Flycatcher, Yar., 1, Mor., 1.

119. *M. albicollis*, Tem. Collaris, Bechst. C. S. White-collared Flycatcher, Bree, 2.

120. *M. atricapilla*, Lin. E. Pied Flycatcher, Yar., 1, Mor., 1.

121. *M. parva*, Bechst. S. E. Red-breasted Flycatcher, Yar., 1, Gould, B. of Great Britain, 2.

FAMILY XVIII.—ORIOOLIDÆ.

Genus 59.—*Oriolus*. L., 1766.

122. *O. galbula*, Lin. C. S. Golden Oriole, Yar., 1, Mor., 3.

FAMILY XIX.—CINCLIDÆ.

Genus 60.—*Cinclus*. Bechst.

123. *C. aquaticus*, Bechst. C. S. Dipper, Yar., 1, Mor., 3.
 124. *C. melanogaster*, Tem. N. Black-bellied Dipper, Gould, vol. 2.

FAMILY XX.—TURDIDÆ.

Genus 61.—*Turdus*. Lin., 1735.

125. *T. viscivorus*, Lin. E. Missel Thrush, Yar., 1, Mor., 1.
 126. *T. pilaris*. N. C. Fieldfare, Yar., 1, Mor., 3.
 127. (*b*) *T. Naumanni*, Tem. Germany. Naumann's Thrush, Bree, 2.
 128. (*b*) *T. fuscatus*, Pall. France. Dusky Thrush, Bree, 2.
 129. (*b*) *T. ruficollis*, Pall. Germany. Red-necked Thrush, Bree, 2.
 130. *T. musicus*, Lin. E. Song Thrush, Yar., 1, Mor., 3.
 131. *T. iliacus*, Lin. N. Redwing, Yar., 1, Mor., 3.
 132. *T. torquatus*, Lin. E. Ring Ouzel, Yar., 1, Mor., 3.
 133. *T. merula*, Lin. E. Blackbird, Yar., 1, Mor., 3.
 134. (*b*) *T. migratorius*, Lin. N. Am., Germany. Migratory Thrush, Bree, 2.
 135. (*b*) *T. pallens*, Pallas. N. As., Italy. Pale Thrush, Bree, 2.
 136. (*b*) *T. sibiricus*, Gm. N. As., Germany. Siberian Thrush.
 137. (*b*) *T. solitarius*, Wils. Swainsoni, Cab. Olivaceous, Girard. Germany. Solitary Thrush, Bree, 2.
 138. (*b*) *T. atrigularis*, Tem. Dubius, Bechst. N. As., Germany. Black-throated Thrush, Yar., 1, Mor., 3.
 139. (*a*) *T. varius*, Pall. Whitei, Eyton. Germany, Heligoland, England, France. White's Thrush, Yar., 1, Mor., 3.
 140. (*a*) *T. minor*, Gm. T. Pallasii, Cabanis, Gray, 3684. Belgium, Italy. Hermit Thrush.
 141. (*a*) *T. olivaceus*, Lin. Lombardy, Africa. Olivaceous Thrush.
 142. (*b*) *T. capensis*, Lin. Ireland. Gold-vented Thrush, Yar., 1.

Genus 62.—*Mimus*. Boie, 1826.

143. (*b*) *M. rufus*, Lin. N. Am., Heligoland.
 144. (*b*) *M. carolinensis*, Lin. N. A., Germany.

Genus 63.—*Monticola*. Boie, 1822.

145. *M. saxatilis*, Lin. C. SE. Rock Thrush, Yar., 1, Mor., 3.

Genus 64.—*Petrocincla*. Sykes.

146. *P. cyanus*, Lin. S. Blue Thrush, Bree, 2.

FAMILY XXI.—SYLVIIDÆ.

Genus 65.—*Accentor*. Bechst., 1802.

147. *A. alpinus*, Gm. Alpine Accentor, Yar., 1, Mor., 3.
 148. *A. montanellus*, Pall. Temminckii, Brandt. N. As. EE. Mountain Accentor, Bree, 2.
 149. *A. modularis*, Lin. E. Hedge Sparrow, Yar., 1, Mor., 3.

Genus 66.—*Calliope*. Gould, 1836, nec Ogil., 1836.

150. *C. camtschatkensis*, Bp. N. As., France. Ruby-throated Warbler, Bree, 2.

Genus 67.—*Daubias*. Boie, 1831.

151. *D. lusciniæ*, Lin. Vera, Sundevall. Philomela, Bp. E. Nightingale, Yar., 1, Mor., 3.
 152. *D. philomela*, Bechst. Major, Bris. S. E. The Eastern Nightingale, Bree, 2.

Genus 68.—*Erythacus*. Cuv., 1800.

153. *E. rubecula*, Lin. E. Robin Red-breast, Yar., 1, Mor., 3.

Genus 69.—*Cyanecula*. Brehm, 1828.

154. *C. suecica*, Lin. C. Blue-throated Bluebreast, Yar., 1, Mor., 3.
 155. *C. leucocyana*. N.E. White-throated Bluebreast, Gould, 2.
 156. *C. Wolfii*, Brehm. Germany, Holland, Spain. Blue-throated Warbler.

Genus 70.—*Ruticilla*. Brehm, 1828.

157. *R. phænicurus*, Lin. E. Redstart, Yar., 1, Mor., 3.
 158. *R. tithys*, Scopoli. Carii, Bree, 1st edition. C. S. Black Redstart, Bree, 2.
 159. (a) *R. erythrogastra*, Gùlden. E. SE. Gùldenstadt's Redstart, Bree, 2.
 160. (a) *R. erythronota*, Eversmann. Asia, Russia.
 161. (b) *R. Moussieri*, Olph.-Gal. EE. Moussier's Redstart, Bree, 2.

Genus 71.—*Saxicola*. Bechst, 1802.

162. *S. ænanthe*, Lin. E. Wheatear, Yar., 1, Mor., 3.
 163. *S. isabellina*, Rüppell. Saltator, Menetries. S. Menetries' Wheatear, Bree, 2.
 164. *S. stapazina*, Tem. S. Russet Wheatear, Bree, 2.
 165. *S. aurita*, Tem. S. W. Black-eared Wheatear, Bree, 2.
 166. *S. leucomela*, Tem. SE. Pied Wheatear, Bree, 2.
 167. *S. leucura*, Licht. S. Black Wheatear, Bree, 2.
 168. (b) *S. gutturalis*, Licht. Salina, Eversmann. Russia, Africa, Asia.

Genus 72.—*Pratincola*. Koch, 1816.

169. *P. rubetra*, Lin. E. Whinchat, Yar., 1, Mor., 1.
 170. *P. rubicola*, Lin. C.S. Stonechat, Yar., 1, Mor. 3.

Genus 73.—*Sylvia*. Latham, 1790.

171. *S. nisoria*, Bechst. C. E. Barred Warbler, Bree, 2.
 172. *S. orpheus*, Tem. S. W. Orphean Warbler, Yar., Supp. No. 2.
 173. *S. atricapilla*, Lin. C. S. Black-cap Warbler, Yar., 1, Mor., 3.
 174. *S. hortensis*, Gm. E. Garden Warbler, Yar., 1, Mor., 3.
 175. *S. cinerea*, Bp. E. Common Whitethroat, Yar., 1, Mor., 3.
 176. *S. curruca*, Lath. C. E. Lesser Whitethroat, Yar., 1, Mor., 3.
 177. *S. Ruppellii*, Tem. S. E. Ruppell's Warbler, Bree, 2.

178. *S. sub-alpina*, Bonelli. S. Sub-alpine Warbler, Bree, 2.
 179. *S. melanocephala*, Gm. S. Sardinian Black-headed Warbler, Bree, 2.
 180. *S. conspicillata*, Marm. S. Spectacled Warbler, Bree, 2.
 181. *S. provincialis*, Gm. Undata, Bodd. D. S. W. Dartford Warbler, Yar., 1, Mor., 3.
 182. *S. sarda*, Marm. Sardinia. Marmora's Warbler, Bree, 2.

Genus 74.—*Hypolais*. Cab., 1850.

183. *H. olivetorum*, Gerbe. S. Olive-tree Warbler, Bree, 2.
 184. *H. elaiica*, Gerbe. S. Olivaceous Warbler.
 185. *H. pallida*, Gerbe. Cinerascens, of Authors. Pale Warbler, Bree, 2.
 186. *H. polyglotta*, Vieillot. *Sylvia hypolais*, Gerbe. S. Polyglot Warbler, Bree, 2.
 187. *H. icterina*, Vieill. S. Vieillot's Willow Warbler, Bree, 2.

