GOULD'S

BIRDS

OF

EUROPE

RAINES, SNYDER, BATH.

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V.5

RAINER. NINDER. BAZ

THE

BIRDS OF EUROPE.

BY

JOHN GOULD, F.L.S., &c.

IN FIVE VOLUMES.

VOL. V.

NATATORES.

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* Named erroneously Carbo pygmæus.

† Named erroneously on the Plate Larus atricilla.



Genus ANSER, *Briss.*

Gen. Char. *Bill* as long as the head, straight, conical, thick, higher than broad at the base, depressed and flattened towards the tip; entirely covered with a cere, except the nails at the tip, which are horny, orbiculate and convex; lower mandible narrower than the upper; the edges of both laminato-dentated. *Nostrils* lateral, placed near the base of the bill. *Wings* long, ample, tuberculated. *Legs* placed a little behind the equilibrium of the body, and clothed nearly to the tarsal joint. *Feet* four-toed, three before and one behind; the former united by a membrane, the latter free. *Nails* falcate, their inner edges dilated.

SNOW GOOSE.

Anser hyperboreus, *Pall.*

L'Oie hyperborée, ou de neige.

This fine species of Goose inhabits all the regions of the Arctic circle, but more especially those portions appertaining to North America; it has also been said to inhabit the Antarctic circle, but this we find is not the case, its place being there supplied by another distinct species. From the northern portions of Russia and Lapland, where it is sparingly diffused, it regularly migrates to the eastern portions of Europe, and is occasionally found in Prussia and Austria, but never in Holland. The polar regions being its true and congenial habitat, it retires to those remote parts early in spring to perform the duties of incubating and rearing its young.

The eggs are of a yellowish white, of a regular ovate form, and somewhat larger than those of the Eider Duck.

Dr. Latham informs us that the Snow Goose is very numerous at Hudson's Bay; that it visits Severn River in May, and after having proceeded further north to breed, returns to "Severn Fort in the beginning of September, and remains to the middle of October, when they depart southward with their young, in flocks innumerable. At this time many thousands are killed by the inhabitants, who pluck them, and taking out the entrails, put their bodies into holes dug in the ground, covering them with earth, which, freezing above, keeps them perfectly sweet throughout the severe season; during which the inhabitants occasionally open one of these storehouses, when they find them sweet and good."

Its food consists of insects, rushes, and the roots of reeds and other vegetables, which, says Wilson, it tears "up from the marshes like hogs," and for which purpose its powerful serrated bill would seem to be expressly adapted: in autumn it feeds principally upon berries, especially those of the *Empetrum nigrum*. Like all the other vegetable feeders of the family, its flesh is very juicy, and forms an excellent article for the table.

The sexes are alike in colouring and may be thus described:

Forepart of the head as far as the eyes yellowish rust colour; the remainder of the plumage pure white, with the exception of the nine exterior quills, which have their bases and shafts white and the remainder black; bare space round the eye, bill, and feet rich reddish orange; nails of the mandibles blue; irides greyish brown.

The young exhibit a very striking difference from the adults, and have the head and upper part of the neck white; the remainder of the neck, breast, and upper part of the back purplish brown; all the feathers finely tipped with pale brown; wing-coverts, lower part of the back, and rump pale ash; primaries and secondaries black; tertials centred with black, and edged with light blue; tail-coverts white; tail blackish brown edged and tipped with white; belly and vent greyish; bill and feet light reddish purple.

We have figured an adult about one third less than the natural size.



GREY LAG WILD GOOSE.

Anser ferus, *Steph.*

L'Oie cendrée ou premiere.

Notwithstanding the variety of plumage which exists in our race of domesticated Geese, there is so striking a similitude in the form of the body, the shape and colouring of the bill, and other characters, as to leave no doubt in the minds of naturalists that they have descended from one common stock, of which the figure in our plate is a representative in its wild or natural state. The value of this bird as an article of food, and the various uses made of its feathers, are so well known to all our readers that it will be quite unnecessary for us to describe the management and rearing of the numerous domestic varieties, a subject so well understood by every one, and for a full account of which we refer our readers to the works of Pennant, &c. Although we learn from the testimony of older authors that this bird was once a permanent resident in the British Islands, it is now scarce, in consequence of its not being able to find a secure retreat where it may rear its young, the progress of cultivation and the drainage of the land compelling it to retire to more distant countries, where it may still breed unmolested.

The Grey Lag is known to inhabit all the extensive marshy districts throughout the temperate portions of Europe generally; its range northwards not extending further than the fifty-third degree of latitude, while southwards it extends to the northern portions of Africa, eastwardly to Persia, and, we believe, is generally dispersed over Asia Minor.

The Grey Lag assembles in flocks, and like the Bean Goose seeks the most open and wild districts, often descending upon fields of newly sprung wheat, which, with the blades of fine grasses, trefoil, and grain, constitute its food.

The nest is said to be placed among rushes, and is formed of a large quantity of various vegetable matters: the eggs, from six to twelve in number, of a sullied white.

The sexes are nearly alike in plumage.

Head and neck brown, tinged with grey; back, scapulars, and wing-coverts brown, tinged with ash grey, all the feathers being broadly margined with greyish white; lesser wing-coverts bluish grey; upper tail-coverts white; breast and belly greyish white, crossed with bars of a deeper tint; vent and under tail-coverts white; bill reddish orange, the nail greyish white; legs and feet dull red.

The Plate represents an adult male about two thirds of the natural size.



BEAN GOOSE.

BEAN GOOSE.

Anser segetum, *Steph.*

L'Oie vulgaire ou sauvage.

In the temperate portions of Europe, and particularly on the British Islands, the Bean Goose is rather a winter visitor than a permanent resident: after passing the summer within the arctic circle, it migrates early in the autumn to more southern latitudes; hence in October and November considerable flocks arrive in the northern counties of England, and afterwards disperse themselves over the greater portion of our island. Like the other members of its family it is extremely shy and difficult of approach, cautiously avoiding danger by resorting to wild and open parts of the country. These birds feed principally by day, when they resort to stubble lands, and not unfrequently to grounds lately sown with peas, beans, and pulse, and they have been known to commit considerable havoc on young wheat. Extensive marshes and fenny districts also form a place of favourite resort, the large sheets of water which there abound affording them a safe retreat in cases of danger, and to which they frequently retire for the night. From the delicate quality of their food, the flesh of the Bean Goose is well flavoured, hence it is highly esteemed for the table, and numbers are annually sent to our markets, where they may be frequently observed exposed for sale, accompanied by their near ally the Grey Lag. On the approach of spring they commence their migrations northward; and notwithstanding the assertions made by some authors, that they remain and breed in our western and northern islands, we feel confident that the greater number make the high northern latitudes the place of general rendezvous.

The power of flight of the Bean Goose is very great, and when at a considerable elevation, with a favourable breeze, the rate at which it passes through the air has been estimated at from 60 to 80 miles an hour at least.

From the great similarity which exists between the Bean Goose and the Grey Lag, the two species have been often confounded; on a close examination, however, we cannot but observe the great difference which exists in the form and colour of their bills, as well as other peculiarities, which will be found in comparing the descriptions of the two birds. In size the Grey Lag has the advantage of the present species, although in this respect the male of the latter often exceeds in weight the female of the former. The black colour and diminutive bill of the Bean Goose, when opposed to the robust and flesh-coloured bill of the Grey Lag, forms perhaps the best and readiest mark of distinction between the two species.

The sexes are so nearly alike in the colour of their plumage that one description will serve for both; nor does there appear to be any perceptible change in their plumage at opposite seasons.

It is said to breed in low marshy situations, the female laying from eight to twelve white eggs.

The whole of the bill is black, with the exception of a band of pinky yellow (sometimes inclining to red) which surrounds both mandibles near the point; irides and orbits brown; top of the head and back of the neck brown, the latter having longitudinal furrows, giving this part the appearance of being marked with dark lines; the whole of the back, wings, flanks, and tail dark clove brown tinged with grey, each feather being tipped with white; breast and abdomen greyish brown; vent, under tail-coverts, and rump white; legs and webs orange.

The Plate represents an adult male about a third less than the natural size.



WHITE-FRONTED GOOSE.

Anser albifrons, *Linn.*

L'Oie rieuse, ou à front blanc.

We have not been able to ascertain with any degree of certainty whether the jet black markings which ornament the breast of this species are only assumed during summer, or whether they are confined to certain examples. While describing this bird in his "Manuel d'Ornithologie," we find M. Temminck equally at a loss with ourselves, for in a note appended to his description he states, that "after inspecting the plumage of this Goose, I suspect that the species moult twice in the year, and that in summer the belly and chest are of a deep black, while these parts in winter are pure white. I say only that case appears to me such, for it is by the naturalists in the North alone, who are able to observe this bird during the period of incubation, that this circumstance can be decided." The great numbers of this species brought to the London market during the first fortnight of January 1835, afforded us ample opportunities of examining a great variety of specimens; which examinations have led us to doubt if the irregular markings on the breast are ever assumed by many of these birds until they have attained a considerable age, there having been numerous mature individuals among those examined which had not the slightest trace of this peculiar feature, while in others it was slightly apparent; yet the majority of both sexes possessed the character in question, displayed in the most conspicuous manner. Some few birds of the year were observed, many of which had already the black feathers appearing in a slight degree; from which circumstance it is clear that a still further knowledge of the habits, changes, and economy of this fine Goose is required to render its history complete; and it is to be regretted that our island does not afford a retreat for so valuable a bird, in which it might breed and rear its young. It is just possible that the individuals examined by us at that early period of the year might not have commenced their spring moult; and if so, it is singular that others should have acquired so much of the black, which, according to M. Temminck's theory, is characteristic of the plumage of summer.

The summer residence of the White-fronted Goose is the high northern latitudes of both worlds: in these countries it finds a place of security wherein to incubate. It commences its migrations southwards early in the autumn, at which period great numbers pass into Holland, Germany, and France. In the British Islands it is tolerably abundant, particularly in the midland and southern counties, giving a decided preference to low marshes and fenny districts. Its food consists of aquatic vegetables of various kinds, small snails, &c. Its weight generally varies from five to seven pounds, and as an article for the table it is not surpassed by any of its tribe, its flesh being finely flavoured and tender.

Bill pale flesh-colour, nail pure white; forehead white; head, neck, and upper part of the chest greyish brown; breast, belly, and abdomen black marked with irregular bars and blotches of white; back brown, each feather being margined with greyish white; wing-coverts grey edged with white; quills dark greyish black; vent and upper tail-coverts white; middle tail-feathers grey, with white tips, the remainder becoming gradually lighter, to the outer ones, which are wholly white; legs and toes orange; claws whitish.

The Plate represents an adult and a young bird of the year about three fourths of the natural size.

RAIN



BERNICLE GOOSE.

Anser leucopsis, *Bechst.*

L'Oie Bernache.

It is only during the months of autumn and winter that the British Islands are visited by the Bernicle Goose, the extreme cold of the northern latitudes, where it sojourned during the summer season, having driven it southward into climates where its food is still accessible. The portion of our island in which it is most abundant is along the whole of the western coast from north to south. In Lancashire it appears especially abundant: the North and West of Ireland is also visited by it in large flocks. On the Continent Holland, Germany, and France offer an extent of coast and inland meres and marshes highly acceptable to the Bernicle, to which localities it resorts in great numbers. It is decidedly one of the handsomest and most elegant of the Geese that sojourn in the British dominions, and when domesticated forms a graceful ornament to our aviaries. When wild it is extremely shy and wary, so much so that it cannot be approached without the utmost circumspection. Its food consists of various aquatic and terrestrial vegetables, seeds, and grain. It breeds in the regions of the arctic circle, but we have no correct information as to the description of its eggs, or its peculiar habits of nidification, in which, however, we conceive it agrees with the rest of its congeners.

The sexes offer so little difference in the colouring of their plumage that one description will serve for both.

The adult has the forehead, cheeks, and throat yellowish white; a narrow black mark passes from the bill to the eye; the top of the head, neck, and chest black; the upper surface fine blueish grey, the tip of each feather edged with brownish black and a margin of greyish white beyond; primaries greyish black; upper tail-coverts white; tail black; the whole of the under surface silvery white; flanks strongly marked with grey in waved bars; feet and bill black; irides dark brown.

The young are easily distinguished from the adults, by the light colouring of the face being more clouded with black, and by the general plumage being less pure and decided.

The Plate represents an adult about three fourths of the natural size.

RAINES.



RED-BREASTED GOOSE.

Anser ruficollis, *Pall.*

L'Oie à Cou roux.

We regret that we are unable to give any detailed account of this beautiful Goose. Only four or five instances are on record of its having been captured in the British Islands; and its occurrence on the European continent appears to be equally rare, except in the most north-eastern portions, where it is rather more plentiful. The countries to which it habitually resorts are doubtless the extreme northern parts of Asia and Siberia, its migrations in summer extending to the shores of the Frozen Ocean, where it breeds and rears its young. Extraordinarily severe seasons or other unusual circumstances, driving it out of its usual course, are in all probability the causes of its appearing occasionally in this country, and in other temperate portions of the globe. The first example captured in England was taken near London in 1776, passed into the hands of Mr. Tunstall, and is now in the Museum at Newcastle-upon-Tyne; another was captured alive near Wycliffe, and was kept in confinement for some years by the gentleman above mentioned; a third was killed near Berwick-upon Tweed, and formed a part of Mr. Bullock's celebrated collection; and others, Mr. Stephens informs us, were killed in the severe winter of 1813 in Cambridgeshire.

In its habits, disposition, and food it doubtless offers a strict resemblance to the other members of its genus: that it feeds on vegetables is pretty certain, from the circumstance of its flesh being free from any fishy taste and in great esteem for the table.

We are not aware whether the sexes exhibit any difference in their colouring, but judging from analogy we should conceive that they do not vary much, if any.

Forehead, top of the head, stripe down the back of the neck, chin, throat, and a band extending upwards to the eye, black; on each side of the head a patch of reddish brown surrounded by a stripe of white, which is extended down the sides of the neck, and separates the black stripe down the back of the neck from the reddish brown of the lower part of the neck and breast, which latter colour is margined with black, to which succeeds a stripe of white; upper surface, fore part of the belly, wings, and tail black; hinder part of the belly, vent, thighs, upper and under tail-coverts white; greater wing-coverts margined with white; bill and legs blackish brown.

We have figured a male somewhat less than the natural size.



BRENT GOOSE.

Anser Brenta, *Flem.*

L'Oie cravant.

This well-known species is the least of the European Wild Geese, and is one of our winter visitants, at which period it resorts in great numbers to the inlets of the sea and the bays around our coast. Being driven from the icy regions of the polar circle by the approach of inclement weather, it not only visits the shores of the British Islands, but appears to radiate in every direction, spreading itself over almost all the maritime portions of Europe, Asia, and America. "Upon the Northumbriam coast," says Mr. Selby, "a very large body of these birds annually resorts to the extensive muddy and sandy flats that lie between the mainland and Holy Island, and which are covered by every flow of the tide. In this locality tolerably sized flocks usually make their appearance in the early part of October, which are increased by the repeated arrival of others till the beginning of November, at which time the equatorial movement of the species in this latitude seems to be completed. This part of the coast appears to have been a favourite resort of these birds from time immemorial, where they have always received the name of *Ware Geese*, given to them, without doubt, in consequence of their food consisting entirely of marine vegetables. This I have frequently verified by dissection; finding the gizzard filled with the leaves and stems of a species of grass that grows abundantly in the shallow pools left by the tide, and with the remains of the fronds of different *Algæ*, particularly of one which seems to be the *Laver* (*Ulva latissima*). These were mixed with a considerable quantity of sharp sand, but without any portion of animal or shelly matter, although Wilson states that they feed occasionally upon small univalve and bivalve mollusca. In this haunt they remain till the end of February, when they migrate in successive flocks, as the individuals happen to be influenced by the season, and before April the whole have disappeared. When feeding (which they do at ebb tide) or moving from one place to another, they keep up a continual hoarse cackling, or, as it is termed, *honking* noise, which can be heard at a great distance."