Genus 75.—*Phylloscopus*. Boie, 1828.

188. *P. sibilatrix*, Bechst. *Sylvicola*, Latham. C. S. Wood Warbler, Yar., 1, Mor., 3.
 189. *P. trochilus*, Latham. E. Willow Wren, Yar., 1, Mor., 3.
 190. *P. rufa*, Lath. E. Chiff-Chaff, Yar., 1, Mor., 3.
 191. *P. bonelli*, Vieill. C. S. Bonelli's Willow Wren.
 192. *P. borealis*, Blasius. Eversmanni, Middendorff. N. Northern Willow Wren.

Genus 76.—*Regulus*. Cuv., 1800.

193. *R. cristatus*, Koch. C. S. Gold-crested Kinglet, Yar., 1, Mor., 1.
 194. *R. ignicapillus*, Tem. C. S. Fire-crested Golden Wren.
 195. *R. modestus*, Gould. *Superciliosa*, Latham. N. As., Heligoland, England. Dalmatian *Regulus*, Yar., 1, Mor., 3.
 196. *R. calendula*, Licht. N. A., England, Dobrudsha. Ruby-crowned Kinglet, Bree, 2.

Genus 77.—*Dendroica*. Gray.

197. (b) *D. virens*, Baird. Black-throated Green Warbler, Bree, 2.

Genus 78.—*Acrocephalus*. Naum, 1819.

198. *A. arundinacea*, Lin. *Strepera*, Vieillot. C. S. Reed Warbler, Yar., 1, Mor., 3. Var. *horticola*, Naum. C. S.
199. *A. palustris*, Bechst. C. S. Marsh Warbler, Bree, 3.
200. *A. agricola*, Ferd. *Salicaria capistrata*, Severzow. S. Russia. Bree, 5.
201. *A. luscinioides*, Savi. S. Savi's Warbler, Yar., 1, Mor., 3.
202. *A. cetti*, Marm. *Sericea*, Natt. S. Cetti's Warbler, Bree, 3.
203. *A. schœnobœnus*, Lin. *Phragmitis*, Bechst. L. E. Sedge Warbler.
204. *A. aquatica*, Lath. C. S. Aquatic Warbler, Yar., 1, Mor., 3.
205. *A. melanopogen*, Tem. S. E. Moustached Warbler, Bree, 3.
206. *A. cisticola*, Tem. S. W. Fantail Warbler, Bree, 3.
207. *A. turdoides*, Meyer. C. S. Thrush Warbler, Yar., 1, Gould, 2.
208. *A. caligata*, Licht. *Scita*, Eversmann. E. SE. Booted Reed Warbler, Bree, 3.

Genus 79.—*Locustella*. Kaup., 1829.

209. *L. fluviatilis*, Mey. and Wolf. S. E. River Warbler, Bree, 3.
210. *L. locustella*, Penn. C. S. Grasshopper Warbler, Yar., 1, Mor., 3.
211. (*b*) *L. certhiola*, Tem. N. A., Heligoland, Bree, 3.
212. (*b*) *L. lanceolata*, Tem. S. E. Temminck's Warbler, Bree, 3.

Genus 80.—*Aedon*. Boie, 1826.

213. *A. galactodes*, Tem. S. W. Rufous Sedge Warbler, Yar., 1, Mor., 3.
214. *A. familiaris*. S. W. Lesser Rufous Warbler, Bree, 3.

Genus 81.—*Troglodytes*. Cuv., 1800.

215. *T. borealis*. N. Northern Wren, Yar., 1, Mor., 3.
216. *T. parvulus*, Koch. *Europeus*, Cuv. E. Common Wren, Yar., 1, Mor., 3.

FAMILY XXII.—PARIDÆ.

Genus 82.—*Parus*. Lin., 1735.

217. *Parus major*, Lin. E. Great Tit, Yar., 1, Mor., 1.
218. *P. cœruleus*, Lin. E. Blue Tit, Yar., 1, Mor., 1.
219. *P. ater*, Lin. E. Cole Tit, Yar., 1, Mor. 1.
220. *P. palustris*, Lin. E. Marsh Tit, Yar., 1, Mor., 1.
221. *P. borealis*, De Selys. Northern Tit, Bree, 3.
222. *P. cristatus*, L. E. Crested Tit, Yar., 1, Mor., 1.
223. *P. lugubris*, Natt. SE. Sombre Tit, Bree, 3.
224. *P. sibiricus*, Gm. *Cinclus*, Bodd. Siberian Tit, Bree, 3.
225. *P. cyaneus*, Pall. E. C. Azure Tit, Bree, 3.

Genus 83.—*Acredula*. Koch, 1816.

226. *A. caudatus*, Lin. E. Long-tailed Tit, Yar., 1, Mor., 1.
227. *A. Irbii*, Dresser. E. Irby's Tit, Bree, 3.
228. *A. roseus*, Blasius. France, Lombardy, Tuscany. Rosy Tit. Var. *caudatus*.

Genus 84.—*Ægithalus*. Boie, 1822.

229. *Æ. pendulinus*, Lin. SE. Penduline Tit, Bree, 3.

Genus 85.—*Panurus*. Koch, 1816.

230. *P. biarmicus*, Lin. Bearded Tit.

FAMILY XXII.—MOTACILLIDÆ.

Genus 86.—*Motacilla*. Lin., 1735.

231. *M. alba*. E. White Wagtail, Yar., 1, Mor., 2.
232. *M. Yarrelli*, Gould. *Lugubris*, Newton. C. N. W. Pied Wagtail, Yar., 1, Mor., 2.
233. *M. vidua*, Sundevall. *Lugubris*, Pall. E. White-winged Pied Wagtail, Bree, 3.

- Genus 87.—*Budytes*. Cuv., 1817.
234. *B. sulphurea*, Bechst. Boarula, Lin. C. S. Blue-headed Wagtail, Yar., 1, Mor., 2.
235. *B. cinereo-capilla*, Savi. C. S. Grey-headed Yellow Wagtail, Gould, 3.
236. *B. nigricapilla*, Bp. S. E. Kalenicreneki. Black-headed Yellow Wagtail, Bree, 3.
237. *B. raii*, Bp. C. W. Yellow Wagtail, Yar., 1, Mor., 2, *B. campestris*, Pall., Var.
238. *B. citreola*, Pall. E. Yellow-headed Wagtail, Bree, 3.

Order 5.—GRANIVORÆ.

FAMILY XXIII.—ANTHIDÆ.

- Genus 88.—*Anthus*. Bechst., 1802.
239. *A. trivialis*, Lin. Arboreus, Bechst. Plumatus, Müller, Gray. The Tree Pipit, Yar., 1, Mor., 2.
240. *A. pratensis*, Lin. E. Meadow Pipit, Yar., 1, Mor., 2.
241. *A. cervinus*, Pall. NE. Red-throated Pipit, Bree, 3.
242. (b) *A. spinoletta*, Lin., (miss-spelt *spinoletta*). C. S. N. The Water Pipit, Yar., 1, Mor., 2.
243. *A. obscurus*, Latham. S. Rock Pipit, Yar., 1, Mor., 2.
244. *A. campestris*, Lin. Rufescens, Tem. C. S. Tawny Pipit, Yar., 1, Gould, 3.
245. *A. Richardi*, Vieillot. S. C. Richard's Pipit, Yar., 1, Mor., 2.
246. (b) *A. ludovicianus*, Bp. N. Am., England, Heligoland. Pennsylvanian Pipit, Gould, 3.
247. *A. seebohmi*, Dresser. NE. Russia, Bree, 5.
252. *A. cantarella*, Bp. Italy. Arvensis, Var., Dresser, Bree, 3.
253. *A. arborea*, Lin. E. Wood Lark, Yar., 1, Mor., 2.
254. *A. cristata*, Lin. C. S. Crested Lark, Yar., 1, Mor., 2.

Genus 91.—*Calandrella*. Kaup, 1829.

255. *C. brachydactyla*, Leisler. Kollyi, Tem. S. Short-toed Lark, Yar., 1, Mor., 2.
256. *C. pispoletta*, Pall. E. Bree, 3.
257. *C. boetica*, Dresser, Bree, 3.

Genus 92.—*Melanocorypha*. Boie, 1828.

258. *M. sibirica*, J. F. Gmelin. White-winged Lark, Bree, 3, Yar., 1.
259. *M. calandra*, Lin. S. Calandra Lark, Bree, 3.
260. *M. tartarica*, Pall. E. SE. Black Lark, Bree, 3.

Genus 93.—*Certhilauda*. Swainson, 1827.

261. *C. Duponti*, Tem. Dupont's Lark, Bree, 3.
262. *C. bifasciata*, Licht. Desertorum, Stanley. Bifasciated Lark, Bree, 3.

Genus 94.—*Anmmomanes*. Cabanis, 1851.

263. *A. lusitania*, Gm. Isabellina, Tem. Deserti, Licht. S. Desert Lark, Bree, 3.
264. (b) *A. cinctura*, Dresser. *Melanocorypha cinctura*, Gould. Gould's Desert Lark. Africa.

FAMILY XXIV.—ALAUDIDÆ.

Genus 89.—*Otocorys*. Bp., 1840.

248. *O. alpestris*, Lin. N. Shore Lark, Yar., 1, Mor., 2.
249. (b) *O. bilopha*, Rüppell. SE. Algerian Shore Lark, Bree, 5.
250. *O. nivalis*, Pall. Alpestris, Var., Blasius. EE. Bree, 3.

Genus 90.—*Alauda*.

251. *A. arvensis*, Lin. E. Skylark, Yar., 1, Mor., 2.

FAMILY XXV.—FRINGILLIDÆ.

Genus 95.—*Emberiza*. Lin., 1748-66.

265. *E. melanocephala*, Scop. Doliconyx, Bp. SS. Black-headed Bunting, Bree, 3.
266. *E. citrinella*, Lin. E. Yellow Bunting, Yar., 1, Mor., 2.
267. *E. miliaria*, Lin. C. S. Common Bunting, Yar., 1, Mor., 2.
268. *E. schœniola*, Lin. Provincialis, Bp. E. Reed Bunting, Yar., 1, Mor., 2.
269. *E. pyrrhuloides*, Pall. Palustris, Savi. S. Marsh Bunting, Bree, 3.
270. (a) *E. pithyornus*, Pall. EE. N. As. Pine Bunting, Bree, 3.
271. *E. hortulana*, Lin. C. S. Ortolan, Yar., 1, Mor., 2.
272. *E. cœsia*, Cretzschm. S. Cretzschmaër's Bunting, Bree, 3.
273. *E. cirrus*, Lin. S. Cirl Bunting, Yar., 1, Mor., 2.
274. *E. cia*, L. S. Meadow Bunting, Bree, 3.
275. (a) *E. chrysophrys*, Pall. N. As. Little Yellow-browed Bunting, Bree, 4.
276. *E. rustica*, Pall. NE. Lesbia, Calvi. Borealis, Zetterstedt. Rustic Bunting, Bree, 3.
277. *E. aureola*, Pall. NE. Siberia. Willow Bunting, Bree, 3.
278. *E. pusilla*, Pallas. Lesbia, Gm. NE. Little Bunting, Bree, 3.
279. *E. nivalis*, Lin. N. Snow Bunting, Yar., 1, Mor., 2.
280. *E. lapponica*, Lin. Calcarata, Tem. N. Lapland Bunting, Yar., 1, Mor., 2.

Genus 96.—*Loxia*. 1758.

281. *L. curvirostra*, L. E. Common Crossbill, Yar., 2, Mor., 2.
282. *L. pytyopsittaca*, Bechst. N. C. Parrot Crossbill, Yar., 2, Mor., 2.
283. (b) *L. leucoptera*, Gm. Bifasciata, Gould. N. Am., England. White-winged Crossbill, Yar., 2, Mor., 2.

Genus 97.—*Pinicola*. Vieillot, 1807.

284. *P. enucleator*, Lin. Psittacea, Pall. N. Pine Bullfinch, Yar., 2, Mor., 2.

Genus 98.—*Pyrrhula*. Moehr., 1752.

285. *P. rubicilla*, Pallas. *Pyrrhula*, Lin. *Vulgaris*, Tem. *Europea*, Leach. E. Common Bullfinch, Yar., 1, Mor., 2.
286. *P. cocinea*, Selys. *Pyrrhula*, Lin. Major, Brehm. Greater Bullfinch.

Genus 99.—*Carpodacus*. Kaup., 1829.

287. *C. erythrina*, Pall. CE. Scarlet Bullfinch, Bree, 4.
288. *C. rubicilla*, Gould. *Caucasicus*, Pall. *Rosea*, Guld. E. SE. Caucasian Bullfinch, Bree, 4.
289. (b) *C. roseus*, Pall. Heligoland, Bree, 4.
290. *C. githagineus*, Licht. France. Desert Trumpeter Bullfinch, Bree, 4.
291. (b) *C. rhodopterus*, Licht. As. Rev. Zool. 1857, p. 137.
292. (b) *C. rhodochlamys*, Brandt. Asia. Rev. Zool. 1857, p. 136.

Genus 100.—*Fringilla*. Lin., 1735.

293. *F. cœlebs*, Lin. E. Chaffinch, Yar., 1, Mor., 2.
294. (b) *F. spodiogena*, Bp. Algerian Chaffinch. SE.
295. *F. montifringilla*, Lin. N. Brambling, Yar., 1, Mor., 2.
296. *F. carduelis*, Lin. E. Goldfinch, Yar., 1, Mor., 2.
297. *F. spinus*, Lin. E. Siskin, Yar., 1, Mor., 2.
298. *F. citrinella*, Lin. S. Citril Finch, Bree, 4.
299. *F. serinus*, Lin. S. Serin Finch, Bree, 4.
300. *F. pusilla*, Pall. EE. Alpine Serin, Bree, 4.
301. *F. chloris*, Lin. E. Greenfinch, Yar., 1, Mor., 2.
302. *F. nivalis*, Lin. European Alps. Snow Finch, Bree, 4.

Genus 101.—*Linaria*. Bechst., 1802.

303. *L. cannabina*, Lin. E. Common Linnet, Yar., 1, Mor., 2.
304. *L. montium*, Gm. N. Mountain Linnet, Yar., 1, Mor., 2.
305. *L. linaria*, Tem. *Rufescens*, Vieillot. N. Lesser Redpole, Yar., 1, Mor., 2.

306. *L. canescens*, Selys. Borealis, Tem.
N. Mealy Redpole, Yar., 1, Mor., 2.

307. (b) *L. holboelli*, Br. Canescens,
Gould. N. Holboll's Redpole, Bree, 4.

Genus 102.—*Coccothraustes*. Brisson,
1760.

308. *C. vulgaris*, Briss. *Coccothraustes*,
Tem. E. Hawfinch, Yar., 1, Mor., 2.

302. (b) *C. phænicoptera*, Gould. EE.
Crimson-winged Grosbeak, Bree, 4.

Genus 103.—*Passer*. Brisson.

310. *P. petronia*, L. S. Rock Sparrow,
Bree, 4.

311. *P. domesticus*, L. E. House
Sparrow, Yar., 1, Mor. 2.

312. *P. montanus*, L. E. Tree Sparrow,
Yar., 1, Mor., 2.

313. *P. italiae*, Vieillot. *Domesticus*
cisalpinus, Schlegel. S. Var. *domes-*
ticus, Blasius. Italian House Sparrow,
Bree, 4.

314. *P. salicicola*, Vieillot. *Salicarius*, V.
Sardinia. Spanish Sparrow, Bree, 4.

Order 6.—ZYGODACTYLLI.

FAMILY XXVI.—CUCULIDÆ.

Genus 104.—*Cuculus*. Lin., 1735.

315. *C. canorus*, Lin. E. Common
Cuckoo, Yar., 2, Mor., 2.

Genus 105.—*Coccyzus*. Glöger, 1832,

316. (b) *C. glandarius*, Lin. S. Great
Spotted Cuckoo, Yar., 2, Mor., 2.

FAMILY XXVII.—PICIDÆ.

Genus 106.—*Picus*. Lin., 1735.

317. *P. tridactylus*, Lin. E. Three-toed
Woodpecker, Bree, 4.

318. *P. major*, Lin. E. Greater Spotted
Woodpecker, Yar., 2, Mor., 2.

319. *P. leuconotus*, Bechst. E. White-
rumped Woodpecker, Bree, 4.

320. *P. Lilfordi*, Dresser. S. Bree, 4.

321. *P. medius*, Lin. E. Middle Spotted
Woodpecker, Bree, 4.

322. *P. minor*, Lin. C. S. Lesser
Spotted Woodpecker, Yar., 2, Mor., 2.

Genus 107.—*Dryocopus*. Boie, 1826, nec
Koch, 1816.

323. *D. martius*, Lin. C. and N. Europe.
Black Woodpecker, Yar., 2, Mor., 2.