The Brent Goose is always extremely shy and watchful, and can only be approached by the sportsman concealing his person. This wariness has induced those who procure these birds for the market to resort to various contrivances to effect their object, for an account of which we beg to refer our readers to Colonel Hawker's 'Instructions to young Sportsmen,' an amusing treatise, where a full description is given of this kind of sporting.

They breed and rear their young in the security of high northern latitudes; the nest being formed of various vegetable materials, and the eggs, which are white, being ten or twelve in number.

The male has the head, neck, and upper part of the breast black; on each side of the neck a patch of white; back, scapulars, and wing-coverts brown, each feather being margined with paler brown; under surface dark grey, each feather margined with paler grey; vent and upper and under tail-coverts white; lower part of the back, the rump, quills, and tail black; bill black; irides brown; legs and feet brownish black.

The female resembles the male in colour, but is not quite so large.

Our Plate represents an adult male rather less than the natural size.



Genus CHENALOPEX, *Antiq.*

Gen. Char. *Beak* as long as the head, slender, straight, its tip rounded, the margin laminated; the upper mandible curved, its tip hooked; the lower mandible flat. *Nostrils* placed at the basal portion of the beak. *Wings* armed with spurs. *Legs* placed in the equilibrium of the body, four-toed; the anterior toes entirely webbed, the hinder one simple; tarsi somewhat elongated.

EGYPTIAN GOOSE.

Chenalopex Egyptiaca, *Steph.*

L'Oie d'Egypte.

On comparing the present species with the other members of its family, it will be found to differ in form from every one of them, on which account it has been formed by Mr. Stephens into a distinct genus, to which he has been induced to give the above generic title, in consequence of this bird being in the opinion of M. Geoffroy St. Hilaire the *Chenalopex* or Vulpanser of the ancients.

In figuring this fine species of Goose as a member of the European Fauna, we are not instigated by the occurrence of numerous half-reclaimed individuals which are yearly shot in our island, but from the circumstance of its occasionally visiting the southern parts of the Continent from its native country Africa. M. Temminck particularly mentions the island of Sicily as one of the places frequented by it. This is the species which would appear to have been held in great veneration by the ancient Egyptians, as we frequently find a figure of it among the stupendous works of that celebrated people. It is abundant on the banks of the Nile, and is distributed over the whole of the vast continent of Africa.

It readily breeds in confinement, and forms a beautiful and interesting addition to the menagerie.

The sexes are alike in plumage, but the female is somewhat smaller in size, and has the whole of the markings less decided than in the male.

Feathers immediately behind the base of the bill, a narrow line running from the upper angle of the gape to the eye, and a large patch surrounding the eye, rich chestnut; sides of the face, crown of the head, and the fore part of the neck buffy white, gradually passing on the back of the neck into rufous brown; this reddish tinge also predominates on the lower part of the neck, and forms a faint collar; upper part of the back light chestnut brown, transversely rayed with very minute and irregular lines of blackish brown; centre of the back and upper part of the scapularies dark reddish brown, minutely rayed with irregular transverse lines of blackish brown and grey; lower part of the scapularies and tertiaries rich reddish chestnut; lesser wing-coverts pure white with the exception of the posterior row of feathers, which are crossed with a strongly defined mark of black near their extremities, forming a narrow band across the wing; primaries, lower part of the back, rump, and tail black; secondaries rich glossy green, with purple reflections; on the centre of the breast a large irregular patch of deep rich chestnut; all the remainder of the under surface from the collar to the thighs pale buff, transversely rayed with very minute and irregular lines of blackish brown; vent and under tail-coverts rich buff; upper mandible margined all round with brown, the centre being reddish flesh colour; legs and feet reddish flesh colour; irides orange.

We have figured an adult male about one third less than the natural size.

RAINE



Genus CYGNUS.

Gen. Char. *Beak* equally wide throughout its length, much higher than broad at the base, where it is swollen or tuberculated; depressed towards the tip; nail of the upper mandible deflected, and covering that of the lower, which is flat. Both mandibles laminato-dentate, with the lamellæ placed transversely, and nearly hidden from view when the beak is closed. *Nostrils* oblong, lateral, placed near the middle of the beak. *Wings* large and long. *Legs* short; feet four-toed, three before, one behind; the front toes entirely webbed, the hind toe small and free.

DOMESTIC SWAN.

Cygnus mansuetus, *Gmel.*

Le Cygne.

The Domestic Swan, the stately ornament of our lakes and rivers, is too well known to render much description necessary. The ease and grace with which this bird ploughs its course along the rippled surface of the water, has raised it to that high rank in general estimation to which its extreme beauty and peaceful habits so fully entitle it.

The Swan is one of the largest of our indigenous birds, frequently weighing from twenty to twenty-five pounds. The bill is orange colour, the base and cere reaching to the eye, black, and surmounted with a fleshy knob of the same black colour; the legs and feet are also black; all the other parts in the adult bird are of a pure and spotless white. The first plumage of the Cygnet, or young Swan, is of a dull brownish ash colour, afterwards varied with white; but the young birds do not attain their pure and perfect white appearance till their second year, and are incapable of breeding before the third year. The parent birds drive away from them the brood of the previous year as soon as the revolving seasons again produce the period of incubation. At this time the male assumes an appearance of boldness and contempt of danger which plainly indicate the change in his habits which the season has produced. The male may be distinguished from the female by his thicker neck and his wider and shorter body; and the female appears to swim deeper in the water.

The female lays six or seven long oval-shaped eggs, of a greenish grey colour, and sits about forty-five days. During this extended period, the male keeps watch at a short distance from her nest; and when the young brood are produced, and take to the water, he is incessant in his care and guardianship, and boldly advances to repel the intruder upon every appearance of danger.

Formerly young birds of the year were in great request as an article of food, and were frequently served up as a choice dish on great occasions; even now young Swans, intended for the table, are occasionally to be seen, in their grey plumage, at the shops of our London poulterers.

Although a few Swans may be observed on most of the lakes which ornament the parks and grounds of the nobility and others, they are nowhere very numerous, if we except the swannery of the Earl of Ilchester, at Abbotsbury in Dorsetshire, where a large stock has been maintained for many years. The various parts of aquatic plants are the natural food of these birds, in search of which they examine all the shallow parts of the water they inhabit, and are able to keep their head below the surface for a considerable length of time, but are never seen to dive. In confinement they feed readily on grain, for the comminution of which their large and powerful gizzard seems well adapted.

The voice of the tame Swan is feeble, plaintive, and not unmusical; but this bird does not possess internally that convoluted structure of trachea which has made the examination of the various wild species an object of so much interest, and which we shall have occasion to notice more particularly when describing the Hooper and Bewick's Swan. Our Domestic Swan is said to exist in a wild state in Russia and Siberia; but we must not omit to mention, that a species called the Polish Swan has lately been introduced to this country, which, compared with the subject of our present Plate, exhibits a slight difference in the distribution of the colours on the beak, and in the situation of the nostrils: the legs and feet are of a greyish ash colour, and the young birds are said to be white from the egg, never afterwards assuming any of that ash colour which distinguishes till their second year the Cygnets of other white Swans.

RAINE



WHISTLING SWAN, OR HOOPER.

Cygnus ferus, *Ray*.

La Cygne à bec jaune ou sauvage.

We refer to the present species of wild swan by the name of Whistling Swan, or Hooper, in order to distinguish it from two other species of wild swans which have recently been added to this genus, one of which, an occasional visitor to England, Ireland, and other parts of Europe, we have figured in this work. The term Hooper has the advantage of referring to a peculiar character of the voice in the present bird, which is as yet considered to be specific: its usual call-note resembles the sound of the word *hoop*, loudly and harshly uttered several times in succession.

The Hooper has usually been considered an inhabitant of North America, but anatomical examination of the two species of wild swans most numerous there proves that they are both distinct from the Hooper; and it will probably be found that this last-named species is exclusively confined to the northern parts of Europe and Asia.

The Hooper is only a winter visitor in England or in the southern countries of the European continent, and the number seen there during that season of the year generally bears some proportion to the degree of severity in the weather. During long-continued frosts large flocks are not uncommon, and our markets afford numerous examples; but in mild winters few are obtained or even seen. The summer residence of the Hooper is within the Arctic circle, in Iceland, Scandinavia, and the most northern countries of Europe. Formerly a few pairs were known to rear their young among the islands of Shetland and Orkney, and even in Sutherlandshire. In a half-domesticated state, with pinioned wings, the Hooper breeds about the lakes and islands in the parks of some English noblemen, but it does not, in such situations, associate much with the Domestic Swan, which is the more usual monarch of ornamental waters.

The food of the Hooper are aquatic plants and insects, feeding in shallow water: it makes a large nest on the ground, collecting leaves, rushes, or flags, and lays six or seven whitish eggs, which are tinged with a yellowish green; the length of the egg four inches, the breadth two inches and three quarters. The parent bird sits six weeks: the young are at first of a uniform dark grey, acquiring a white plumage by slow degrees about the time of completing their second autumn moult, previous to which the dark anterior part of the beak is not decidedly black; the base of the beak and the cere are more of a fleshy tint than yellow, and the legs are also lighter in colour than those of the old birds.

The adult female only differs from the male in being smaller, and the neck is more slender.

In the adult male the plumage is perfectly white, if we except an occasional tinge of buff-colour on the top of the head; the beak black, the base and cere yellowish orange, this colour extending forwards along the edges of the upper mandible as far as the line of the most anterior part of the nostrils, and posteriorly surrounding the eyes; irides brown; the legs and feet black; the whole length of the bird about five feet; the breadth with extended wings nearly eight feet.

The papers of Dr. Latham and Mr. Yarrell in the Transactions of the Linnean Society of London, on the organs of voice in birds, contain descriptions and figures of internal peculiarities by which the species of Swans most likely to be confounded may be readily distinguished.

The Plate represents an adult about one third of the natural size.

BEWICK'S SWAN.

(Cygnus Bewickii. Yarr.)



BEWICK'S SWAN.

Cygnus Bewickii, *Yarr.*

Le Cygne de Bewick.

This fine addition to the ornithology of Europe and Great Britain was made known at the commencement of the winter of 1829, although, as has since appeared, various specimens were before that time preserved in different collections; but the characters, principally internal, by which this new species is distinguished from the Hooper had not been ascertained. In a paper by Mr. Yarrell, read at the Linnean Society, the specific peculiarities belonging to the bony structure of this Swan proved satisfactorily that it was distinct from the Hooper, and the name of *Cygnus Bewickii* was proposed for it.

The appearance of this species in England seems to depend on the degree of severity of the winter, and, comparatively, but few have been seen here since the season of 1829–30. It is probably an inhabitant of the northern portions of the continents of Europe, Asia, and America.

Dr. Richardson in his 'Fauna Boreali-Americana' says, "This swan breeds on the sea-coast within the arctic circle, and is seen in the interior of the fur-countries on its passage only. It makes its appearance amongst the latest of the migratory birds in the spring, while the Trumpeter Swans are, with the exception of the Eagles, the earliest. It winters, according to Lewis and Clarke, near the mouth of the Columbia." Captain Franklin, in the Journal of his second expedition to the Arctic regions, when residing at the station on the Great Bear Lake during the winter of 1827, remarks: "We welcomed the appearance of two large-sized swans (Trumpeters) on the 15th of April as the harbingers of spring; and on the 20th of May, the small-sized swans (*C. Bewickii*) were seen, which the traders considered the last of the migratory birds." Captain Lyon describes the nest of Bewick's Swan as built of moss-peat, nearly six feet long, by four and three-quarters wide, and two feet high exteriorly; the cavity a foot and a half in diameter. The eggs were brownish white, slightly clouded with a darker tint.

In size Bewick's Swan is one third smaller than the Hooper at the same age. The plumage is first grey, afterwards white tinged with rust colour on the top of the head and on the under surface of the belly, and ultimately pure white. The beak is black at the point, and orange yellow at the base in the males; this last colour appears first on the sides of the upper mandible, and afterwards covers the upper surface in front of the forehead to the extent of three quarters of an inch, receding from thence by a convex line to the lower edge of the mandible at the gape; the nostrils are oblong; the irides orange yellow; the wings have the second and third primaries the longest and equal, the first and fourth half an inch shorter than the second and third, and also equal; the tail consists of twenty feathers, graduated, cuneiform; the legs, toes, and claws black. The base of the beak in females is lemon yellow. The food of this species is similar to that of the Hooper.

The internal characters which distinguish the two Wild Swans found occasionally in England are as follows:

In the Hooper the tube of the trachea, or windpipe, is not uniform in size throughout its length, and that portion of it which is confined within the keel of the breastbone never departs from a vertical position at any age, nor is there any excavation in the sternum itself. The bronchial tubes are invariably long.

In Bewick's Swan the tube of the windpipe is of equal diameter throughout its length, and when arrived at the end of the keel of the sternum it inclines upward, and passes into a horizontal cavity destined to receive it, caused by the separation of the two horizontal plates of bone forming the posterior flattened portion of the breastbone. The bronchial tubes are short. Descriptions and figures of the organs of voice of the Wild Swans will be found in the Linnean Transactions already referred to.

The whole length of Bewick's Swan is three feet ten inches.

We have figured a male about one third of the natural size.

RAINES



Genus TADORNA.

Gen. Char. *Bill* shorter than the head, higher than broad at the base, depressed or concave in the middle, the tip flattened and turning upwards, nearly of the same breadth throughout; *dertrum*, or *nail*, abruptly hooked; upper mandible laterally grooved near the tip; under mandible much narrower than the upper one, and, when closed, hidden by the deflected *tomia* of the upper; both mandibles having prominent transverse lamellæ. *Nasal fosse* near the base of the bill; *nostrils* oval, lateral, pervious. *Wings* of mean length, acute, tuberculated, with the second quill-feather the longest. *Legs* of mean length, with the tibiæ naked for a short space above the tarsal joint. *Tarsus* rather longer than the middle toe. *Toes* four, three before and one behind; the front ones rather short and entirely webbed; hind toe barely touching the ground with the tip of the nail. *Claws* slightly hooked, the inner edge of the middle one being dilated.

COMMON SHIELDRAKE.

Anas tadorna, *Linn.*

Tadorna vulpanser, *Flem.*

Le Canard tadorne.

With few exceptions, the Common Shieldrake may be considered one of the most beautiful of its race; there is certainly no European species which exceeds it in graceful motion or simplicity of colouring; and when domesticated, it adds great beauty and ornament to our lakes and sheets of water, where, notwithstanding it is a native of the sea shore, it lives and thrives without any difficulty, sailing about with its mate, which closely resembles it in colouring, as if to display its symmetry and the fine contrast of its tints to the best advantage.

It is distributed throughout the whole of Europe, and is moreover indigenous to the British Isles, breeding upon some parts of our coast in considerable abundance. The situations it chooses for the purpose of nidification are both singular and novel: these are no other than the deserted burrows of the rabbit, which are abundantly scattered over the sand-hills adjacent to the shore on several parts of the coast; and here the female constructs a nest, at the distance of many feet from the entrance, consisting of dried grasses and other vegetable materials, and lined with down from its own breast: the eggs are pure white, and from twelve to sixteen in number. Like many other birds, the male and female sit alternately; and the young so soon as they are hatched are conducted, or, as it is said, frequently carried in the bills of the parents, to the sea, which is the congenial element of this species, as they merely retire inland to the salt marshes and saline lakes for the purpose of feeding.

If we attend to the form of this bird, we cannot fail to observe the situation which it fills in the family to which it belongs: its general characters indicate it as belonging to the true Ducks, while its lengthened tarsus and elevated hind toe, together with its mode of progression on the ground, denote an affinity to the Geese; points which have led to the formation of the genus *Tadorna*, of which this and the *Anas rutila* form the only European examples.

The note of the Common Shieldrake is shrill and whistling. The fleshy tubercle on the top of the upper mandible acquires in the spring a more heightened and brilliant tinge of crimson than it possesses at the other seasons of the year. Its food consists of insects, shelled mollusca, crustacea, and marine plants.

The male and female, as in the true Geese, offer but little difference of plumage; the latter is, however, somewhat smaller in size, and her colours are more obscure. M. Temminck states that it is found in all the northern and western countries of Europe, along the borders of the sea, being abundant in Holland and France, and accidentally appearing in the rivers of Germany and other parts of the Continent.

The whole of the head and upper parts of the neck glossy black; the lower part of the neck, the shoulders, sides of the abdomen, back, tail, upper and under tail-coverts, white; the tail being tipped with black, which colour runs down the middle of the belly, and covers the greater portion of the scapulars and greater quill-feathers; a broad band of chestnut encircles the breast and upper part of the back; speculum of the wing brilliant green; beak bright orange-red; tarsi and feet flesh-colour.

The young have the forehead, fore part of the neck, and under parts, inclining to white.

The Plate represents the male three fourths of the natural size.



RUDDY SHIELDRAKE.

Tadorna rutila, *Steph.*

Anas Casarka, *Linn.*

Le Canard Kasarka.

While we follow Messrs. Stephens and Selby in placing this magnificent Duck in the genus *Tadorna*, we are not satisfied that the situation assigned to it is perfectly correct; it appears to us to constitute the type of a distinct form, of which the *Anas Tadornoïdes*, Jard., of New South Wales will form a second example. We think it approaches nearer to the true Geese than to the Shieldrakes, inasmuch as it possesses a rounder form of body, stands higher upon the legs, and has a shorter bill, better adapted for grazing or nibbling grasses and aquatic vegetables, which constitute its principal food.

As a European bird the *Tadorna rutila* may be considered as one of the rarest, and more particularly so as a British species, not more than two or three instances of its occurrence in our island being on record; one of which, as stated by Mr. Fox in his Synopsis of the Newcastle Museum, was killed at Bryanstone, near Blandford, in Dorsetshire, the seat of Mr. Portman, in the severe winter of 1776. On the Continent it inhabits Russia and other eastern districts, and is occasionally met with in Austria and Hungary. It is dispersed over a great part of Asia, and it would appear to be also an inhabitant of Africa, specimens brought from thence offering no differences from those individuals killed in Europe.

The Ruddy Shieldrake is rarely found on the sea-coast, but dwells and breeds upon the borders of large rivers, in situations similar to those selected by the common species, and lays from eight to ten white eggs.

Its food consists of grasses, aquatic plants, and insects.

The whole of the head and neck pale ochreous yellow, becoming gradually darker until it meets a collar of deep black glossed with green, which surrounds the neck; breast, back, scapulars, and the whole of the under-surface rich chestnut red; lesser and middle wing-coverts yellowish white; secondaries purple glossed with green; quills black; lower part of the back, upper tail-coverts, and tail dull black; bill, legs, and feet black.

The female is destitute of the black collar, is less brilliant in colour, and has the feathers of the back finely speckled with grey.

We have figured an adult male about two thirds of the natural size.



VIGORS DEL.
Vigors del.

Genus MARECA, *Steph.*

Gen. Char. *Bill* shorter than the head, higher than broad at the base, straight from before the nostrils, flattened and narrowing towards the tip, which is armed with a hooked nail; mandibles laminate-dentate, with the points of the laminæ of the upper mandible slightly projecting in the centre of the bill beyond the margins. *Nostrils* lateral, placed near the base of the bill, small, oval, pervious. *Wings* acuminate. *Tail* wedge-shaped, consisting of fourteen feathers, acute. *Hind toe* small, having a narrow web.

WIDGEON.

Mareca Penelope, *Selby.*

Anas Penelope, *Linn.*

Le Canard siffleur.

Of the many species of the Duck tribe which visit this country annually, though not indigenous to our islands, the Widgeon is one which is especially abundant during the autumn and winter months of the year, associating in flocks upon our meres and inland lakes, as well as the larger streams and rivers, whence, if the weather is unusually severe, so as to prevent its obtaining its favourite food, it passes to the open coasts, particularly such as are bordered by long swampy tracts of land. During the time they remain with us, multitudes are annually taken in decoys, while not a few fall a sacrifice to the gun, their flesh, which is both delicate and savoury, being highly esteemed for the table. They are also found in great abundance in the lowlands of France, Germany, and Holland, as well as in all other similar portions of the Continent.

The Widgeon may be considered as strictly a vegetable feeder; and in the manner of taking its food it differs much from the generality of ducks, in as much as it usually feeds near the edge of the water, nibbling or biting off the tender blades of grass and other herbage.

In the month of March the multitudes which have been sojourning in our southern latitudes wing their way northwards, where they pass their summer, incubate, and bring up their young. Though it is not improbable that stragglers may remain and breed in our latitudes, still it must be confessed that those retained as prisoners, under the most favourable circumstances, have scarcely, if ever, been known to breed; the usual changes of plumage which are so conspicuous in this species of duck are, nevertheless, regularly exhibited, the male losing his variegated tints towards the end of summer, and becoming very similar to the female.

The eggs are said to be eight or ten in number, and of a dull greyish green.

The figures in the Plate represent the male and female in the plumage of winter and spring, which may be thus described.

Male: Top of the head pale buff; cheeks and neck deep chestnut; the ear-coverts spotted with black; chest delicate vinous grey; the upper surface generally, and the flanks, beautiful grey minutely barred with fine zigzag lines of black; under surface and centre of the wing white; speculum green; bill and legs blueish lead colour, the former tipped with black.

The female is of a dusky reddish brown; the head and neck thickly spotted with dark brown, each feather having a lighter margin, which produces a scaly appearance; under surface white; bill blackish brown.

The figures are rather less than the natural size.

SHOVELLER DUCK.



Genus RHYNCHASPIS, *Leach.*

Gen. Char. *Beak* long, its base unarmed, semi-cylindric, the tip dilated, somewhat spoon-shaped, with a small incurved nail; the sides of the mandibles with pectinated lamellæ. *Nostrils* medial, oval, basal. *Tail* short, simple, furnished mostly with fourteen feathers.

SHOVELLER DUCK.

Rhynchaspis clypeata, *Steph.*

Anas clypeata, *Linn.*

Le Canard Souchet, ou le Rouge.

The singular spoon-shaped bill bordered with numerous delicate laminæ, which characterizes several species of this interesting family, has been considered of sufficient importance to constitute the distinctive characters of a group, to which the name of *Rhynchaspis* has been applied by Dr. Leach, and that of *Spathulea* by Dr. Fleming, while Mr. Swainson retains the title of *Anas* to this group, as from the peculiar structure of its beak, he considers the Shoveller to be the type of the true grass-feeding ducks: we have restricted the term *Anas*, however, to the group comprehending the Common Wild Duck; and having been so employed by ourselves, and the term *Spathulea* having scarcely been adopted, we prefer the generic title of *Rhynchaspis*.

This group consists of several species, which are almost universally though sparingly distributed. The range of the present species extends throughout the temperate portions of Europe, the northern regions of Africa, and nearly the whole of India: in our island it appears to be somewhat limited; doubtless a few breed annually in our marshes, and Mr. Selby informs us that he has a male in his collection killed in the month of July, at which period it undergoes that transition of plumage which assimilates it to the female, a change the utility of which has not as yet been philosophically explained. As we have observed that this change is common to the males of those species that more especially breed in marshes, among reeds, &c., and as it generally takes place at the period of incubation, may it not serve as a protection to the species by rendering the fostering parent less conspicuous at this critical period than he would be were he to retain the gay nuptial dress, which would present so strong a contrast to the sombre-tinted vegetation among which it is necessary for him to remain, until the young are able to provide for themselves?

It is said to prefer lakes and inland waters to the sea and saline marshes, a circumstance to be accounted for by the peculiar nature of its food, which consists of the larvæ of insects, and freshwater vegetables, such as grasses and chickweed: from this kind of food its flesh, as might be expected, is both delicate and tender, and in high esteem for the table.

Its mode of nidification is very like that of the Common Wild Duck, the nest being constructed among coarse herbage in the central parts of marshes, and the eggs, being from ten to twelve in number, of a pale green colour.

The sexes differ considerably in their colouring, the male being adorned in spring and summer with a rich and delicate plumage; while the female is of a more uniform and sombre tint.

The male has the head and upper part of the neck deep brown glossed with green; lower part of the neck, breast, scapulars, and sides of the rump white; back blackish brown, each feather margined with grey and tinged with green; lesser wing-coverts and outer webs of some of the scapularies greyish blue; tips of the larger coverts white forming a bar across the wing; speculum rich green; tertials rich purplish black with a streak of white down the centre; middle tail-feathers brown edged with white, outer ones entirely white; upper and under tail-coverts black tinged with green; under surface yellowish brown with zigzag lines of black upon the flanks and vent; bill blackish brown.

The female has the whole of the upper surface deep brown, each feather barred and margined with reddish white.

We have figured a male and female, rather less than the natural size.



Genus ANAS, *Linn.*

Gen. Char. *Bill* longer than the head, depressed through its whole length, broad, straight from before the nostrils to the tip, nearly equal in breadth throughout; mandibles dentato-laminate, with the laminæ of the upper mandible scarcely projecting beyond the margin. *Nostrils* lateral, oval, situated near the base of the bill. *Wings* of mean length, acuminate. *Tail* short, slightly wedge-shaped; the middle feathers curling upwards in some species. *Feet* with four toes, three before and one behind; the front ones webbed, the hind toe small and free.

COMMON WILD DUCK.

Anas Boschas, *Linn.*

Le Canard ordinaire.

The circumstances attending the domestication of the Duck, like that of many other reclaimed animals, are buried in obscurity; and it is impossible to decide whether the attention of man was directed to it in consequence of the superiority of its flesh as an article of food, or whether of all the Duck tribe he found it most naturally inclined to submit to the arts of domestication. It is almost unnecessary for us to state that the present well-known species is the origin of our many domestic varieties.

The range of the Common Wild Duck extends over the whole of the temperate portion of the globe; and although we believe it is scarcely ever found in a wild state south of the equator, its extreme limits approach within a few degrees of the meridian. It is dispersed throughout this vast extent of country, and everywhere shows the same instinct, and the same disposition to become domestic and familiar. In our own island and the adjacent parts of the Continent, numbers remain to breed wherever they can find congenial situations; these numbers are greatly augmented in spring and autumn by an influx of visitors on their journey from north to south and back again. Great quantities proceed to the northern regions, where they continue in greater safety among the vast morasses of those countries. From the nature of its food, which consists almost exclusively of vegetables, its flesh furnishes a wholesome and nutritious diet, and is peculiarly tender and well flavoured. In the districts around its breeding-haunts, the young, before their primaries are fully grown, are known by the name of flappers, and from the richness of their flesh are in great requisition. So much has already been written respecting the wholesale mode of capturing the Wild Duck in decoys in the counties of Lincolnshire and Cambridgeshire, that it would be superfluous to say anything more on the subject.

In this country the Common Wild Duck commences breeding early in spring, pairing in the months of February and March, and selecting a secluded spot near the water's edge, where the female deposits her bluish white eggs and rears her progeny. After the young are able to shift for themselves, the parents separate from them and congregate in distinct flocks, and it is asserted that the sexes form separate bands. The young males do not attain their full plumage until the following spring.

The colouring of the adult male, or mallard, is peculiarly elegant.

The whole of the head and half the neck are of a deep metallic green; the middle of the neck is encircled by a ring of white; the chest is very deep chestnut; the centre of the back is brown, each feather having a lighter margin; the scapularies and flanks are greyish white, beautifully barred with fine zigzag pencillings of black; shoulders greyish brown; speculum rich changeable purplish green passing into velvety black, bounded both before and behind by bands of white; quills dark brown; rump and upper tail-coverts greenish black, the two longest or middle tail-feathers curling upwards, tail-feathers greyish white; under tail-coverts greyish black; bill olive yellow; legs orange.

The general plumage of the female is tawny brown, numerously marked about the head and neck with dusky spots; the feathers of the back, sides, and under surface having their centres of a deeper tint; the speculum of the wing resembles that of the male but occupies a smaller space.

The Plate represents a male and female rather less than the natural size.

RAINES



Genus **QUERQUEDULA**, *Ray*.

Gen. Char. *Bill* as long as the head, elevated at the base, straight, semicylindrical, nearly of equal breadth throughout; tip obtuse, with the dertrum, or nail, small and hooked; mandibles laminated, and having the laminæ almost entirely concealed by the deflected margins of the upper mandible; *nasal fosse* small, lateral, near to the culmen of the bill. *Nostrils* oval, pervious. *Wings* acute, with the first and second quills of nearly equal length. *Tail* wedge-shaped, with the two middle feathers more or less elongated, and acute. *Legs* having the tarsus rather shorter than the middle toe. *Feet* with four toes, three before and one behind; the front ones webbed; the hind toe small and free.

COMMON TEAL.

Anas Crecca, *Linn.*

Querquedula Crecca, *Steph.*

La Petite Sarcelle.

This elegant little Duck, one of the smallest of the *Anatidæ*, is widely distributed over the Old World. It is abundant on the range of the Himalaya, whence we have received many examples, the collections brought home by Colonel Sykes and Major Franklin, the former from the western ghauts of India, and the latter from the plains intermediate between Calcutta and the Nepaul hills, affording us examples which, on comparison, are found to be strictly identical with our European birds, as are also specimens from Africa. M. Temminck names Northern America as among its native localities; but from this opinion we are inclined to dissent, for the American examples may always be distinguished by a white crescent-shaped band on each side of the chest near the shoulders. This, together with the absence of the white tertial feather, will, we think, constitute fair grounds for a genuine specific distinction.

In the British Islands, though it breeds in the northern districts, its numbers are greatly augmented in winter by visiters from the high latitudes of the Continent, which spread themselves over the marshy parts of the country and freshwater lakes. At this season, numbers are taken in decoys and by other methods for the table, their flesh being highly prized.

Mr. Selby, who has had many opportunities of investigating the habits of the Teal in a state of nature, observes, that our indigenous broods "seldom quit the immediate neighbourhood of the places in which they were bred, as I have repeatedly observed them to haunt the same district from the time of their hatching till they separated, and paired on the approach of the following spring. The Teal breeds in the long rushy herbage, about the edges of lakes, or in the boggy parts of the upland moors. Its nest is formed of a large mass of decayed vegetable matter, with a lining of down and feathers, upon which the eggs rest:" they are eight or ten in number, and of a yellowish white. The young are at first covered with a dark-coloured down, which gradually gives way to a plumage differing little from that which is permanent in the adult female.

The plumage of the adult male, which is very beautiful, is as follows:

The top of the head, cheeks, and neck, of a deep chestnut; the throat black; from behind the eyes to the back of the neck passes a broad band of fine glossy green, margined by a pale yellowish border, into which the chestnut of the head and cheeks somewhat abruptly merges; the back, scapularies, and flanks rayed alternately with irregular zigzag bars of black and white; breast and under surface yellowish white, the former ornamented with round spots of black; wing-coverts brown; speculum glossy green, deepening at the sides into velvet black; quills brownish black; under tail-coverts buff, with a longitudinal band of black; bill black; irides brown; legs blackish brown. During the months of July and August, the male loses his finely contrasted plumage, and assumes that of the female, from which at this time he is not easily distinguished.

The female differs considerably, having the top of the head Sienna yellow, with dashes of deep brown; throat and cheeks dusky white spotted with brown; upper parts dull brown, each feather having a lighter border; under parts yellowish white; speculum green.

We have figured a male and female in the adult colouring, rather less than the natural size.



BIMACULATED TEAL.

Anas glocitans, (Pall.)

Querquedula glocitans. (Vigors)

BIMACULATED TEAL.