Genus 108.—*Gecinus*. Boie, 1831.

324. *G. viridis*, Lin. E. Green Wood-
pecker, Yar., 1, Mor., 2.

325. *G. Sharpii*, Saunders. Spain.
Southern Green Woodpecker, Bree, 4.

326. *G. canus*, Gm. C. E. N. Grey-
headed Green Woodpecker, Bree, 4.

Genus 109.—*Yuna*. Lin., 1776.

327. *Y. torquilla*, Lin. E. Wryneck,
Yar., 2, Mor., 2.

Order 7.—COLUMBÆ.

FAMILY XXVIII.—COLUMBIDÆ.

Genus 110.—*Columba*. Lin.

328. *C. livia*, Lin. S. E. Rock Dove,
Yar., 2, Mor., 3.

329. *C. ænas*, Lin. E. Stock Dove, Yar.,
2, Mor., 3.

330. *C. palumbus*, Lin. E. Ring Dove,
Yar., 2, Mor., 3.

Genus 111.—*Turtur*. Selby, 1835.

331. *T. auritus*, Gray. E. Turtle Dove,
Yar., 2, Mor., 3. Var. *gelastis*, Tem.

332. *T. senegalensis*, Lin. *Ægyptiaca*,
Latham. S. E. Egyptian Turtle Dove,
Bree, 4.

DIVISION II.—AUTOPHAGI,

(The young of which can more or less feed themselves from birth.)

Order 8.—GALLINÆ.

FAMILY XXIX.—PHASIANIDÆ.

- Genus 112.—*Phasianus*. Lin., 1748-56.
 333. *P. colchicus*, Lin. E. Common Pheasant, Yar., 2, Mor., 3.

FAMILY XXX.—TETRAONIDÆ.

- Genus 113.—*Tetrao*. Lin.
 334. *T. urogallus*, Lin. E. Capercaillie, Yar., 2, Mor., 3.
 335. *T. tetrix*, Lin. E. Black Grouse, Yar., 2, Mor., 3.
 336. *T. bonasia*, Lin. E. Hazel Grouse, Bree, 4.
 337. *T. scoticus*, Lath. Scotland. Red Grouse, Yar., 2, Mor., 3.
 Genus 114.—*Lagopus*. Vieillot, 1816.
 338. *L. albus*, Gm. N. Willow Grouse, Yar., 2, Mor., 3.
 339. *L. rupestris*, Gm. *Lagopus*, Tem., (part). *Islandorum*, Faber. Iceland. Reinhardt, Brehm, et Blasius. Rock Ptarmigan.
 340. *L. mutus*, Leach. *Lagopus*, Lin. *Alpinus*, Nilsson. N. The Ptarmigan, Yar., 2, Mor., 2.
 341. *L. hemileucurus*, Gould. *Lagopus*, Ross. *Alpina*, var. *hyperborea*, Gaimard. Spitzbergen. Spitzbergen Ptarmigan, Bree, 4.

FAMILY XXXI.—PTEROCLIDÆ.

- Genus 115.—*Pterocles*. Tem., 1809.
 342. *P. alchata*, Stephens. S. Pin-tailed Sand Grouse, Bree, 4.
 343. *P. arenarius*, Pallas. Spain and N. Russia. Sand Grouse, Bree, 4.

- Genus 116.—*Syrnhaptes*. Illiger, 1811.
 344. *S. paradoxus*, Pall. E. Three-toed Sand Grouse, Newton, in "Ibis," vol. 2. "Zoologist," 1859. Abundant in England in 1863. Gould, B. of G. B.

FAMILY XXXII.—PERDICIDÆ.

- Genus 117.—*Tetraogallus*. Gray, 1833-34.
 345. *T. caspius*, Gm., Gray. *Caucasica*, Pall. E. SE. Caucasian Snow Partridge, Bree, 4.
 Genus 118.—*Caccabis*. Kaup.
 346. *C. rufa*, Lin. *Rubra*, Tem., Brisson. S.W. Red-legged Partridge, Yar., 2, Mor., 3.
 347. *C. græca*, Bp. *Saxatilis*, Meyer. Greek Partridge, Yar., 2, Mor., 3.
 348. *C. petrosa*, Gm. S. Barbary Partridge, Yar., 2, Mor., 2.

- Genus 119.—*Francolinus*. Steph., 1819.

349. *F. francolinus*, Lin. *Vulgaris*, Lath. SE. Francolin, Bree, 4.
 Genus 120.—*Perdix*. Brisson, 1760, et Illiger, 1811.

350. *P. cinerea*, Lath. Grey Partridge, Yar., 2, Mor., 3.

- Genus 121.—*Ortygion*. Keys. et Blas., 1840.

351. *O. coturnix*, Lin. *Communis*, Lin. C. S. Common Quail, Yar., 2, Mor., 3.

- Genus 122.—*Ortygis*. Ill., 1818.

352. *O. sylvatica*, Desfont., 1787. *Tachydromus*, Tem., and Bree, 1st edition. S. E. Andalusian Hemipode, Yar., 2, Mor., 3.

Order 9.—ALECTORIDES.

FAMILY XXXIII.—GLAREOLIDÆ.

Genus 123.—*Glareola*. Brisson, 1760.

- 353.
- G. pratincola*
- , Lin. SE. Collared Pratincole, Yar., 2, Mor., 2.

354. (
- a*
-)
- G. Nordmanni*
- , Fischer, "Ibis," 1868, pl. 9. Pallasii, Bruch. Melanoptera, Nordmann. South Russia. Black-winged Pratincole, Bree, 4.

Order 10.—CURSORES.

FAMILY XXXIV.—OTIDIDÆ.

Genus 124.—*Otis*. Lin., 1735.

- 355.
- O. tarda*
- , Lin. C. S. Great Bustard, Yar., 2, Mor., 3.
-
- 356.
- O. tetrrix*
- , Lin. C. E. Little Bustard, Yar., 2, Mor., 3.

- 357.
- O. houbara*
- , Gm. S. W. Ruffed Bustard, Bree, 4.

- 358.
- O. Macqueeni*
- , Gray. Germany, England. Var.
- houbara*
- , Blasius. Macqueen's Bustard, Yar., 3, Suppt.

Order 11.—GRALLATORES.

FAMILY XXXV.—CHARADRIIDÆ.

Genus 125.—*Cursorius*. Latham, 1790.

- 359.
- C. europeus*
- , Lath. S. Cream-coloured Courser, Yar., 2.

Genus 126.—*Ædicnemus*. Tem., 1815.

- 360.
- Æ. crepitans*
- , Tem. C. S. Thick-knee, Yar., 2, Mor., 4.

Genus 127.—*Charadrius*. 1735.

- 361.
- C. apricarius*
- , Lin. Pluvialis, Lin. NE. Golden Plover, Yar., 2, Mor., 4. Virginicus, var. N. A., Heligoland.

362. (
- b*
-)
- C. fulvus*
- , Lin. Longipes, Tem. Asia, Malta, Heligoland. Long-legged Plover, Bree, 4.

Genus 128.—*Eudromias*. Boie.

- 363.
- E. morinellus*
- , Lin. E. Dotterel, Yar., 2, Mor., 3.

- 364.
- E. asiaticus*
- , Pall. Jugularis, Wagler. Damarensis, Strickland. C. and SE. Asiatic Plover, Bree, 4.

Genus 129.—*Ægialitis*. Boie, 1822.

- 365.
- Æ. hiaticula*
- , Lin. C. N. Ringed Plover, Yar., 2, Mor., 4.

- 366.
- Æ. minor*
- , Meyer and Wolff. Fluviatilis, Bechst. C. S. Little Ringed Plover, Yar., 2, Mor., 4.

- 367.
- Æ. mongolicus*
- , Pall. N. Asia, Russia. Pyrothorax, Tem.

Genus 130.—*Ægialophilus*. Gould.

- 368.
- Æ. cantianus*
- , Lath. C. W. Kentish Plover, Yar., 2, Mor., 4.

Genus 131.—*Vanellus*. Lin., 1735.

- 369.
- V. cristatus*
- , Meyer. E. Lapwing, Yar., 2, Mor., 4.

Genus 132.—*Chetusia*. Bp., 1839.

- 370.
- C. gregaria*
- , Pall. E. SE. Social Plover, Bree, 4.

371. (
- b*
-)
- C. leucura*
- , Licht. Flavipes, Sav. S. White-tailed Plover, Bree, 4.

Genus 133.—*Hoplopterus*. Bp., 1838.

- 372.
- H. spinosus*
- , Lin. S. E. Spur-winged Plover.