Anas glocitans, *Linn.*

Querquedula glocitans, *Vigors.*

The Bimaculated Teal is so named from the two large spots of brown on the face and neck: we believe, however, that these brown markings vary in the depth of their colour at different seasons; at least we find such to be the case in an allied species from China, *Querquedula formosa*, of which examples are now living in the Gardens of the Zoological Society, and which possess marks of a similar character; these at opposite seasons are of a very different colour, changing from rich brown to light tawny grey. We are not aware of the existence of male and female examples of this very rare species in any collection, either public or private, except those in the Museum of the Zoological Society of London, to which they were presented with the rest of his fine collection by N. A. Vigors, Esq. These were taken in a decoy in the year 1812; and it is also recorded that a male was taken in a similar manner in 1771, as described by Pennant in his British Zoology. So rare does this Teal appear to be on the continent of Europe that we do not find it even alluded to by any writer except Pallas, who describes it as a native of the high northern regions of Siberia. In point of affinity this bird possesses every characteristic feature of the true Teals, of which limited group it is the largest species that has come under our notice.

With regard to its habits, manners, and food, they are in all probability the same as in the other species of the genus. No account of them has yet been published; nor, indeed, is it to be expected that we shall easily acquire much information respecting the inhabitants of a portion of the globe so remote, and with which we have so little intercourse.

Crown of the head deep chestnut brown; sides of the head and neck rich green interrupted by two large blotches of brown, one situated near the base of the beak, the other on the side of the neck; chest rich chestnut regularly dotted with oval spots of black; the whole of the back and flanks light tawny grey, thickly pencilled with regular zigzag lines of black; shoulders greyish brown; quills blackish brown; speculum changeable green and blue, edged anteriorly with a narrow line of tawny yellow and posteriorly with a line of white; a row of coverts, which are internally edged with tawny yellow and externally with black, hang over the wing; rump and upper and under tail-coverts greenish black; two middle tail-feathers black, the rest pale brown, margined with white; a mark of buff separates the green under tail-coverts from the lower part of the belly, which is greyish white; bill olive brown, more yellow at the base; feet dark olive brown.

The female has the head and neck pale buff minutely spotted with small markings of black; the upper surface blackish brown, each feather having a margin of tawny brown; chest reddish brown, each feather being darker in the centre; shoulders of the wing as in the male; speculum green above with purple reflections passing into black, and edged with white; quills and tail brown; the feathers of the latter edged with tawny white; under surface greyish white; legs more inclined to orange.

The Plate represents a male and female of the natural size.

GARGANY TEAL.



GARGANY TEAL.

Anas Querquedula, *Linn.*

Querquedula circia, *Steph.*

Le Canard sarcelle d'été.

The feathers pendent from the back of this little Duck, together with its chaste and sober plumage, render it one of the most interesting and graceful species of its family. In point of affinity it has many characters in common with the genuine Teal, with which genus it has been by previous authors associated. It must be allowed, however, that it possesses some features in the style and markings of its plumage which are not in strict unison with the birds of that genus: this circumstance, and a slight deviation in the form of the bill, will in all probability hereafter lead to a further subdivision of the genus; in which case the Gargany, the Blue-winged Teal of America, and others, will form a minor group by themselves.

The range of the Gargany over the Old World is very considerable, being dispersed over the whole of Asia and Northern Africa, appearing to give preference to mountain districts, where it enjoys a temperature very similar to that of Europe, in every part of which it is abundantly distributed. It migrates annually to the British Islands during the months of April and May, and takes up its abode on our meres and large sheets of water, whence numbers are sent during the season to the London market, where they are esteemed as a great acquisition to the table, at a period when the Common Teal and most other edible species have retired to distant regions to breed. It is even questionable whether the Gargany that visits us at this period is not on its migratory route to more remote northern countries, such as Lapland, Russia, &c., where it may perform the task of incubation unmolested and in safety: we are strengthened in this opinion by the circumstance of their never being seen here during the autumn and winter; and even those individuals which visit us in the spring are extremely local in their habitat. Mr. Selby informs us that no instance is known of its occurring in the northern counties at any time.

Its food is strictly similar to that of the Teal and other ducks which are destitute of the power of diving, and consists of the tops and shoots of various aquatic plants, to which are added shelled snails, water insects, and their larvæ.

The nest is placed among herbage near the water; and the eggs, which are white, are from eight to ten in number.

The sexes, when adult, present a contrasted difference in their plumage. The young males during the first year, and the adult males during winter, are so like the female as to require an experienced eye to detect the difference.

The adult male in spring has the top of the head and back of the neck dark brown, a broad stripe of white extending over each eye; the cheeks and sides of the neck chestnut brown finely dotted with white; the lower part of the neck and chest light buff, each feather being marked with horseshoe-shaped lines of brown; the feathers of the back olive brown with lighter edges; the scapularies long, flowing, and of a green colour with a conspicuous stripe of white down the centre of each feather; the secondaries and shoulders light grey; the speculum green; the rump and tail brown, the former being spotted with darker brown; the belly white; the flanks transversely rayed with black and grey; and the feet and legs ash grey; bill blackish; irides brown.

The female has the top of the head, the back part of the neck, and the upper surface brown, the feathers having lighter edges; the throat white; the chest brown; the feathers edged with yellowish white; breast and under surface white tinged with buff; bill and feet blackish brown.

The Plate represents an adult male and female of the natural size.

PINTAIL DUCK.

Anas acuta; *Linn.*

Dafila caudacuta; *Leach.*



PINTAIL DUCK.
Anas acuta, Linn.
Dafila caudacuta, Leach.

Genus **DAFILA**, *Leach.*

Gen. Char. *Beak* medial, its base unarmed, subcylindric, linear, its tip furnished with a very small hook: the *mandibles* with their edges lancinate, dentated. *Nostrils* basal, suboval. *Tail* elongated, acute, furnished with sixteen feathers.

PINTAIL DUCK.

Anas acuta, *Linn.*

Dafila caudacuta, *Leach.*

Canard à longue queue.

We have thought it best to give the genus and generic characters as established by Dr. Leach, leaving it to our readers to adopt it or not at their pleasure. The present bird will form the only known species belonging to it. If we except the Mallard, *Anas boschas*, Linn., the Pintail has a more extensive range than any other of its tribe. In Europe it is very generally distributed, as also in the northern portion of Africa, the whole of the Asiatic continent, and the northern and temperate regions of North America. On comparing specimens from all these different quarters of the globe, we can trace no distinguishing difference among them. It is one of the most graceful examples of its race; although its colours are by no means remarkable for brilliancy or powerful contrast, yet its delicately penciled zigzag markings more than counterbalance its quiet and sober hues. Its form indicates it to be one of the true vegetable feeding ducks; hence its flesh is peculiarly delicate and palatable. Although we state this bird to be a vegetable feeder generally, we believe, notwithstanding, that all the species of the Duck tribe subsist more or less on aquatic insects and molluscous animals. Its flight is rapid and vigorous, and its disposition in a state of nature is extremely wary and suspicious; it is almost solely in the decoys of Lincolnshire, Cambridgeshire and Norfolk, that it is obtained in such abundance for the London market. It is said not to breed in the British Isles, and our own experience does not enable us to decide the point. It breeds nevertheless in considerable abundance in Holland, France and Germany, choosing morasses and vast reed beds for the site of its nest, which is placed on the ground concealed among the flags and luxuriant herbage near the water. The eggs are eight in number, of a greenish blue.

The male and female of this interesting species offer very considerable difference in their plumage. The male is characterized by the top of the head being variegated with black and brown; the throat, cheeks, and upper part of the neck being brown with purple and violet reflections, a black band extending over the back of the neck, bordered on each side white; the front of the neck and under parts of a pure white; the back and sides barred with delicate zigzag lines of black and grey; the speculum purple green, bordered above with rufous, and below with white; the scapulars long and pointed, overhanging the quill-feathers, mostly of a deep velvet black with light grey edges; the two middle tail-feathers of a greenish black, considerably elongated and tapering; the beak blackish blue; irides light brown; feet dull reddish.

The female is known by her smaller size, and by the head and neck being of a light rufous dotted with small spots of black; all the upper parts blackish brown, marked with regular crescent-shaped spots of reddish yellow; the lower parts reddish yellow, spotted with light brown; speculum reddish brown, bordered above with yellowish, below with white; tail conical.

In the months of August and September the males resemble the females in the colour of the plumage.

We have figured a male and female two thirds of the natural size.

GADWALL.

Anas strepera, Linn.



Genus CHAULIODES.

Gen. Char. *Bill* as short as the head, depressed throughout its length, as broad as high at the base, rather narrowing towards the tip, which has a small *dertrum* or *nail*; both mandibles laminated, the laminæ of the upper one projecting beyond the margins of the bill. *Nostrils* lateral, near the base of the bill, oval and pervious. *Wings* long and acuminate. *Tail* wedge-shaped. *Feet* with four toes, three before and one behind; the hind toe small and free.

GADWALL.

Anas strepera, *Linn.*

Chauliodes strepera, *Swains.*

Le Canard chipeau.

Though the colours of this elegant Duck are more sober than those of most of the family, it yields to none in the tasteful disposition of its markings, and to few in the excellence of its flesh for the table. The European species to which it is nearest allied is the Common Widgeon (*Anas Penelope*), and we can scarcely see the necessity of creating a new genus for its reception from which the Widgeon is excluded: we have, however, given Mr. Swainson's generic characters, leaving it to the option of our readers whether to accept or reject them.

Although the Gadwall does not visit us in great numbers, it is tolerably common during the months of spring. The low marshes and fenny districts, Holland, and the whole of the northern portions of Europe, are the situations in which it most abounds. In its habits and manners it closely resembles the Widgeon, with which it is often seen associated. We have received specimens from the Himalayan mountains which are identical with our European species.

The deficiency of brilliant colours in the male renders him but little more ornamented in his plumage than the female, the external difference between them being less than is usually met with; but the bird of the first year presents a considerable difference, as our Plate illustrates.

Like the common Wild Duck, this bird breeds in reed beds and similar places, laying eight or nine eggs, of a pale green.

The adult male has the head and the upper part of the neck dull brown, thickly marked with dirty white; the back, scapulars and sides ornamented with narrow zigzag lines of black and white; the middle wing-coverts chestnut, with a dash of brown in the centre; the rump and under tail-coverts blueish black; the shoulders chestnut, succeeded by blueish black, and a white speculum; the feathers of the chest scale-like, having a dusky black centre, with crescent-shaped edges; the abdomen white; the beak black, and the tarsi orange.

The young bird of the year is of a uniform rusty brown above, each feather having a central mark of dusky black, the under surface being white.

We have figured an adult male, and a bird of the first year, three fourths of the natural size.



RED-HEADED POCHARD.

Fuligula ferina, *Steph.*

Le Canard Milouin.

This fine species may be said to represent in Europe the Canvas-backed Duck of America, so famed for its rich and juicy flesh; and although the flesh of the Pochard is superior to that of all the other European diving ducks, still it must, we are told, yield the palm in this respect to its Western ally.

The Red-headed Pochard is an article of considerable traffic in the London markets, where it is known by the name of the Dunbird. So vast is the quantity taken during the year, that, were our information not received from an undoubted source, we should have hesitated in stating the amount; but we are positively assured that no less than fourteen thousand four hundred have been captured in one decoy, the sale of which produced twelve hundred pounds.

Although this species is frequently taken in the usual decoys, still, we are informed by Montagu, the method commonly practised was something similar to that of taking woodcocks. Poles were erected at the avenues to the decoy, and after a great number of these birds had collected on the pool, a net was erected by pulleys to the poles, beneath which a deep pit had previously been dug; and as these birds, like the woodcocks, go to feed just as it is dark, and are said always to rise against the wind, a whole flock has been taken together in this manner; for when once they strike against the net, they never attempt to return, but flutter down till they are received into the pit, from whence they cannot rise.

The Red-headed Pochard is very widely dispersed, being common over the whole of Europe, Asia, and a portion of Africa. It is said to breed in the marshes, and to lay about twelve white eggs. Its food consists of aquatic vegetables, mollusca and other animals, obtained by diving to the bottom, which it does with a facility only equalled by its vigorous flight. Being entirely aquatic in its habits, it not unfrequently takes up its abode on the open sea, where it obtains a plentiful supply of bivalves and other shells, of which it appears fond, but which kind of food generally gives a fishy and unpleasant flavour to its flesh.

The male has the head and neck chestnut brown; the breast and rump black; the back, scapulars, wing-coverts, thighs, and flanks greyish white, beautifully pencilled with zigzag lines of black; the quills and tail grey; the bill blackish grey with the tip and base black; and the tarsi and toes bluish grey.

The female has the head and neck of a dark reddish brown; the under surface dusky white; and the back like that of the male, except that the whole of the black markings are darker and more obscure.

The Plate represents a male and female rather less than the natural size.



WHITE-EYED OR CASTANEOUS DUCK.

Anas leucopthalmos, *(Bechst)*
Fuligula _____, *(Steph.)*

WHITE-EYED OR CASTANEOUS DUCK.

Anas leucophthalmos, *Bechst.*

Fuligula leucophthalmos, *Steph.*

Le Canard à iris blanc.

This interesting little Duck has been several times killed in England: its occurrence, however, in the British Isles, which is generally during winter, must be considered accidental rather than as that of a regular visitor. It is more abundant in France, Holland and Germany, in the latter of which countries it appears to be a periodical bird of passage. We have received it in abundance from India, especially from the elevated range of the Himalaya, and it appears from the accounts of Buffon and Sonnini to be equally common in the North of Africa.

It is much less in size than the Pochard, to which it bears a close affinity. It is the Ferruginous Duck of Pennant and Montagu, but not of Bewick, his figure and description applying to the *Anas rutila*. Its habits and manners are strictly analogous to those of the Pochard, being an expert diver and living upon aquatic insects, water-plants, small shell-fish, &c. Like most of the pointed-winged Ducks, its power of flight is very considerable.

M. Temminck informs us that it constructs its nest among reeds by the sides of large rivers and morasses; that the eggs are eight or ten in number, of a white colour tinged with greenish.

The sexual diversity of plumage is not so considerable in this species as in many others of the Duck tribe.

The male has the head, neck, breast and sides of a rich bright reddish chestnut; a slight collar of deep brown encircles the neck; beneath the lower mandible there is a small triangular spot of pure white; the back and wings are of a blackish brown with purple reflections, covered with small reddish dots; speculum white, banded with a line of black; under parts pure white; beak blueish black; irides clear pearl white; tarsi blueish ash colour; webs black.

The female has the head, neck, breast and sides of a dull brown, inclining to chestnut; the under parts of an obscure brown, each feather having a light brown termination; and is destitute of the dark brown collar round the neck.

The young of the year have the top of the head blackish brown, all the feathers of the upper parts edged with reddish brown, and the white of the under part clouded with a lighter tinge of the same colour.

The trachea of the male is very narrow at the top, and also just before its termination in the inferior larynx, but of double the diameter at the middle: the inferior larynx is formed of an osseous wall on the right side, and on the left presents a series of bony ramifications supporting an external membrane.

We have figured a male and female two thirds of their natural size.

J. E. Gould.

RED-CRESTED DUCK.

Anas rufina, *Pall.*

Fuligula rufina, *Steph.*

Le Canard siffleur huppé.

The very fine Duck which we have illustrated in the accompanying Plate is as yet but little known as having claim to a place in the Fauna of Great Britain; but the frequent occurrence of both sexes in various parts of the British Islands sufficiently establishes it as a native species, or at least as much so as many others that occasionally migrate to this country.

English examples of this beautiful species form a part of the collections of the Hon. W. T. T. Fiennes and Mr. Yarrell. The former gentleman possesses a fine female, killed out of a flock of eighteen, on the Thames, near his own estate at Erith in Kent, and to whose kindness we are indebted for the loan of the specimen from which our figure was taken.

The *Anas rufina* is confined to the old continent, where its range is very extensive, as is proved by our having received it in collections from the Himalaya mountains, and observed it in the collection of Col. Sykes from the Dukhun, in which localities it is a bird of no rarity; and it also occurs nearly as plentifully in the eastern portions of Europe, particularly throughout Hungary, Austria, and Turkey. M. Temminck states that it is a periodical visitor to the shores of the Caspian Sea, but at the same time observes that it never visits the open ocean: from these countries it is more or less distributed throughout the whole of the central portions of Europe. Little is known of the habits of this very interesting species: its form, however, shows it to belong to the true diving Ducks; hence we may reasonably conclude that its food consists principally of small shell fish and molluscous animals, with vegetables and the fry of fishes.

An attentive examination of this bird will lead, we think, to the conviction, that it offers many points of affinity to the species of the genus *Mergus*. We need only instance the narrow and compressed form of the bill towards its extremity, with deeply serrated edges, the disposition of some of its markings, and the silky texture of the feathers of the head, in corroboration of this fact. The trachea of the male, also, according to M. Temminck's description, is not unlike that of the *Mergus merganser*, being large immediately below the upper larynx, becoming suddenly very narrow, and then a second enlargement of the tube, terminating in very narrow rings. The inferior larynx is formed of two dilatations: that on the left, which is the largest and most elevated, is formed of osseous ramifications covered by a fine membrane.

The male has the head ornamented with a crest of silky feathers, which, with the rest of the head and the front of the upper part of the neck, is of a delicate chestnut tinged with vinous; the back and lower part of the neck, the chest, and under surface, are brownish black; the back is pale cinereous brown, with a large spot of white above the origin of each wing; the shoulders, the speculum, the base of the quills, and the flanks, are white; the rump and upper tail-coverts black with green reflections; beak red; nail white; tarsi and toes red with black interdigital membranes.

The female wants the fine crest of the male; the top of the head and occiput are dark brown; cheeks, throat, and sides of the neck, cinereous; the whole of the upper surface cinereous brown, with the exception of the shoulders, which are white, and the operculum, which is dull white terminating in brown; breast and flanks yellowish brown; under surface cinereous; beak, tarsi and toes, reddish brown.

We have figured a male and female three fourths of the natural size.





TUFTED DUCK.

Anas cristata, *Ray.*

Fuligula cristata, *Steph.*

Le Canard Morillon.

This elegant little Duck is one of the regular winter visitors of our island, where it arrives in autumn and distributes itself very generally over lakes, meres, large ponds, arnlets of the sea, and similar situations, in which temporary residences it is most frequently seen in pairs, repeatedly diving in search of food, which is obtained exclusively at the bottom of the water, and consists, for the most part, of various freshwater shell-fish, crustacea, worms, and mollusca; to this food it occasionally adds aquatic vegetables. Although generally observed inland in pairs, it is not unfrequently to be seen in considerable flocks enlivening the shores of the sea, particularly those of a rocky nature. In the power of diving, the Tufted Duck possesses the same facility as the rest of the Lobefooted section to which it belongs, being extremely quick in all its motions, and on this account difficult to be shot. On the approach of spring it retires northward to breed, and like many of its congeners makes the morasses and the unfrequented regions of the arctic circle an asylum in which to rear its young. The range of its migrations southward is very considerable: we ourselves have received it from the southern portions of Europe, and also from those parts of the Mediterranean which are near the Asiatic confines; we have also seen it from the Black Sea, and from every intermediate country as far as the high northern latitudes. It abounds in many parts of Northern India, especially the high lands. The collection from the Himalaya mountains which afforded the materials for our 'Century of Birds,' contained several specimens. Although its stout and rounded figure does not contribute much to its elegance, its plainness is relieved by the graceful pendent crest which flows from the head and occiput.

The Tufted Duck is brought to the London market in considerable numbers during the winter; and although often seen at table, its flesh is not, we believe, of the most delicate quality.

The sexes may be distinguished by the lesser comparative brilliancy of the colours of the female, and by her having the rudiments only of the flowing crest, the colour of which, as well as of the breast, is brown, with faint traces of the violet gloss so conspicuous in the male, whose plumage may be thus described:

The top of the head and the long pendent silky crest rich violet black; neck and chest greenish black; upper part of the plumage glossy brownish black, with very minute grey specks scattered over the scapularies; speculum of the wings and under surface white; bill lead colour; nail black; legs and toes brownish black.

The young of the year are devoid of the pendent crest; the whole of the plumage is of a more obscure tint; and the feathers of the upper surface are edged with brown.

The plate represents a male and female rather less than the natural size.

SCAUP POCHARD.

Fuligula marila, Stephs
Anas marila, Linnæus



SCAUP POCHARD.

Fuligula marila, *Steph.*

Anas marila, *Linn.*

Le Canard Milouinan.

The native residence of the Scaup Duck during the summer season is within the regions of the Arctic circle: it is in these high latitudes that it breeds and rears its young. On the approach of winter it is driven southward, and appears in vast flocks in many parts of the European shores, and especially on those of Great Britain, Holland, France, &c. In its habits it appears to be essentially marine, consequently it is seldom seen even on the larger of our inland lakes, but our bays and the mouths of rivers are frequented by it during the winter in considerable abundance: from these its temperate places of refuge it retires early in spring to the latitudes from whence it came; in fact, so universally is this the case that we do not know of a single instance of its breeding in our island. We are not acquainted with the details of its nidification, but in this respect it doubtless agrees with the diving ducks in general.

Its food principally consists of univalves, bivalves, mollusca, marine plants, &c., which it obtains by diving, a power it possesses in a very great degree.

As an article of food the Scaup Duck is inferior to most of the genus to which it is assigned; still it is not unfrequently sold for the purposes of the table.

"It makes a hoarse noise, and has a singular habit of tossing its head and opening the bill, which is more particularly observable in spring, while it is swimming and sporting about on the water."

The sexes differ so much in plumage that the female has been described as a distinct species, under the name of *Anas frœnata*.

The male has the head and upper part of the neck black, with reflections of rich glossy green; lower part of the neck, breast, and rump deep black; mantle and scapulars greyish white with distant zigzag fine lines of black; lesser wing-coverts black with transverse zigzag lines of white; secondaries white with black tips, which form a bar across the wings; under surface white, the belly rayed with lines of blackish grey; bill greyish blue with the nail black; irides light yellow; legs and toes bluish grey, the joints and webs darker.

The female has a broad band of white round the base of the bill; the remainder of the head and upper part of the neck deep brown glossed with green, lower part of the neck and breast having the basal part of the feathers brown, the tips of the former deeply margined with yellowish brown, and those of the breast with white; under surface white; flanks brown, marbled with zigzag lines of white and darker brown; mantle and scapulars brownish black finely mottled with white; tertials black, tinged with green; quills and tail glossy blackish brown; bill deep grey; nails black.

The young males resemble the old female till after the first moult. The colours of the young females are less distinct, and the black and white lines on the back are scarcely perceptible.

We have figured a male and female rather less than the natural size.



WESTERN DUCK.

Fuligula Dispar, *Steph.*

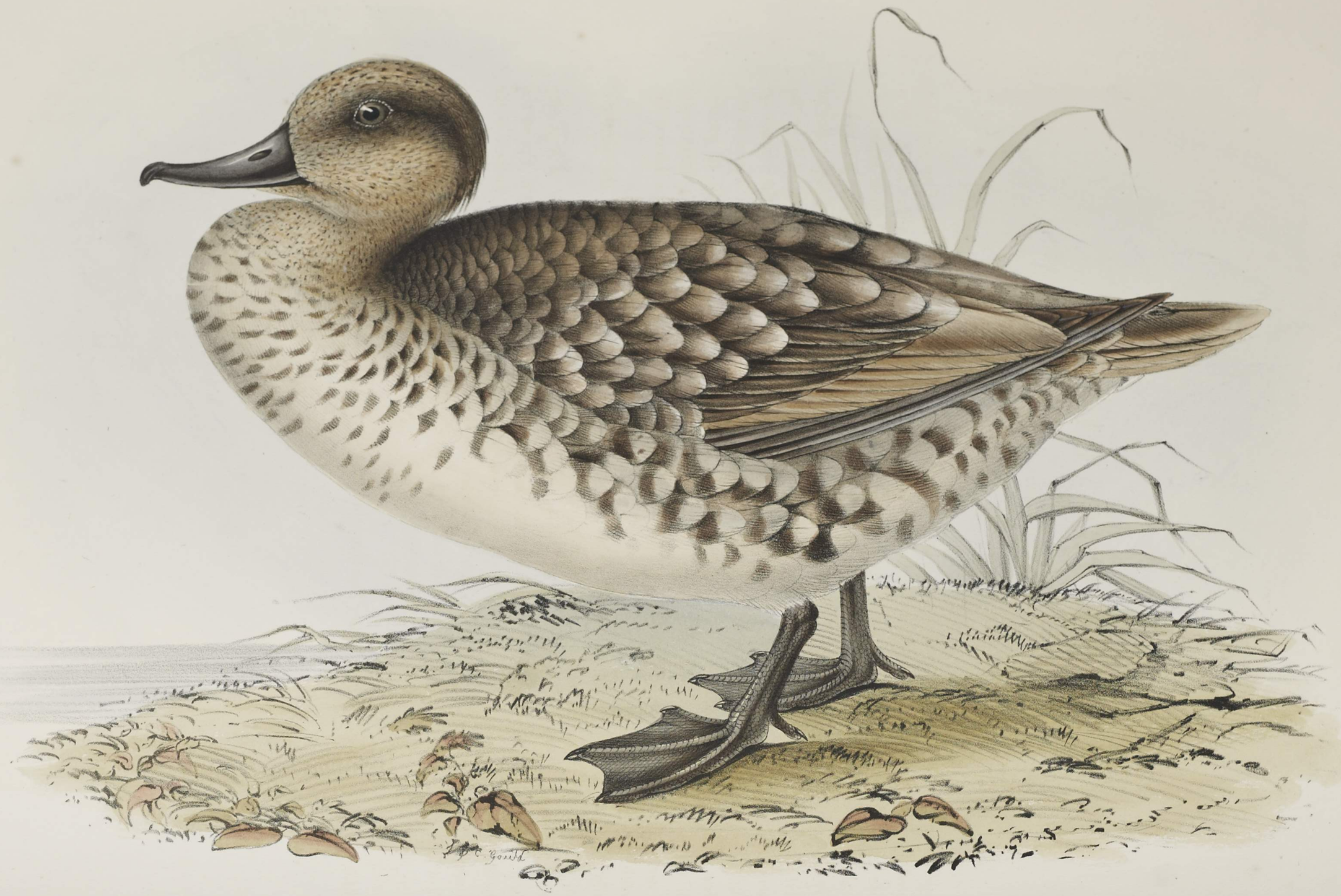
From the circumstance of an example of this very rare Duck having been obtained in February 1830 at Caisted near Yarmouth in Norfolk, about which period another specimen was also killed in Denmark, we have much pleasure in figuring it as an interesting addition to our native fauna. The drawing from which our figure of the first-mentioned specimen (now in the Norwich Museum) is taken, was presented by Joseph Clarke, Esq., to the Saffron Walden Natural History Society, in whose Museum it is deposited, and to whom we are indebted for the loan of the drawing.

The above is the only instance of its capture in Great Britain, and it appears to be equally rare on the Continent. It is a native of Northern Asia, Siberia, Kamtschatka, and the north-western coasts of America: it is said to breed in high and precipitous rocks, and to fly in extensive flocks.

We have followed Mr. Selby and others in placing it provisionally in the genus *Fuligula*; for like that gentleman, not having seen the bird itself, we are unable to decide upon its true station among the *Anatidæ*; but from its general contour, the disposition of its colouring, and the curved form of the tertials, we should conceive that it more properly belongs to the genus *Somateria*.

Space between the bill and the eye green, and on the back of the head a patch of the same colour, forming a short crest; throat and an irregular spot behind the eye black; the remainder of the head and neck white; throat surrounded by a band of black glossed with green; back, rump, vent, and under tail-coverts black; primaries and tail brownish black; lower part of the neck, part of the scapulars, and lesser wing-coverts white; breast and all the under surface rufous, becoming darker as it approaches the vent; tertials long and curved; the shaft and the narrow inner web white; the outer web broad and deep bluish black; irides pale brown; bill and legs blackish grey.

Our figure is of the natural size.



MARBLED DUCK.

Anas (Fuligula?) marmorata; *(Temm.)*

Drawn from Nature & on Stone by Jn. E. Gould.

Printed by C. Hullmandel.

MARBLED DUCK.
Anas (Fuligula?) marmorata, Temm.

MARBLED DUCK.

Anas (Fuligula) marmorata, *Temm.*

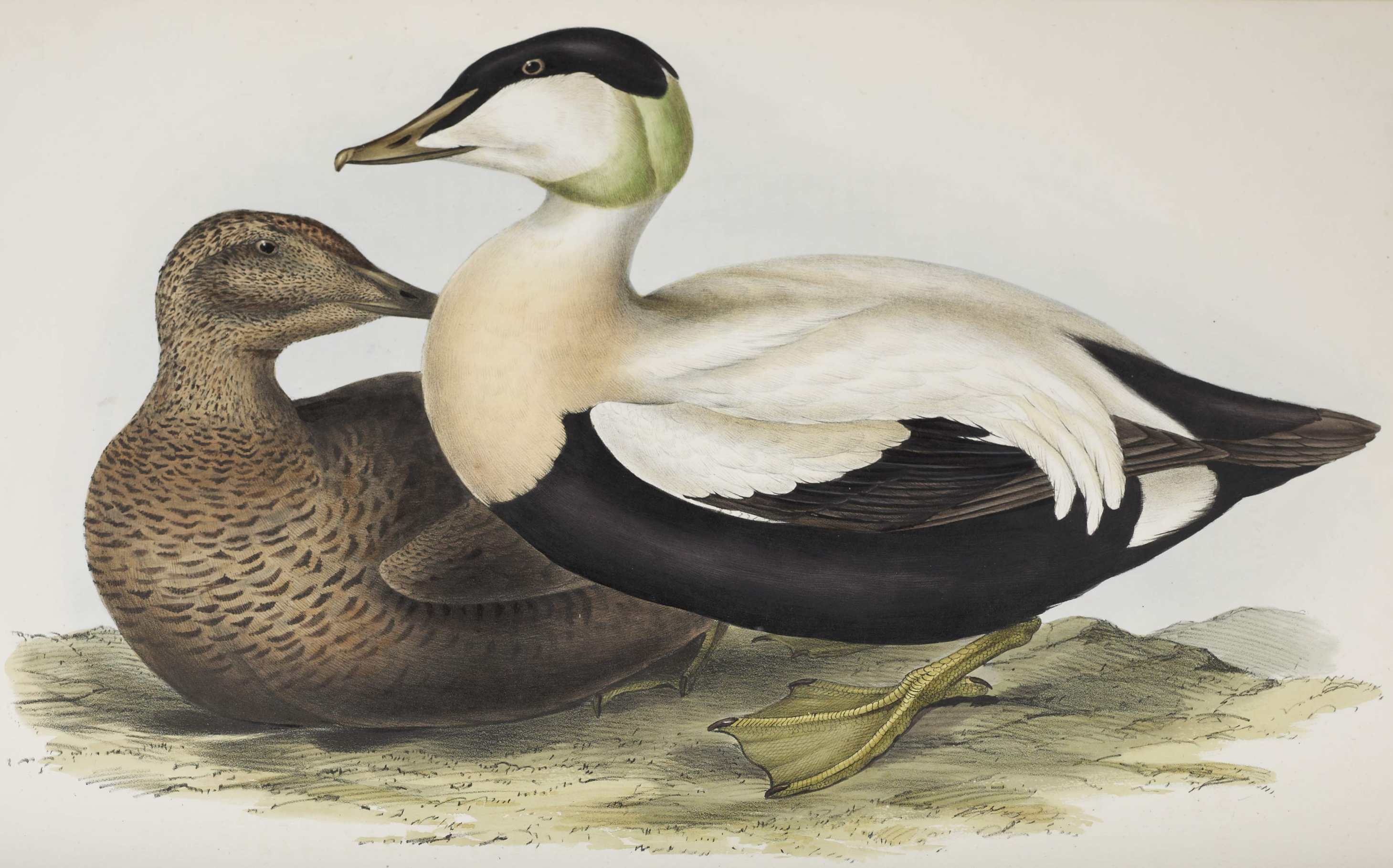
Le Canard marbré.