Genus 134.—*Pluvianus*. Vieillot, 1816.

373. (
- b*
-)
- P. ægyptius*
- , Lin. Melanocephalus, Gm. France. Egyptian Plover, Bree, 4.

- Genus 135.—*Squatarola*. Cuv., 1817.
374. *S. Helvetica*, Lin. *Squatarola*, Gm. NE. Grey Plover, Yar., 2, Mor., 4.
- FAMILY XXXVI.—HÆMATOPIDÆ.
- Genus 136.—*Hematopus*. 1735.
375. *H. ostralegus*, Lin. E. Oyster-catcher, Yar., 2, Mor., 4.
376. *S. interpres*, Lin. *Collaris*, Meyer, Tem. N. Turnstone, Yar., 2, Mor., 4.
- FAMILY XXXVII.—SCOLOPACIDÆ.
- Genus 137.—*Numenius*. Lin., 1746.
377. *N. arquata*, Lin. NC. Curlew, Yar., 2, Mor., 4.
378. *N. phæopus*, Lin. NC. Whimbrel, Yar. 2, Mor., 4.
379. *N. tenuirostris*, Vieillot. S. Slender-billed Curlew, Bree, 5.
- Genus 138.—*Limosa*. Brisson, 1760.
380. *L. ægocephalus*, Lin. *Melanura*, Leisler. E. Black-tailed Godwit, Yar., 2, Mor., 4.
381. *L. rufa*, Tem. NE. Bar-tailed Godwit, Yar., 2, Mor., 4.
- Genus 139.—*Totanus*. Bechst., 1803.
382. *T. stagnatilis*, Bechst. SE. Marsh Sandpiper, Bree, 5.
383. *T. ochropus*, Lin. C. N. Green Sandpiper, Yar., 2, Mor., 4.
384. *T. glareola*, Lin. N. Wood Sandpiper, Yar., 2, Mor., 4.
385. *T. calidris*, Lin. E. Common Redshank, Yar., 2, Mor., 4.
386. *T. fuscus*, Lin. NE. Spotted Redshank, Yar., 2, Mor., 4.
387. (b) *T. semipalmatus*, Gm. Sweden. Willet, Bree, 5.
388. (b) *T. flavipes*, Gm. England. Yellow-shanked Sandpiper, Yar., 3.
389. *T. glottis*, Lin. NE. Greenshank, Yar., 2, Mor., 4.
- Genus 140.—*Terekia*. Bp, 1838.
390. *T. cinerea*, Gùldenstadt. NE. Terek Sandpiper, Bree, 5.
- Genus 141.—*Tringoides*. Bp., 1831.
391. *T. hypoleucus*, Lin. *Canutus* (L.) Retz. N. W. Common Sandpiper, Yar., 3, Mor., 4.
392. (b) *T. macularius*, Lin. England, Germany, Spotted Sandpiper, Yar., 3, Mor., 4.
- Genus 142.—*Bartramia*. Lesson, 1831.
393. (b) *B. bartramius*, Wilson. England, Germany, Bartram's Sandpiper, Yar., 2, Mor., 4.
- Genus 143.—*Tryngites*. Cabanis, 1856.
394. (b) *T. rufescens*, Vieillot. England, Heligoland, Ruff-breasted Sandpiper, Yar., 3, Mor., 4.
- Genus 144.—*Recurvirostra*. Lin., 1744.
395. *R. avocetta*, Lin. S. Avocet, Yar., 2, Mor., 4.
- Genus 145.—*Himantopus*. Lin., Brisson, 1760.
396. *H. autumnalis*, Hasselquist. *Melanoptera*, Tem. *Himantopus*, Lin. S. Black-winged Stilt, Yar., 2, Mor., 4.
- Genus 146.—*Philomachus*. Moehr, 1752.
397. *P. pugnax*, Lin. E. Ruff, Yar., 2, Mor., 4.
- Genus 147.—*Tringa*. Lin., 1735.
398. *T. canutus*, Lin. N. W. Knot, Yar., 3, Mor., 4.
399. *T. maritima*, Brùnn. N. W. Purple Sandpiper, Yar., 3, Mor., 4.
400. (b) *T. maculata*, Vieillot. *Pectoralis*, Sav. NA., England. Pectoral Sandpiper, Yar., 3, Mor., 4.
401. *T. platyrhynca*, Tem. *Pusilla*, Bechst. N. Broad-billed Sandpiper, Yar., 3, Mor., 4.
402. *T. cinclus*, Lin. NC. Dunlin, Yar., 3, Mor., 4.
403. (b) *T. minuta*, Leisler. N. Little Stint, Yar., 3, Mor., 4.
404. *T. Temminckii*, Leisler. *Pusilla*, Bechst. NE. Temminck's Stint, Yar., 3, Mor., 4.
405. *T. subarquata*, Tem. N. Curlew Sandpiper, Yar., 3, Mor., 4.
406. (b) *T. Bonapartei*, Schl. *Schinzii*, Eytton. England. Schinz's Sandpiper, Yar., 3, Mor., 4.

Genus 148.—*Calidris*. Cuvier, 1800.

407. *C. arenaria*, Lin. N. Sanderling,
Yar., 3, Mor., 4.

Genus 149.—*Macrorhampus*. Leach,
1816.

408. (*b*) *M. griseus*, Gm. England. Brown
Snipe, Yar., 3, Mor., 4.

Genus 150.—*Gallinago*. Leach, 1816.

409. (*b*) *G. major*, Gm. C. N. Great
Snipe, Yar., 3, Mor., 4.

410. *G. scolopacina*, Bp. Gallinago, Lin.
C. N. Common Snipe, Yar., 3, Mor.,
4. Var. *G. Sabinii*, Vigors. England.
Yar., 3.

411. *G. gallinula*, Lin. NC. Jack Snipe,
Yar., 3, Mor., 4.

Genus 151.—*Scolopax*. Brisson, 1760,
nec Lin., 1758.

412. *S. rusticola*, Lin. E. Woodcock,
Yar., 3, Mor., 4.

FAMILY XXXVIII.—GRUIDÆ.

Genus 152.—*Grus*. Lin., 1735.

413. *G. cinerea*, Bechst. NA. Common
Crane, Yar., 2, Mor., 4.

414. *G. leucogeranus*, Pall. E. SE.
Siberian Crane, Bree, 5.

Genus 153.—*Balearica*. Briss., 1760.

415. *B. pavonina*, Briss. S. Balearic
Crane, Bree, 4.

FAMILY XXXIX.—ARDEIDÆ.

Genus 154.—*Ardea*. Lin., 1735.

416. *A. purpurea*, Lin. SE. Purple
Heron, Yar., 2, Mor., 4.

417. *A. alba*, Lin. SE. Great White
Heron, Yar., 2, Mor., 4.

418. *A. garzetta*, Lin. SE. Little
Egret, Yar., 2.

419. *A. bubulcus*, Savi. Veranyi, Roux.
Russata, Keys. et Blas., "Ibis," Gray
(Hand List, No. 10132.) Greece,
England. Buff-backed Heron, Yar.,
2, Mor., 4.

420. *A. comata*, Pall. SE. Squacco
Heron, Yar., 2, Mor., 4.

Genus 155.—*Nycticorax*. Steph., 1819.

421. *N. Gardeni*, Latham. SE. Night
Heron, Yar., 2, Mor., 4.

Genus 156.—*Botaurus*. Steph., 1819.

422. *B. stellaris*, Lin. C. S. Bittern,
Yar., 2, Mor., 4.

423. *B. minuta*, Lin. C. S. Little
Bittern, Yar., 2, Mor., 4.

424. *B. minor*, Bp. N. Am., England.
American Bittern, Yar., 2, Mor., 4.

Genus 157.—*Ciconia*. Lin., 1735.

425. *C. alba*, Belon. C. W. White
Stork, Yar., 2, Mor., 4.

426. *C. nigra*, Lin. C. S. Black Stork,
Yar., 2, Mor., 4.

Genus 158.—*Flatalea*. Lin., 1735.

427. *P. leucorodia*, Lin. S. C. W.
Spoonbill, Yar., 2, Mor., 4.

Genus 159.—*Ibis*. Moehr., 1752.

428. *I. falcinellus*, Lin. SE. Glossy
Ibis, Yar., 2, Mor., 4.

429. *I. æthiopicus*, Lath. Religiosa,
Savi, Greece. Bree, 5.

FAMILY XL.—PHALAROPODIDÆ.

Genus 160.—*Phalaropus*. Briss., 1760.