For the specimen of this bird from which the accompanying figure was taken we are indebted to the kind friendship of M. Temminck of Leyden, whose valuable works on Natural History are duly appreciated. We cannot pass over this opportunity of acknowledging the great liberality of this justly celebrated naturalist, who has taken so much interest in the present work that he has promoted it by every means in his power, not only by his individual patronage, but by confiding to us for our illustration many rare species peculiar to remote districts of Europe, among which is the present species. Of its habits and manners we have no detailed account. M. Temminck, however, assured us that the sexes offer no difference in the colours of the plumage, a circumstance which we should not have expected, judging from the affinity it bears to the *Anas rufina*, which, although at present comprehended in the genus *Fuligula*, may be said to possess characters which claim for it a distinct generic station. Such genera, however, are of a subordinate character and value, and although of real utility to the professed ornithologist, are less likely to interest the general reader.

The only information we can communicate respecting the present bird is, that it inhabits the southern districts of Europe, particularly Sardinia and the Asiatic borders.

The crown of the head, back of the neck, the whole of the upper surface, flanks, and tail, of dull ashy brown, each feather being tipped with dirty white; outer webs of the quill-feathers greyish brown, tips of the inner webs the same colour as the upper surface; secondaries pale brown; cheeks and throat marked in the same manner as the upper surface, but much lighter; breast and the whole of the under surface dirty white, each feather being barred near its extremity with dull ashy brown, which, together with the white tips of the feathers on the upper surface, gives it somewhat the appearance of marble, whence its name; bill and feet dark brown.

The Plate represents an adult bird rather less than the natural size.



EIDER DUCK.

Anas mollifsima, *(Linn.)*
Somateria mollifsima, *(Leach.)*

Genus SOMATERIA, *Leach.*

Gen. Char. *Beak* swollen at the base, elevated, extending up the forehead, and divided by a triangular projection of feathers; towards the tip narrow and blunt. *Nostrils* small, placed in the middle of the beak.

EIDER DUCK.

Anas mollissima, *Linn.*

Somateria mollissima, *Leach.*

Le Canard Eider.

The Eider Duck in its wild state is one of those birds which confer important services upon the human race. Its soft and exquisite down is an extensive article of commerce; and so great is the demand for it, that the inhabitants of the northern islands of Great Britain, together with those of Lapland, Iceland and Greenland, use every means to encourage the Eider to breed on their shores, in order that they may obtain from its nest this valuable material. It is scarcely ever found to incubate on the main land, but chooses the small islands scattered along the coast; and of this disposition the inhabitants take advantage by insulating small portions of ground, which enables these birds to perform their work unmolested by cattle, dogs, foxes or other wild animals, which appear to cause them great annoyance. The female is very assiduous in her work of nidification. The nest is placed on the ground, and constructed of soft down which she plucks from her own breast and under surface. This light and elastic material is so ingeniously disposed as to form an elevated rim round her body while sitting, and to fall over the eggs the moment she leaves the nest; nor is the quantity of the material less remarkable. So absorbed are the birds in this important duty, that they appear to lose all sense of danger, and may sometimes be approached and even taken off the eggs without attempting to escape. As soon as the nest is constructed, the plunder of the down commences. The first portion is taken away, and a fresh quantity is again afforded by the female bird, and again taken, till she is unable to furnish a further supply, when, as it is asserted, the male makes up the deficiency.

The task of incubation appears to devolve principally upon the female, the male being seldom seen near the nest by day; and so well does her sober colour harmonize with that of the surrounding earth, that she is a much less conspicuous object than the male would be, adorned as he is with a light and showy plumage; nevertheless as evening approaches he may be seen returning from the sea to his mate, whom it is not improbable he relieves during some portion of the night. The eggs are five in number, of a uniform olive-green. As soon as the young are hatched, they are taken by the parents to the sea, in which they find at once both food and security.

The Eider Duck is generally dispersed along the northern shores of Europe, and in the same latitudes of America, being more abundant within the arctic circle; they are often seen, associated in numerous flocks, diving in search of their food, which consists of shell-fish (particularly the common mussel), crustacea, insects, the ova of fishes, and marine vegetables.

It does not appear to be migratory, although it is not improbable that it is often driven southward by stress of weather.

On each side of the head and above the eyes there extends a very large band of black velvet-like feathers, the extremities of which unite over the forehead; the occiput and back part of the cheeks sea-green; the lower part of the neck, back, scapulars and lesser wing-coverts white with a tinge of yellow; the breast of a light buff; under parts and rump of a deep black; beak and feet olive. The adult female has all the plumage of a brownish red, barred transversely with black.

We have figured a male and a female, three fourths of the natural size.





KING DUCK.

Anas spectabilis, *Linn.*

Somateria spectabilis, *Leach.*

Le Canard à tête grise.

This magnificent species has, with the Eider Duck, to which it bears a strong resemblance, been very properly formed into a distinct genus by Dr. Leach; which, although it contains only these two species, as far as known, is yet marked by well-defined characters. The habits, manners, and localities of the King Duck closely resemble those of the Eider, excepting that it seldom visits, like the latter, our more temperate latitudes, but confines itself more exclusively to the seas of the Arctic circle. Its claims to the rank of a British species rest upon its occasional capture upon our coast; it is, however, stated in Dr. Latham's "General History of Birds," that Mr. Bullock discovered it breeding in Papawestra, one of the Orkney Islands, in the latter end of June; but such an occurrence we suspect could only have been accidental, as we are not aware of a similar circumstance being recorded. It is not uncommon in Norway, the coasts of the Baltic, the arctic shores of Siberia, and it even extends to Kamschatka. It is very abundant in Greenland, where its flesh is eaten by the natives, and its skin sewn together to form warm garments. It is also dispersed in equal abundance along the same latitudes of the American coasts. The process of incubation is strictly the same as that of the Eider, and the nest undergoes the same system of plunder. Its eggs are rather less in size, and of an olive colour.

Mr. Sabine, in his history of the Birds of Greenland, informs us, that the male is four years in acquiring its perfect plumage. The sexual differences in this species present the same features as are found to occur in the Eider; the female being of a dull sober brown, while the male is as remarkable for a gaudy and strongly contrasted livery.

The beak of the male bird differs from that of the male Eider in having two lateral cartilaginous projections which rise from the base, inclosing the forehead nearly as far as the eye; the colour of its crest, as also that of the beak and legs, is of a beautiful rich vermilion; a narrow line of black velvet-like feathers forms the outline of the upper mandible; beneath the throat are arrow-shaped lines of the same colour pointed towards the base of the beak; the top of the head and the occiput are of a beautiful blueish grey; cheeks white, with a delicate tint of fine sea-green; neck and upper part of the back white, gradually assuming a delicate salmon colour at the breast; the other parts of the plumage, both above and below, deep blackish brown, with the exception of a white spot in the centre of the wing, and another of the same colour behind the thigh; the secondaries are sickle-shaped, and bend gracefully over the quill-feathers.

So closely does the female of this species resemble the female Eider, that it is almost impossible to distinguish them, being of a uniform rusty brown with irregular bars and arrow-shaped markings of black.

We have figured a male and female three fourths of their natural size.



Genus **OIDEMIA**, *Flem.*

Gen. Char. *Bill* swollen or tuberculated at the base, large, elevated, and strong; the tip much depressed and flattened, terminated by a large flat dertrum or nail, which has its extremity rounded and slightly deflected; mandibles laminated, with the plates broad, strong, and widely set. *Nostrils* lateral, elevated, oval, placed near the middle of the bill. *Wings* of mean length, concave, acute. *Tail* short, graduated, acute. *Legs* far behind the centre of gravity. *Tarsi* short. *Feet* large; of four toes, three before and one behind; outer toe as long as the middle one, and much longer than the tarsus; hind toe with a large lobated membrane.

SURF SCOTER.

Anas perspicillata, *Linn.*

Oidemia perspicillata, *Flem.*

Le Canard Marchand.

This curious Duck should rather be considered as an American species than as strictly indigenous to the European Continent; it has, however, frequently occurred in the northern seas of this portion of the globe, and occasionally as far south as the Orkneys and other Scottish islands: we have ourselves received a specimen (a female) killed in the Firth of Forth. In its general form, economy, and habits, it is intimately allied to both the Velvet and Scoter Ducks, and the three species have been with good reason separated by Dr. Fleming into a distinct genus. No one who has attentively investigated the great family of the *Anatidæ* can have failed to remark into how many distinct groups or genera even the European examples naturally arrange themselves, each group being characterized by its diversity of form, habits, and manners. Of these genera, one of the best defined as well as most conspicuous is that designated *Oidemia*. The species of this genus are strictly oceanic, and are expressly adapted for obtaining their food far from shore, being provided with an entirely water-proof plumage, and endowed with most extraordinary powers of swimming and diving. Unlike the true Ducks, they seldom visit the inland waters, or feed upon terrestrial mollusca or vegetables, but keep out at sea, and diving to a very great depth, procure bivalves, mollusca, and submarine vegetables: they appear to be particularly partial to the common mussel, which we have taken from their throats and stomachs entire.

It is for the purpose of grinding down this shelly food that the gizzard is not only extremely thick and muscular, but is also lined with a dense coriaceous cuticle capable of grinding to pulp the hard bodies subjected to its action. The arctic regions of America appear to be the true habitat of the present species, particularly about Hudson's Bay and Baffin's Bay.

Little is known respecting its nidification, but it is said to form its nest near the shore, of grasses lined with down; and that the eggs are white, and eight or ten in number.

The wings are short, convex, and pointed, and although they afford the bird tolerable powers of flight, they are equally adapted for an organ of progression under water, an element to which, rather than to the air, it frequently trusts for safety.

The uniform black colouring which characterizes the plumage of the present group is relieved in all the species by a beak exceedingly rich in colour and ornamental in its markings, and in none of the species is this peculiarity more conspicuous than in the Surf Scoter; this feature, however, is found in the males alone, the females of the three species, which, we may remark, very closely resemble each other, having the beak plain, and nearly uniform in colour.

The adult plumage, which presents no difference in summer and winter, may be thus described:

The male has the bill scarlet and yellowish white, with a large black mark on each side of the swollen basal portion; the whole of the plumage glossy black, with the exception of a patch of white on the top of the head and another on the occiput; the irides greyish white; legs and toes red; interdigital membrane black.

The female differs from the male in having the whole of the plumage dull brown, which is lightest about the face, cheeks, and under surface; the beak dark olive; feet greyish brown.

The Plate represents a male and female, rather more than three fourths of the natural size.





VELVET SCOTER.

Oidemia fusca, *Flem.*

La grande ou double Macreuse.

This is the largest species of the genus *Oidemia*, and may be readily distinguished from both its congeners (*Oid. perspicillata* and *Oid. nigra*,) by the snow-white bar across the wing and the patch of white situated beneath the eye. It also differs very considerably in the conformation of its bill, in which, however, it approximates most nearly to *Oid. perspicillata;* for although it is much more dilated, still it presents traces of the swollen tubercle, but to a less extent than in either of the other species.

The northern regions of the globe constitute the true habitat of all the members of the group; the present species retires within the Arctic Circle during the summer, and regularly migrates to the southern seas on the approach of severe weather. It is found in considerable abundance on various parts of our northern coasts, where it feeds upon muscles, mollusca, &c., which it always obtains by diving. It is very abundant in the Arctic regions of Asia, and is reported to breed upon the banks of the larger rivers in Denmark, Russia, Kamtschatka and Siberia: it is also found in America. It generally goes far inland for the purpose of nidification, and constructs its nest of grass, lined with down, in which it deposits from eight to ten white eggs.

As in the other members of the genus the sexes differ very considerably from each other, but as the female very closely resembles the female of the Surf Scoter we have not deemed it necessary to give a figure of it.

The male has the whole of the plumage of a deep velvety black, with the exception of a patch of white beneath the eye, and the secondaries, which are pure white and form a band across the wing; upper mandible black at the base, the remainder red, edged with black; under mandible pale yellowish white, edged with black; legs red on the outside, and deep yellow sprinkled with black on the inner; irides white.

The female has the whole of the plumage of a dull blackish brown, which is much lighter and rayed with greyish on the under surface; between the bill and the eye, and on the ear-coverts, a spot of white; beak blackish ash colour; tarsi and feet dull red; irides brown.

We have figured a male of the natural size.


BLACK SCOTER.
Adult male. (Size)

BLACK SCOTER.

Anas nigra, *Linn.*

Oidemia nigra, *Flem.*

Le Canard macreuse.

No one of this truly oceanic group of Ducks is more familiar to our readers than the Black Scoter, visiting as it does, during its spring and autumnal migrations, the seas which immediately encircle our island; in fact, we can seldom at these seasons cross the channel between England and the Continent without observing it; numerous flocks of them winging their way from one shoal or fishing-place to another, or diving in pursuit of their prey. They subsist almost entirely on bivalves, such as the common mussel, &c., and they especially abound where large beds of these shell-fish afford them an unfailing supply of favourite diet, their close adpressed plumage and great power of diving admirably fitting them for their destined mode of life. Although so plentiful on our shores, and on those of the Continent, especially Holland, it does not appear that it ever breeds in our latitudes, but retires for that purpose to the seas, lakes, and morasses of the arctic circle, whence it is annually driven southwards as winter locks up these waters and precludes the possibility of its obtaining its natural food. Of its nidification we have no positive information, as is also the case with most of those birds that resort to the higher regions to breed.

Unlike most of the *Anatidæ*, the Black Scoter and its allies undergo no periodical change in their plumage; neither is there so great a dissimilarity between the opposite sexes as there is in most others of this family, the bright colouring of the bill in the male and his more richly coloured plumage being the chief points of difference.

The male has the whole of the plumage of a rich velvet black; the beak black, with the exception of the nostrils, which are bright orange, and the spherical protuberance at the base, which is banded with yellow; irides brown; naked circle round the eye red; tarsus and toes brownish ash colour; webs blue.

The female is characterized by a plumage of dull blackish brown; the bill black, tinged with olive, and wanting the basal protuberance; the sides of the face, throat, and under surface lighter in colour than the upper.

The Plate represents an adult male of the natural size.

GOLDEN EYE.

Anas clangula. Linn.
Clangula vulgaris. Flemm.



Genus CLANGULA.

Gen. Char. *Beak* shorter than the head; its base simple, narrow, nearly straight towards the tip; the upper *mandible* furnished with a small hook. *Nostrils* oval, basal. *Tail* with its feathers acuminated or blunt, not elongated.

GOLDEN EYE.

Anas Clangula, *Linn.*

Clangula vulgaris, *Leach.*

Le Garrot.

Of all the diving Ducks the Golden Eye displays the most address in the water, the greatest rapidity in plunging, united to the power of long continuance beneath its surface; and as its food is to be sought for only at the bottom of the deep, we see in these qualifications one of those instances which Nature ever presents of the adaptation of the means to the end.

This interesting bird is a winter visitor, arriving on our coasts and those of the neighbouring continent at the latter end of autumn, and retiring northwards to breed, as the milder weather approaches taking up its summer residence in Norway, Sweden, and the arctic portion of the American continent; the female, it is said, lays from ten to fourteen eggs of a pure white, on the borders of lakes and inlets of the sea.

The immature males of the Golden Eye, as well as the adult females, have been characterized as a distinct species under the name of *Morillon* or *Anas Glaucion*,—a mistake lately rectified. But though the young males and females present no dissimilarity of colour, the anatomical structure of the trachea, which exhibits the same peculiarities in the males of every age, and which may be felt externally, is an infallible criterion. The singularity of this organ in the present species consists of a labyrinth, very irregular in figure and almost entirely osseous, from which the bronchial tubes proceed;—a short distance above this, the trachea itself enlarges very considerably; the dilatation is of an oval figure, capable of extension and contraction, and formed of rings placed in an oblique direction. In the males of all the Ducks the trachea presents a peculiarity of structure, which differs in every species: this feature therefore affords a clue to specific distinction, and may be taken as the best test for identifying an immature or doubtful species. The use for which Nature has designed this peculiarity of structure has not been clearly ascertained, but it is most probably connected with the tone or modulation of the voice.