430. *P. fulcarius*, Lin. Lobatus, Yar.
Rufescens, Brisson, Bree, 1st edition.
Platyrhyncus, Tem. N. Grey Phalarope,
Yar., 3, Mor., 4.

431. *P. hyperboreus*, Lin., Yar. Lobata,
Lin. *Fusca*, Gm. *Angustirostris*,
Naumann. N. Red Phalarope, Yar.,
3, Mor., 4.

FAMILY XLI.—RALLIDÆ.

Genus 161.—*Aramus*. Vieillot, 1816.

432. *A. aquaticus*, Lin. C. S. Water
Rail, Yar., 3, Mor., 5.

Genus 162.—*Ortygometra*. Lin., 1744.

433. *O. crex*, Lin. E. Land Rail, Yar.,
3, Mor., 5.

434. *O. porzana*, Lin. E. Spotted
Crake, Yar., 3, Mor., 5.

435. *O. pygmæa*, Naum. Bailloni, V.
S. W. C. Baillon's Crake, Yar., 3,
Mor., 5.

436. *O. minuta*, Pall. Pusilla, Gm. S.
E. C. Little Crake, Yar., 3, Mor., 5.

- Genus 163.—*Porphyrio*. Briss., 1760.
 437. *P. hyacinthinus*, Tem. Veterum, Gm. S. Violet Gallinule, Bree, 5.
- Genus 164.—*Gallinula*. Briss., 1760.
 438. *G. chloropus*, Lin. C. S. Moorhen, Yar., 3, Mor., 5.
- Genus 165.—*Fulica*. Lin., 1735.
 439. *F. atra*, Lin. C. S. Common Coot, Yar., 3, Mor., 5.
440. *F. cristata*, Gm. S. W. Crested Coot, Bree, 5.

FAMILY XLII.—PHENICOPTERIDÆ.

Genus 166.—*Phenicopterus*. Lin., 1748.

441. *P. antiquorum*, Tem. Ruber (part), Lin. Rosea, Pall. S. Rosy Flamingo, Bree, 5.

Order 12.—PALMIPEDES.

FAMILY XLIII.—LARIDÆ.

- Genus 167.—*Sterna*. Lin., 1748.
442. *S. caspia*, Pall. C. SE. Caspian Tern, Yar., 3, Mor., 6.
443. (*b*) *S. Bergii*, Licht. Velox, Rüpp., Atlas, table 13. Longirostris, Less. Caspia var. β ., Gm. Swift Tern. Ireland, Africa, Red Sea.
444. *S. cantiaxa*, Gm. C. Sandwich Tern, Yar., 3, Mor., 6.
445. *S. affinis*, Rüpp. Greece. Allied Tern, Bree, 5.
446. *S. hirundo*, Lin., Yar., B. B., p. 507, 3rd edition. N. Arctic Tern.
447. *S. fluviatilis*, Naum. Hirundo, Tem., Yar., B. B., p. 504, 3rd edition. Common Tern.
448. *S. Paradisea*, Brünn. Douglassii, Bree, 1st edition. Dougallii, Mont. S. Roseate Tern, Yar., 3, Mor., 6.
449. *S. anglica*, Montagu. Nilotica, Hasselquist. S. Gull-billed Tern, Yar., 3, Mor., 6.
450. *S. minuta*, Lin. C. S. Lesser Tern, Yar., 3, Mor., 6.
- Genus 168.—*Hydrochelidon*. Boie, 1822.
451. *H. fissipes*, Lin. Nigra, Briss., and Bree, 1st edition. S. Black Tern, Yar., 3, Mor., 6.
452. *H. nigra*, Lin. Leucoptera, Tem., Bree, 1st edition. S. White-winged Black Tern, Yar., 3, Mor., 6.
453. *H. hybrida*, Pall. Leucopareia, Natt. S. Whiskered Tern, Yar., 3, Mor., 6.
454. (*b*) *H. fuliginosa*, Gm. N. Am., England. Sooty Tern, Yar., 3, Supplement.
- Genus 169.—*Phaeton*. Lin., 1756.
455. (*b*) *P. æthereus*, Lin. Tropics, Heligoland. Common Tropic bird.
- Genus 170.—*Anous*. Leach, 1825.
456. (*b*) *A. stolidus*, Lin. England, France. Noddy Tern, Yar., 3, Mor., 6.
- Genus 171.—*Larus*. Lin., 1744.
457. *L. marinus*, Lin. N. C. Great Black-backed Gull, Yar., 3, Mor., 6.
458. *L. fuscus*, Lin. N. C. Lesser Black-backed Gull, Yar., 3, Mor., 6.
459. *L. argentatus*, Brun. N. Herring Gull, Yar., 3, Mor., 6.
460. *L. Heuglini*, Bree. *L. cacchinans*, Pall. Fuscus, Swinhoe. *Argentatus major*, var., Sch., Bree, 5.
461. *L. glaucus*, Brisson. N. Glaucous Gull, Yar., 3, Mor., 6.
462. *L. leucopterus*, Faber. N. Iceland Gull, Yar., 3, Mor., 6.
463. *L. canus*, Lin. N. C. Common Gull, Yar., 3, Mor., 6. Henei, Homeyer, var. *Hybernus*, Gm., var.
464. *L. Audouini*, Payraudeau. S. Audouin's Gull, Bree, 5.
465. *L. eburneus*, Gm. N. Ivory Gull, Yar., 3, Mor., 6.
466. *L. tridactylus*. N. Kittiwake, Yar., 3, Mor., 6.
467. *L. leucophthalmus*, Licht. Greece, Red Sea. White-eyed Gull, Bree, 5.
468. *L. ridibundus*, Lin. C. S. Black-headed Gull. Var. *L. capistratus*, Tem. Masked Gull, Yar., 3, Mor., 6.
469. *L. gelastes*, Licht. *Tenuirostris*, Tem. S. Slender-billed Gull, Bree, 5.

470. *L. melanocephalus*, Natt. SE. Adriatic Gull, Bree, 5.
 471. *L. minutus*, Pall. SE. Little Gull, Yar., 3, Mor., 6.
 472. *L. ichthyaëtus*, Pall. SE. E. Great Black-headed Gull, Bree, 5.
 473. (b) *L. atricilla*, Lin. England. Laughing Gull, Yar., 3, Mor., 6.
 474. (b) *L. Sabinii*, Leach. N. As., N. Am., Germany, Heligoland. Sabine's Gull, Yar., 3, Mor., 6.
 475. (b) *L. Rossii*, Richardson. N. Am., Heligoland. Ross's Gull, Yar., 3, Mor., 6.
 476. (b) *L. Bonapartii*, Thompson. N. Am., Iceland. Bonaparte's Gull, Yar., 3, Supplement.

Genus 172.—*Stercorarius*. Briss., 1760.

477. *S. parasiticus*, Lin. Richardsonii, Swainson, and Bree, 1st edition. N. Richardson's Skua, Yar., 3, Mor., 6.
 478. *S. cephus*, Brünn. Buffoni, Boie, and Bree, 1st edition. Buffon's Skua, Yar., 3, Mor., 6.
 479. *S. pomarinus*, Tem. N. Pomerine Skua, Yar., 3, Mor., 6.
 480. *S. cataractes*, Lin. N. Common Skua, Yar., 3, Mor., 6.

Genus 173.—*Fulmarus*. Leach, 1816.

481. *F. glacialis*, Lin. N. Fulmar Petrel, Yar., 3, Mor., 6.
 482. (b) *F. hæsitatus*, Kuhl. Diabolica, Lin. From Tropics, England. Capped Petrel, Yar., 3, Supplement.
 483. (b) *F. Bulweri*, Jardine. Af., England. Bulwer's Petrel, Yar., 3, Mor., 6.

Genus 174.—*Puffinus*. Briss., 1760.

484. *P. cinereus*, Gm. Kuhlii, Boie. SC. Algerian Cinereous Shearwater, Bree, 5.
 485. *P. major*, Faber. N. Arctic Cinereous Shearwater, Bree, 5.
 486. (b) *P. fuliginosus*, Strickland. England, France. American Cinereous Shearwater, Yar., 3, 2nd ed., p. 624.
 487. *P. anglorum*, Tem. Arcticus, Faber. E. Manx Shearwater, Yar., 3, Mor., 6.
 488. (b) *P. obscurus*, Tem. Baroli, Bonelli. E. Dusky Petrel, Yar., 3, Suppt., Mor., 6.

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Genus 175.—*Procellaria*. Lin., 1746.