In its mode of living; in the disproportion that exists between the sexes; in the dark green tufted head of the male,—a colouring exchanged for brown in the female and young,—there would seem to be indicated we think, a striking analogy between the Golden Eye and the less typical Mergansers. This resemblance is the more apparent if we take the Smew for our comparison. We there find a shorter beak, a more rounded contour of body, and a less brilliant colour pervading the feet and tarsi, than in the others of its genus: to this we may add its food, which consists more exclusively of molluscous animals and crustacea. The food of the Golden Eye is the same, for which its strong beak, tapering from a thick base, is well constructed. The colour of its plumage also partakes of the same character as the Smew, exhibiting a contrast of black and white in the male, and dark grey and white in the female.

The bill of the Golden Eye is black; irides fine golden yellow; neck glossy greenish black, with the exception of a large white spot at the base of the bill; back and tail black; a band of white crosses the wings, leaving the shoulders and quills black; legs dull orange; webs darker. The female is considerably less than the male, and has the bill yellow towards the point; head and upper part of the neck rusty brown, below which is a ring of greyish white; breast mottled with grey, upper parts dark cinereous; tail and under parts as in the male.

The weight is nearly two pounds, the length seventeen or eighteen inches.

Our Plate represents a male and female, faithfully figured, two thirds of their natural size.



BARROW'S DUCK.

Clangula Barrovii: (Swains & Rich.)

Drawn from Nature & on stone by J. & E. Gould.

Printed by C. Hullmandel.

BARROW'S DUCK.

Clangula Barrovii, *Swains.* and *Rich.*

A FINE male of this rare and beautiful species having been shot in Iceland by T. C. Atkinson, Esq. of Newcastle-upon-Tyne, when on a visit to that country, about two years since, we have much pleasure in figuring it as an occasional inhabitant of the European portion of the globe. Mr. Atkinson's specimen is now deposited in the Museun of the Newcastle Natural History Society. Although very nearly allied to the Golden Eye (*Clangula vulgaris*), it possesses, nevertheless, many characters by which it may be distinguished from that species. For our first knowledge of the *Clangula Barrovii* we are indebted to that highly interesting work the "Fauna Boreali-Americana" of Messrs. Swainson and Richardson; and as the observations of the latter gentleman were taken on the spot, we cannot do better than extract what he has recorded in the work above mentioned.

"Notwithstanding," says Dr. Richardson, "the general similarity in the form and markings of this bird and the Common Golden Eye, the difference in their bills evidently points them out to be distinct species. Exclusive of other specific characters," the Barrow's Duck "is distinguished by the purer colour of its dorsal plumage, and the smaller portion of white on its wings and scapulars. Its long flank feathers are also much more broadly bordered all round with black. The bases of the greater coverts in the Golden Eye are black; but they are concealed, and do not form the black band so conspicuous in *Clangula Barrovii*. The specific appellation is intended as a tribute to Mr. Barrow's varied talents, and his unwearied exertions for the promotion of science.

"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. Crescentic patch from the rictus to the sides of the forehead, lower part of the neck, shoulders, tips of the outer scapularies, lower row of lesser coverts, six secondaries, and under plumage pure white; space round the thighs, the tail, and its lateral under coverts broccoli-brown; bill blackish; legs orange; webs black.

"Bill shorter and narrower towards the point than that of the Golden Eye, and the feathers of the forehead, instead of running to a point on the ridge of the bill as in the latter, terminate with a semicircular outline. The plumage also of the occiput and nape is longer, forming a more decided crest than in that species. Wings two inches and a half shorter than the tail."

The female we have never seen, but have thought it best to append Dr. Richardson's description of that sex.

"Female—head and adjoining part of the neck umber-brown, without a white mark; dorsal plumage pitch black; its anterior part, 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 parts black. Feet like the male."

Our Plate represents a male of the natural size.



HARLEQUIN DUCK.

Anas histrionica, *(Linn.)*
Clangula ——— *(Leach.)*

HARLEQUIN DUCK.

Anas histrionica, *Linn.*

Clangula histrionica, *Leach.*

Nature, ever boundless in her resources and ever varying in her details, appears not unfrequently to delight in producing the most striking and singular contrast of colours, with which to adorn the plumage of the feathered race: and yet, strong and decided as the contrast may be, the whole effect is harmonious and delightful. It is so in the splendid bird before us, which gains its name from the multiplicity of its markings, —markings which, unlike those produced as it were by accident, and observed only upon varieties, without permanency and without method, are here the characters of a species, and are continued feather for feather through successive generations.

The general contour of its body together with the fanciful markings of its plumage would seem to ally it to the Mergansers; but on comparing the skeletons it was found by Mr. Yarrell and ourselves not to approach so nearly to that tribe of birds as did the skeleton of the Long-tailed Duck, *Harelda glacialis*, Leach. This circumstance, together with its general similarity in bone to the skeleton of the Golden Eye, has induced us to arrange the Harlequin Duck under the same genus with it.

Although higher latitudes than the British Islands constitute the true habitat of the Harlequin Duck, it has nevertheless been frequently captured here, and both sexes enrich several of our collections of native birds. Its presence, however, is attended with great uncertainty both in this country and in all the temperate portions of Europe. It is consequently prized by ornithological collectors as one of their greatest rarities. The Arctic regions, which are enriched with so many aquatic birds, afford this beautiful species a residence especially adapted to its solitary mode of life, as well as supplying it with every necessary conducive to its existence. It is said to be peculiarly local in its places of resort, preferring inland streams in the neighbourhood of waterfalls and cataracts. It is abundant in Norway, Russia, and Siberia; and was also observed by Dr. Richardson while pursuing his course from Hudson's Bay to the shores of the polar seas, sometimes in pairs, but not unfrequently in small flocks of eight or ten. It breeds near the water's edge, generally laying from six to twelve eggs, of a pure white. Its powers of diving are said to be great; hence it seeks its food, which consists of shell-fish and mollusca, at the bottoms of rivers and inlets of the sea. It flies with great rapidity, and is capable of performing extensive migrations in a very short time.

The disparity in size between the sexes is strikingly apparent, the female being full a third smaller than the male, and remarkably plain in her colouring. We have to thank the Rev. Dr. Thackeray, Provost of King's College Cambridge, for the loan of the female from which our figure was taken. That gentleman has also most liberally offered us any other species in his valuable collection for the same purpose.

The young male of the year very much resembles the adult female in colour; its superior size however, and enlarged windpipe, at once point out its sexual difference. They are at least four years attaining the fine state of plumage which characterizes the male in our Plate.

The cheeks and neck are black, with dark violet reflections; a triangular space between the beak and the eye, a spot behind the eye, a longitudinal band on the sides of the neck, two crescent-shaped collars on the breast, with parts of the scapulars, are all of a pure white; over each eye is situated a rufous band which terminates at the occiput; breast and belly blueish ash; flanks reddish chestnut; the whole of the upper surface deep blackish brown.

In the female, the upper surface is of a dark brown, with the exception of a white spot behind the eye, and a space of dull white which covers the face; the head lighter brown clouded with transverse markings of a darker colour.

We have figured an adult male and a female, about two thirds of their natural size.



LONG TAILED DUCK.

Anas glacialis, *(Linn.)*
Harelda ——— *(Leach.)*

Genus HARELDA.

Gen. Char. *Beak* unarmed at its base, very short, slender, narrow towards the tip; the under mandible furnished with a small nail at its tip. *Nostrils* linear, basal. *Crown* elevated. *Tail* with its intermediate feathers elongated and pointed.

LONG-TAILED DUCK.

Anas glacialis, *Linn.*

Harelda glacialis, *Leach.*

Le Canard de miclon.

This species of Duck is generally diffused over the northern regions of the continents of Europe and America, but is to be considered more especially as a native of the Arctic circle, whence it diverges, but in diminished numbers, to more southern and temperate latitudes: it is, however, seldom found to extend its migrations in Europe further south than the British Islands. Wilson informs us, that in America straggling parties are found in winter as far south as Kingston in Carolina.

These birds resort to the Orkneys during winter, and a few remain there to breed during the summer. Of this fact we are well convinced, as we have ourselves received them in the breeding season in the height of their summer plumage. In severe winters the whole of our coast is visited by them in small parties, which seldom remain any length of time, but return, on the opening of the weather, to more congenial latitudes. M. Temminck says they are sometimes found in the great lakes of Germany and on the shores of Holland, but never in flocks. In Sweden, Lapland and Russia they are in great abundance. The nature of their food, which consists of mussels and other shelled and naked Mollusca, confines them almost exclusively to the sea, and they are remarkable for their activity and dexterity in diving. Wilson observes, that they are lively, restless birds, flying swiftly and sweeping round in short excursions.

This species of Duck builds a nest not unlike that of the Eider, and equally valuable for its down: it is placed among the grass and herbage which grow near the sea-shore, and is lined with down from the female breast. The eggs are from ten to fourteen in number, of a blueish white tinged with olive colour.

One of the most remarkable peculiarities in this bird is the contrast which exists between the plumage of winter and of summer, which may be thus described. The male in winter has the head and neck, with the exception of a blackish brown patch below the ears, of a pure white, as are also the scapularies and long pendent secondaries which fall over the quills; the abdomen and outer tail-feathers are white; the chest, back, shoulders, wings, and middle elongated narrow tail-feathers, which exceed the rest by several inches, blackish brown. In summer the white on the head which predominates in winter is exchanged for brownish black, which is then the most universal colour, except that the scapulars and tertials are reddish brown. Beak greenish black, with a transverse band of red; tarsi and toes blueish lead colour; membranes blackish; irides orange.

The young males of the year and the adult females resemble each other. In both, the elongated scapularies and tail-feathers are wanting; the top of the head and sides of the neck are brown; the general colour of the whole of the upper surface dull brown, each feather having a darker centre; the rest of the plumage white.

We extract the following description of the windpipe of this bird from Shaw's General Zoology, vol. xii. p. 177.—"The trachea of this bird is of a singular construction, and differs from that of the other *Anatidæ*: it rather increases in size at each extremity: at the lower end, close to the labyrinth, one side is flattened, and instead of the bony rings continuing round of their full breadth, this part is crossed with four distant linear bones as fine as a thread, which support a delicate transparent membrane three quarters of an inch in length, and almost three eighths of an inch broad at the base: below this ribbed membrane projects the bony part of the labyrinth, with a tympanum of a kidney shape placed transversely to the trachea, the middle of which is flat and membranaceous: the opposite side of the labyrinth is depressed, and from the bottom of this part the branchiæ take their origin."

The Plate exhibits a male and female, in their winter plumage, rather more than three fourths of the natural size.



WHITE-HEADED DUCK.
Undina leucocephala: (Mihi).

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

Genus **UNDINA**, *Mihi.*

Gen. Char. *Beak* elevated and protuberant at its base, with a furrow on the upper ridge; anterior half very much depressed and broad. *Nostrils* situated at the junction of the elevated and depressed portion. *Wings* very short, pointed, and concave; the first quill-feather the longest, the scapularies reaching to the end of the wing. *Tail* cuneiform, and composed of twenty narrow stiff feathers, unprotected at the base by coverts both above and below. *Legs* placed far behind. *Tarsi* flattened, and much shorter than the toes. *Toes* long, and fully webbed, the outer one the longest; hind toe situated high on the tarsus and lobated. General plumage dense, glossy, and adpressed.

WHITE-HEADED DUCK.

Undina leucocephala, *Mihi.*

Anas leucocephala, *Linn.*

Le Canard couronné.

On attentively inspecting the genera comprising the European Ducks, as instituted by modern naturalists, it is evident that the present species is not referrible to any one of them at present recognised.

The contour of its form, the character of its plumage, and especially that of its graduated tail, composed of stiff elastic feathers, together with the large feet and the elevated position of the posterior lobated toe, indicate it to be exclusively aquatic in its habits; so near, in fact, does it approach the genus *Hydrobates* of M. Temminck, containing the Lobated Duck of New Holland, that we have no hesitation in asserting it to form the type of a closely allied genus.

The White-headed Duck is almost entirely restricted to the eastern countries of Europe, being very abundant in Russia, Poland, Hungary, and Austria; hence in Germany, France, and Holland it may be considered unknown. In its native countries it chiefly inhabits large sheets of saline waters and arms of the sea; and we are informed by M. Temminck, that so exclusively aquatic are the habits of this bird that its nest is even so constructed as to float upon the water, being composed of reeds and other water-plants. Although we have no account of its powers of diving, or mode of progression in its native element, we cannot for a moment doubt that it possesses every facility for making active and vigorous exertions in its congenial element. Its stiff elastic tail and waterproof plumage tend to support an opinion that, like the Cormorant and Darters, it swims almost entirely submersed beneath the surface, while its short concave wings and broadly webbed feet also assure us that in the power of diving it is second to none.

Its food is said to consist of molluscous animals and fishes.

The female differs from the male more in the obscurity of her markings and in the general dullness of her colouring than in any decided contrast, a circumstance in which we may again trace a resemblance to the New Holland Duck already alluded to.

Beak fine bluish lead colour; crown of the head black; forehead, cheeks, throat, and occiput pure white; chest, flanks, scapularies, and the whole of the upper part, of a fine reddish brown, transversely intersected with irregular zigzag lines of blackish brown; quills and tail black; under surface dull russet brown; tarsi and feet brownish; irides fine yellow.

The Plate represents an adult male of the natural size.

Mergus Merganser (Linn.)



Genus **MERGUS**, *Linn.*

Gen. Char. *Beak* lengthened, nearly cylindrical, largest at the base, curved at the tip, nailed; both *mandibles* armed at the edges with sharp angular teeth directed backwards. *Nostrils* one third from the base, oval, longitudinal, lateral, near the centre of the mandible. *Feet* webbed; *outer toe* longest; *hind toe* lobed and free; *tarsi* compressed. *Wings* moderate; second *quill-feathers* the longest.

GOOSANDER.

Mergus Merganser, *Linn.*

Le Grand Harle.

Pre-eminently distinguished by the breadth and boldness of its colouring, and the delicacy of some of its tints, the Goosander, both from its beauty and its superiority of size, is entitled to rank as the finest of its genus; admirably adapted for diving, it possesses great power and agility in the water; its flight also, when once fairly on the wing, is strong and rapid.

Its native locality appears to be the northern regions of the continents of Europe and America, where, among large and unfrequented lakes, it finds an asylum and breeding place: from these, its summer haunts, it migrates southwards on the approach of the severities of winter, seldom appearing in our latitudes unless the season indicates an extremely low temperature in the Arctic circle; at such times it frequents our shores and unfrozen lakes, either in pairs or in small flocks of seven or eight: but the extensive inland waters of Holland and Germany appear to be its favourite place of resort.

The form of the body is long and compressed; the total length twenty-six inches; the weight four pounds.

Beak red on the sides, darker above, edges serrated; armed at the end with an abruptly hooked nail. Head ornamented with slender elongated hair-like feathers, forming a voluminous crest of a rich glossy black with green reflections, which colour is continued half-way down the neck, where it terminates abruptly. The back and scapulars of a fine black; wing-coverts and secondaries white. Quills blackish-brown; rump and tail grey, the sides irregularly marked with fine waved freckled darker lines; tail-feathers eighteen. The whole of the under surface of the body of a delicate yellowish cream-colour. Legs placed very far back. Tarsus and toes of a rich orange-red; interdigital membrane rather darker.

The trachea presents two enlargements of the tube before it enters the labyrinth or inferior larynx, which consists of two irregular cavities divided from each other by a membranous partition.

The female is considerably less than the male, and differs from him not only in plumage but also in the anatomical structure of the trachea, which wants the enlargement both of the tube and the bony labyrinth. The beak, irides and feet are less brilliant in colour. Head, neck and crest rufous brown; chin white; the uppersurface of the body uniform dark ash grey; the under part lighter with a tinge of cream-colour.

These differences in the female, connected with the similarity of plumage characterizing the young males of the year, (which are only to be distinguished by the masculine structure of the trachea, and rather larger size,) have induced early writers to consider them as a distinct species, to which they have applied the name of Dundiver; an error corrected by more recent observation.