489. *P. pelagica*, Lin. N. W. Storm Petrel, Yar., 3, Mor., 6.
 490. *P. leucorrhoa*, Vieillot. N. W. Fork-tailed Petrel. Leachii, Tem., and Bree, 1st ed. Yar., 3, 2nd ed., p. 643.
 491. (b) *P. oceanica*, Kuhl. Wilsoni, Bp., Bree, 1st ed. England. Wilson's Petrel, Yar., 3.

FAMILY XLIV.—CYGNIDÆ.

Genus 176.—*Cygnus*. Lin., 1735.

492. *C. olor*, Gm. NC. Mute Swan, Yar., 3, Mor., 5.
 493. *C. immutabilis*, Schleg. Norfolk. Polish Swan, Yar., B. B., 3, p. 225.
 494. *C. musicus*, Bechst. Cygnus, Lin. N. Hooper, Yar., 3, Mor., 5.

FAMILY XLV.—ANSERIDÆ.

Genus 177.—*Anseranas*. Lesson, 1828.

495. *A. ægyptiaca*, Gm. Varia, Bechst. Egyptian Goose.

Genus 178.—*Anser*. Brisson, 1760.

496. *A. cinereus*, Meyer. Anser, Lin. C. N. Grey-lag Goose, Yar., 3, Mor., 5.
 497. *A. segetum*, Gm. Arvensis, Brehm. N. Bean Goose, Yar., 3, Mor., 5.
 498. *A. brachyrhynchus*, Baillon. N. Var. segetum γ , Blas. Pink-footed Goose, Yar., 3, Mor., 5.
 499. *A. albifrons*, Gm. N. White-fronted Goose, Yar., 3, Mor., 5.
 500. (b) *A. erythropus*, Lin. Minutus, Naum. Temminckii, Boie. Finmarchicus, Gunner, Newton in Ibis N. Dwarf Goose, Bree, 5.

Genus 179.—*Branta*. Scopoli, 1769.

501. *B. bernicla*, Lin. Brenta, Pall. N. Bernicle Goose.
 502. *B. leucopsis*, Bechst. Bernicla, Leach. Erythropus, Stephens. N.
 503. *B. ruficollis*, Pall. England, France, Germany, N. Asia. Red-breasted Goose, Yar., 3, Mor., 5.

Genus 180.—*Tadorna*. Leach, 1824.

504. *T. cornuta*, Gm. Tadorna, Lin. Common Shieldrake, Yar., 3, Mor., 5.

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- Genus 181.—*Casarea*. Bp., 1853.
505. *C. rutila*, Pall. EE. Ruddy Sheldrake, Yar., 3, Mor., 5.
- Genus 182.—*Mareca*. Steph, 1824.
506. *M. penelope*, Lin. N. Wigeon, Yar., 3, Mor., 5.
507. (*b*) *M. americana*, Gm. England-American Wigeon, Yar., 3, Mor., 5.
- Genus 183.—*Dafila*. Leach, 1824.
508. *D. acuta*, Lin. C. N. Pintail, Yar., 3, Mor., 4.
- Genus 184.—*Anas*. Lin., 1735.
509. *A. boschas*, Lin. C. N. Mallard, Yar., 3, Mor., 5.
- Genus 185.—*Querquedula*. Steph, 1824.
510. *Q. circa*, Lin. *Querquedula*, Lin., Bree, 1st edition. E. Garganey, Yar., 3, Mor., 5.
511. *Q. crecca*, Lin. Glocitans, Flem. Formosa, Gray. C. S. Teal, Yar., 3, Mor., 5.
512. (*b*) *Q. falcata*, Pall. N. As., Sweden, Hungary, Germany. Falcated Teal, Bree, 5.
513. (*b*) *Q. discors*, Lin. North of France.
- Genus 186.—*Chaulelasmus*. Gray, 1838.
514. *C. strepera*, Lin. C. S. Gadwall, Yar., 3, Mor., 5.
515. *C. marmorata*, Tem. Angustirostris, Menet. S. Marbled Duck, Bree, 5.
- Genus 187.—*Spatula*. Boie, 1822.
516. *S. clypeata*, Lin. C. N. Shoveller, Yar., 3, Mor., 6.
- Genus 188.—*Fuligula*. Steph., 1824.
517. *F. rufina*, Pall. SE. C. Red-crested Whistling Duck, Yar., 3, Mor., 5.
- Genus 189.—*Fulica*. Sundevall, 1835.
518. *F. cristata*, Lin. *Fuligula*, Lin., Bree, 1st ed. *F. baeri*, Radde, hybrid. N. Tufted Duck, Yar., 3, Mor., 5.
519. *F. collaris*, Donovan. N. Am., England. American Tufted Duck.
520. *F. marila*, Lin. N. Scaup Duck, Yar., 3, Mor., 5.
521. *F. affinis*, Eyton. England, N. Am. Marina, Wilson. Mariloides, Vigors. Minor, Giraud.
- Genus 190.—*Aythya*. Boie.
522. *A. ferina*, Lin. C. N. Pochard, Yar., 3, Mor., 5.
523. *A. nyroca*, Gldenstadt. NC. White-eyed Duck, Yar., 3, Mor., 5.
- Genus 191.—*Bucephala*. Baird, 1856.
524. *B. clangula*, Lin. N. Golden-Eye, Yar., 3, Mor., 5.
525. *B. islandica*, Gm. Barrowi, Tem., Bree, 1st ed. NW. Arctic Garrot, Bree, 5.
526. (*b*) *B. albeola*, Lin. N. Am., England. Buffel-headed Duck, Yar., 3, Mor., 4.
527. *B. histrionica*, Lin. NW. Harlequin Duck, Yar., 3, Mor., 5.
- Genus 192.—*Harelda*. Leach.
528. *H. glacialis*, Lin. N. Long-tailed Duck, Yar., 3, Morris, 5.
- Genus 193.—*Somateria*. Leach, 1822.
529. *S. mollissima*, Lin. N. Eider Duck, Yar., 3, Mor., 5.
530. (*b*) *S. spectabilis*, Lin. N. King Duck, Yar., 3, Mor., 5.
531. (*b*) *S. Stelleri*, Pall. Dispar, Spaum. Steller's Western Duck, Yar., 3, Mor., 5.
- Genus 194.—*Oidemia*. Fleming, 1822.
532. *O. nigra*, Lin. N. Common Scoter, Yar., 3, Mor., 5.
533. *O. fusca*, Lin. N. Velvet Scoter, Yar., 3, Mor., 5.
534. *O. perspicilata*, Lin. NW. Surf Scoter, Yar., 3, Mor., 5.
- Genus 195.—*Erismatura*. Bp., 1832.
535. *E. mersa*, Pall. Leucocephala, Scop. SE. White-headed Duck, Bree, 5.
- Genus 196.—*Mergus*. Lin., 1735.
536. *M. merganser*, Lin. Castor, Lin. NC. Goosander, Yar., 3, Mor., 5.
537. *M. serrator*, Lin. NC. Red-breasted Merganser, Yar., 3, Mor., 5.
538. *M. cucullatus*, Lin. N. Am., England. Hooded Merganser, Yar., 3, Mor., 5.
- Genus 197.—*Mergellus*. Selby, 1840.
539. *M. albellus*, Lin. NE. Smew, Yar., 3, Mor., 5.

FAMILY XLVI.—PELECANIDÆ.

Genus 198.—*Pelecanus*. Lin., 1735.

540. *P. onocratulus*, Lin. SE. White Pelican, Bree, 5.
 541. *P. crispus*, Bruch. E. SE. Dalmatian Pelican, Bree, 5.
 542. (a) *P. mitratus*, Licht. Sicily, Greece.

Genus 199.—*Sula*.

543. *S. bassana*, Lin. NW. Gannet, Yar., 3, Mor., 5.

Genus 200.—*Graculus*. Lin. 1735.

544. *G. carbo*, Lin. Cormoranus, Meyer, Bree, 1st edition. C. N. Cormorant, Yar., 3, Mor., 5.
 545. *G. graculus*, Lin. Cristatus, Faber, W. S. Shag, Yar., 3, Mor., 5.
 546. *G. pygmaeus*, Pall. S. C. Little Cormorant.

FAMILY XLVII.—COLYMBIDÆ.

Genus 201.—*Colymbus*. Lin., 1735, nec 1766.

547. *C. glacialis*, Lin. NW. Great Northern Diver, Yar., 3, Mor., 6.
 548. *C. arcticus*, Lin. NE. Black-throated Diver, Yar., 3, Mor., 6.
 549. *C. septentrionalis*, Lin. NW. Red-throated Diver, Yar., 3, Mor., 6.

FAMILY XLVIII.—PODICIPIDÆ.

Genus 202.—*Podiceps*. Latham, 1790.

550. *P. cristatus*, Lin. C. S. Great Crested Grebe, Yar., 3, Mor., 5.

551. *P. rubricollis*, Latham. Quisegena, Bodd. Holbolli, Reinhardt. C. S. Red-necked Grebe, Yar., 3, Mor., 5.

552. *P. auritus*, Lin. Cornutus, Tem. N. Eared Grebe, Yar., 3, Mor., 5.

553. *P. minor*, Latham. CS. Little Grebe, Yar., 3, Mor., 5.

554. *P. nigricollis*, Sundevall. Auritus, Lath. et Tem. S. C. Black-necked Grebe, Gould.

FAMILY XLIX.—URIIDÆ.

Genus 203.—*Uria*. Moehr, 1752.

555. *U. grylle*, Lin. Unicolor, Bewick. N. Black Guillemot, Yar., 3, Mor., 6. Var. *Mandtii*, Licht. Spitzbergen.

556. *U. troile*, Lin. Lomvia, Brünn. Minor, Gm. Lachrymans, Gould. N. Bridled Guillemot, Yar., 3.

557. *U. lomvia*, Lin. Brunnichi, Sabine, and Bree, 1st edition. N. Brunnich's Guillemot, Yar., 3, Mor., 6.

Genus 204.—*Arctica*. Moehr, 1752.

558. *A. alle*, Lin. N. Little Auk, Yar., 3, Mor., 6.

Genus 205.—*Alca*. Fleming, 1822.

559. *A. impennis*. N. Great Auk, Yar., 3, Mor., 6. Extinct.

560. *A. torda*, Lin. N. Razor-bill, Yar., 3, Mor., 6.

561. *A. arctica*, Lin. N. Puffin, Yar., 3, Mor., 6. Var. *glacialis*, Leach, Greenland.

The following have no claim to admittance into the European avifauna.

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| <p>1. <i>Haliaëtus leucocephalus</i>, Bald Eagle.</p> <p>2. <i>Vultur auricularis</i>, Daud. Africa. Sociable Vulture.</p> <p>3. <i>Aquila nævioides</i>, Cuvier, Tem. Tawny Eagle.</p> <p>4. <i>Pycnonotus obscurus</i>, Tem. Ixos obscurus, Bree, 1st edition.</p> <p>5. <i>Cuculus americanus</i>, Lin. N. Am. American Cuckoo, Yar., 2, Mor., 2.</p> <p>6. <i>Cuculus erythrophthalmus</i>, Wilson. N. Am. Yellow-billed Cuckoo. Cabanis' Journal, 1858, p. 457.</p> <p>7. <i>Emberiza striolata</i>, Rüpp. Striolated Bunting.</p> <p>8. <i>Picus villosus</i>, Lath. N. Am. Hairy Woodpecker.</p> <p>9. <i>Alcedo alcyon</i>, Lin. N. Am., Iceland. Belted Kingfisher, Yar., 3, Supplement.</p> <p>10. <i>Alcedo smyrnensis</i>, Lin. Asia Minor. Smyrna Kingfisher, Bree, 1st edition.</p> <p>11. <i>Ortyx virginiana</i>, Degland. Virginia Colin, Yar., 2, Mor., 3. This bird has been largely imported into England and turned loose by Lord Lilford. It may soon become one of our established game. At present it has no right to a place in the English fauna.</p> | <p>12. <i>Ardea atricollis</i>, Wagler. Africa. Black-necked Heron. Rev. Zool., 1854.</p> <p>13. <i>Ardea egrettoides</i>, Gm. India, Sardinia. Lesser White Heron.</p> <p>14. <i>Ardea gutturalis</i>, Swainson. Rev. Zool., 1857, p. 136.</p> <p>15. <i>Tantalus Ibis</i>, Lin. Africa, S. Russia. African Ibis.</p> <p>16. <i>Ibis religiosa</i>, Cuv. Africa. Sacred Ibis, Bree, 4, 1st edition.</p> <p>17. <i>Numenius borealis</i>, Lath. N. Am., Scotland. Esquimaux Curlew, Yar., 3, Supplement.</p> <p>18. <i>Tringa Wilsonii</i>, Nuttall. Pusilla, Wilson. N. Am. Little Peep, Yar., 3, Preface to Supplement.</p> <p>19. <i>Porphyrio Alleni</i>, Thomson. Africa.</p> <p>20. <i>Tachypetes aquila</i>, Lin. Tropics.</p> <p>21. <i>Procellaria capensis</i>, Lin. Tropics.</p> <p>22. <i>Procellaria gigantea</i>, Lin. South Sea. Giant Petrel.</p> |
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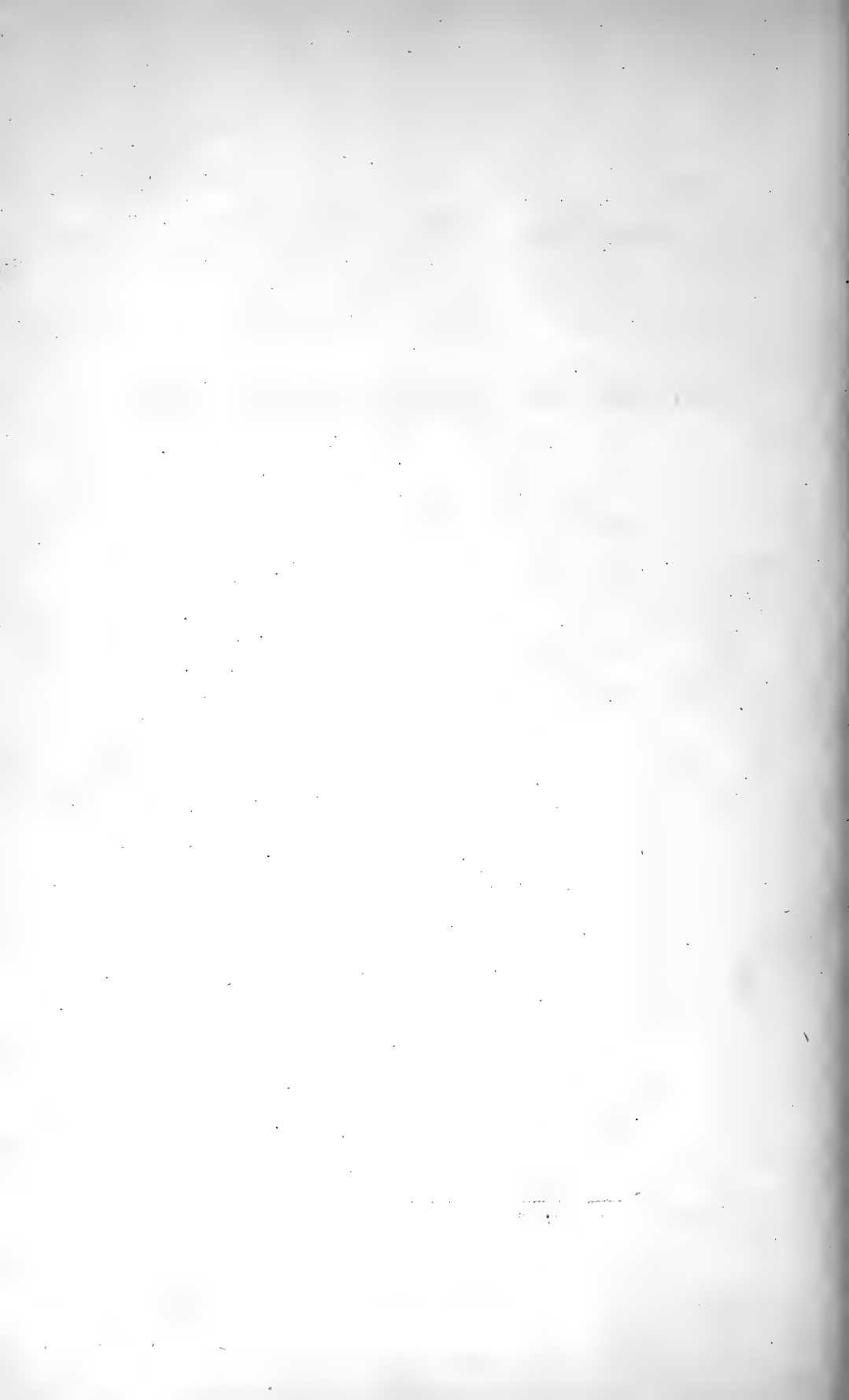
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