Its food consists of fish, small crustacea, and molluscous animals. Its flesh is rank and unpalatable.

The female is said to lay twelve whitish eggs, but the nidification of this bird is little known.

Our Plate represents a male and female in full plumage, two thirds of the natural size.

RED BREASTED MERGANSER.

RED-BREASTED MERGANSER.

Mergus serrator.

Le Harle huppé.

The Red-breasted Merganser appears to be the only species of this genus which occasionally breeds with us, remaining the whole year in the Orkneys and about some of the inland lakes of North Britain, building its nest, which consists of dried bents, grass, &c., on any elevated situation, as a rocky bank near the water's edge ; and laying from eight to twelve cream-coloured eggs.

The British Islands appear to be the most southern limits of its summer abode ; but it is found in plenty on both continents within the arctic circle,—regions more congenial to its habits and more abundantly supplying its wants.

Its powers of swimming and diving equal if not exceed those of the other species of this genus ; its food is in all respects the same, and its flesh is equally rank and disagreeable.

The Red-breasted Merganser is one third less than the Goosander, which it resembles in its habits and manners, but differs from it extremely in colour. The beak is very long and slender, the sides red, separated by an upper line of black ; the head furnished with a crest of long, slender, recurved feathers, the whole of which, with a third of the neck, is of a dark glossy green ; below this a broad white band encircles the neck, gradually losing itself in the colour of the breast, which is of a chestnut-red, longitudinally blotched with dashes of black. The back and tertials are of a deep glossy black. On each side of the chest, overhanging the shoulders, is situated a singular tuft of broad and peculiarly formed feathers, the centre of each of which is occupied by a large white triangular spot, surrounded with a border of black ; the whole presenting a beautiful chequered appearance. The centre of the wing is white partly crossed with two slender bars of black. The quills are blackish brown. The sides and rump light grey elegantly marked with zigzag lines of black. Tail dark grey. The under surface of the body of a dirty white. The irides, legs, and feet, of an orange-red ; the webs darker.

During the period of incubation, however, the male undergoes a considerable change in plumage, losing the rich glossy green of his head and neck, which degenerates into an obscure brown, and the fine chestnut colour of his breast entirely disappears.

The female is rather less than the male, and exhibits in the rufous brown of the head, crest, and neck, one of the peculiarities of the genus. The beak and legs are duller than in the male ; the back and sides are grey ; the chest barred with obscure transverse spots ; the middle of the wings white, with a dark bar. The under surface of a dirty white.

The young male of the year resembles the female in colour, but possesses the characteristic conformation of trachea peculiar to the males.

We have figured an adult male and female, two thirds of the natural size.



HOODED MERGANSER.

Mergus Cucullatus *(Linn.)*

HOODED MERGANSER.

Mergus cucullatus, *Linn.*

L'Harle couronné.

The native locality of the Hooded Merganser appears to be the United States and the higher latitudes of North America. It is also found on the north and north-western coasts of Europe. We are indebted to that distinguished Ornithologist, Mr. Selby, of Northumberland, for a knowledge of the occurrence of this rare and beautiful species in England, and its consequent claims to a place in the Fauna of Great Britain. It is however but an accidental visitant, as this solitary instance only is on record of its having been taken in this country.—The following is the account given by that gentleman in the "Transactions of the Natural History Society of Northumberland, Durham and Newcastle," vol. 1. p. 292.

"The other (alluding to the present bird), which we may claim as an acquisition, is the *Mergus cucullatus* (Hooded Merganser), upon the authority of a specimen killed at Yarmouth, in Norfolk, in the winter of 1829. The skin of this individual was lately sent to me by my esteemed correspondent Mr. Elton, of Redland near Bristol, to whom it was presented by a friend, who purchased it as a rare variety in a *fresh state* from the person who actually shot it. From the state of its plumage it appears to be a young female, the crest not being so full or large, and the white upon the secondary quills less extended than in the skin of an adult female compared with it." We have not, it is true, examined the specimen from which Mr. Selby's figure and description were taken; nevertheless we are inclined to believe, from an inspection of the beautiful drawing which illustrates his work, that the bird in question is not a young female as Mr. Selby supposes, but an immature male, which in certain stages closely resembles the female in plumage, but may be distinguished by the larger and more rounded crest, which in the latter is long and thin.

In size the Hooded Merganser is intermediate between the Red-breasted Merganser and Smew, and partakes strongly of all the characters which are peculiar to the genus. The irides are golden; the bill elongated, narrow, and of a dull red; the head ornamented with a double row of long silky feathers, forming a beautiful compressed hood, which commences from the base of the beak, and when elevated forms a bold arch ending at the occiput. The head and its hood are of a glossy greenish black, with the exception on the latter of a large triangular fan-shaped spot of white the apex of which is situated just behind the eye, from which it diverges outwards, having its external edge bordered by a margin of black continued from the surrounding colour; the neck and back black; the chest white, with two beautiful crescent-shaped lines proceeding from the back and arching forward in a point near the centre of the chest; wings dark, with four alternate bars of black and white; quill-feathers brown; tertials consisting of elongated slender and pointed white feathers, with a broad black border, hanging gracefully over the wings; rump and tail dark umber; sides ferruginous brown, marked with minute undulating transverse lines of a darker colour; under surface white; feet and webs flesh-coloured.

The description of the female of a single species applies more or less to the same sex throughout the whole of the genus; as will be readily perceived in the present instance. Bill and feet as in the male; the head furnished with a small crest of slight hair-like feathers, of a dull ferruginous brown; the neck dusky brown, slightly barred towards the chest with white; the whole of the upper surface of a deep and rich umber; the wings bearing traces of the white bars, which are distinct in the male; the under parts white.

We have figured a male and female, two thirds of their natural size.



SMEW.

Mergus albellus, *Linn.*

La Piette.

This bird interests us more by the purity and contrast of its colours, than by its brilliancy or variety; the snowy whiteness of its plumage, broken by irregular markings of a jet black, in conjunction with the neatness of its general figure, producing an extremely pleasing effect.

The Smew is the smallest of the genus *Mergus*, and offers considerable deviation in some points from the typical form: the body is less compressed and elongated, the beak shorter, with feet of diminished size; which peculiarities, conjoined with the dark colour of the latter, evince a departure from the usual characteristics of this genus, and would seem to indicate an approximation to the more true *Anatidæ* or Duck tribe. Still however it must be conceded that it retains many prominent features of the genus, its habits and manners being in all respects the same; visiting us during inclement winters, at which time it is found in small numbers on the coasts and inland lakes of these Islands, and in much greater abundance in the more extensive waters of Holland and Germany; but, as far as observation goes, it has never been known to breed with us. The arctic regions of both continents seem to be selected for its summer residence and breeding place. The bill is shorter than the head, and tapers suddenly as it approaches the point; its general colour, as well as that of the feet and legs, is a blueish lead, the webs more dusky; irides dark hazel. The head is ornamented with a snowy pendent crest; a large greenish-black circle surrounds the eye; the occiput, over which hang the drooping feathers of the crest, is also black, with green reflections; the neck pure white, as is also the chest, on the sides of which two crescent-shaped lines of black bend forward, continued from the back, which is black, becoming grey towards the rump and tail. The scapulars are white, marked with oblique lines of black; the lesser coverts white, forming a broad band across the wing; secondaries and greater wing-coverts black, with white edges producing two smaller white bands; quills blackish-brown; tertiaries light blueish-grey; under parts pure white.

The trachea of this species differs from those of its congeners in having no enlargement of the tube, which is formed by a series of firm rings gradually increasing in size from the larynx to the labyrinth, the latter being small and irregular in its figure; the tongue also is rather more rounded, and in form approaches to that of the Ducks.

The female is smaller, and, although a pleasing bird, does not present the contrast of colouring so attractive in the male. The beak and legs are lead-coloured; the crest, as usual throughout the females of the genus, ferruginous-brown; a black oval spot below the brown extends from the base of the bill, covers the cheek, and surrounds the eye,—a marking which seems to have been entirely overlooked by European ornithologists. The occiput and neck are dusky-white; the chest light-grey, faintly clouded with obscure bars of a darker colour; the back, rump and tail deep greyish-brown; the wings, as in the male, are distinguished by a broad band and two lines of white; shoulders, quills, and tertiaries brownish-black; the under surface of the body white.

The young birds, both male and female, during their first winter are alike in plumage, but both want the black circle round the eye which distinguishes the adult female. Its weight is about twenty-four ounces; its length is from fifteen to sixteen inches: its food consists of marine insects, molluscæ, small fish, and water plants.

The annexed Plate represents an adult male and female in their winter dress, two thirds of their natural size.



GREAT CRESTED GREBE.

Podiceps cristatus. *(Lath.)*

Genus PODICEPS.

Gen. Char. *Bill* lengthened, strong, slightly compressed, straight, and pointed. *Nostrils* lateral, basal, linear, pierced in the middle of the nasal fosse; space between the corner of the bill and the eye naked. *Wings* short and concave. *Tail* none. *Legs* placed at the posterior extremity of the body, the *tibiæ* being inclosed within the integuments of the abdomen. *Tarsi* much compressed. *Feet* consisting of four toes, three before and one behind; the front ones much flattened, and each furnished with a broad membrane. *Nails* large, flat, and broad. *Plumage* soft, downy, and thick, with a silky lustre.

GREAT CRESTED GREBE.

Podiceps cristatus, *Lath.*

Le Grebe huppé.

The *Podiceps cristatus* is not only the largest of all the European species of its genus, but may be regarded as one of the most typical examples. It is a native of the British Islands as well as of all the temperate portions of continental Europe, everywhere frequenting lakes, large ponds, the mouths of rivers, or the borders of the sea. In these situations it remains during the greater part of the year, eluding pursuit by its extraordinary powers of diving, and capability of remaining submerged beneath the surface of the water. We have also received numerous examples from Asia and Africa, which proved to be strictly identical with European specimens.

The Plate represents a young bird of the year, and an adult during the season of incubation, at which period it assumes the rich ornamental crest and tippet which are then so conspicuous. It is the immature bird which is described by the older writers as the Tippet Grebe, and which so nearly represents the adults in their winter dress, as to render any further description unnecessary; a mistake which modern ornithologists have rectified.

The full or red stage of plumage, in which the frill and crest appear, is not acquired until the third year, and even then, in its greatest luxuriance, is only the ornament of the season of pairing and incubation, the elongated plumes of the cheeks and head being lost, as we suspect, on the approach of winter. There is another peculiarity common to this and the rest of the Grebes which requires notice; we allude to the circumstance of the stomach being found after death commonly filled with a mass of feathers from the breast, but whether swallowed for the purpose of assisting the powers of digestion or not, it is impossible to conjecture. The nest is composed of masses of decayed aquatic vegetables, secured amidst the herbage on the margin of the water, with the variations of which it rises or falls. The eggs are three or four in number, of a greenish white stained with brown. Their food consists of fish, crustacea, and aquatic insects.

The plumage of this species may be thus described: Crown of the head and occipital tuft or ear-feathers deep greyish black; the frill black at its extreme edge, and rich chestnut throughout the greater part of the rest of its length, gradually fading off into the white of the cheeks and throat; the whole of the upper plumage brownish black, with a white bar across the wings; the under surface silvery white, becoming rufous on the flanks; the tarsus and toes dark olive green on the upper side, on the under side pale yellow; bill dark horn colour; irides red.

In winter the plumage resembles that of the summer, except that the richly coloured frill and elongated ear-feathers are wholly wanting. The sexes at either season offer no external differences in the plumage.

The figures in the Plate are somewhat less than the natural size.



RED-NECKED GREBE.

Podiceps rubricollis, *Lath.*

Le Grebe jou-gris.

Among the European species of Grebes, the Red-necked is intermediate in size between the Crested Grebe (*Podiceps cristatus*) and the Horned Grebe (*Podiceps cornutus*). From the former it may be distinguished by the more partial development of the frill, which, with the whole of the cheeks, are of a light grey, and by the deep chestnut of the front and sides of the neck; while from the latter it differs in having the red streak passing through the eye to the occiput in the form of horns, as well as by the grey colour of the frill and cheeks, which in the *Podiceps cornutus* are black.

In point of rarity, particularly in our own climate, it is on an equal footing with the latter, being only an accidental visiter, though sometimes probably breeding with us.

In food, habits and manners this rare bird closely agrees with its congeners, inhabiting large inland lakes, rivers, estuaries, and the borders of the sea. In France and Holland it appears to be almost as scarce as in this country. It seems to be more common in Germany and Sweden; but its true habitat is the eastern portion of Europe or the adjacent regions of Asia. It is, however, far from being uncommon in all our larger collections; and we have ourselves seen both the young and adult in the London markets.

In their mature plumage, the two sexes offer but little external difference, both, we believe, always losing the beautiful frill and red colouring of the neck in winter, and regaining them early in the succeeding spring.

The young bird, when it has attained the full size, as in all this family, is of a greyish brown above, and white beneath, but may be distinguished by one character from the young of other species, namely, by the yellow colour of the whole of the lower mandible except at its very tip.

The adult colouring is as follows.

The top of the head, the egrets, the occiput and back of the neck, black; the back and whole of the upper surface of a brownish black, with the exception of the secondaries, which are white, so as to form a band across the wings; front and sides of the neck deep chestnut; under surface white; bill black, except at the base, which is of a rich orange yellow; irides scarlet; tarsi and toes dull olive green.

Our Plate represents an adult in the summer plumage, and a bird of the year, of the natural size.



HORNED GREBE.

Podiceps cornutus. (Lath.)

HORNED GREBE.

Podiceps cornutus, *Lath.*

Le Grêbe cornu, ou Esclavon.

This beautiful Grebe is one of the rarest of those that occasionally visit the British Islands, particularly when it is adorned with the richly coloured plumes which characterize it in the adult state, a stage in which we have illustrated both sexes. We would however observe, that this fine plumage is only confined to the birds during the breeding season; at other seasons the plumage is less diversified, the frill and horns being alike absent, and the chestnut colouring of the neck being exchanged for greyish white; in this stage as well as that of the young it has been termed the *Podiceps obscurus*, *Podiceps caspicus*, &c. It is in the latter state that it is most frequently seen on our shores, and in which it so closely resembles the young of *Podiceps cristatus* as to require minute attention in order to distinguish them. To this difference we have alluded in the description of *Podiceps auritus*.

Of all the Grebes, the present has the widest range of habitat, extending itself throughout the whole of the arctic circle, seldom venturing further south than the British Isles in Europe, and the middle of the United States in the American continent. Like all other species of its genus, it seems to prefer inland lakes adjacent to the sea, and the mouths of large rivers; but still it is often found along low flat shores of the sea.

In its nidification it agrees strictly with its congeners, constructing a nest of such water-plants as abound on the spot in the lake where it resides; the nest being always on the surface of the water, attached to the strong reeds which rise from the bottom and secure it in its position. The eggs are four in number, of a dull white, exhibiting stains from the weeds upon which they repose.

The plumage of summer may be thus characterized. The top of the head, back of the neck, and upper surface black, with a slight tinge of green; a stripe of light chestnut which takes its origin from the base of the beak, and passes through the eye, is spread over two tufts of silky feathers, which rise like horns on each side of the occiput; the feathers of the cheeks are lengthened and spread out into a beautiful frill of a rich greenish black; the fore part of the neck and edges of the flanks of a rich chestnut; the under surface silvery white; tarsi and feet dull olive, with the exception of the anterior and posterior edges of the former, which are yellow; beak black, tipped with yellow; irides crimson.

The female strictly resembles the male, except that her size is rather less, the plumes less brilliant, and the ornament of the head less developed.

The Plate represents a male and female of the natural size.



EARED GREBE.
Podiceps auritus. (Linn.)

EARED GREBE.

Podiceps auritus, *Lath.*

Le Grêbe oreillard.

Like the rest of the family, whose locomotive powers are ill adapted for land, the Eared Grebe inhabits the water as its native element; not only obtaining its food there, but also carrying on the whole process of incubation, constructing a floating nest, composed of water-plants rudely matted together, which falls and rises with the influx and reflux of the waves. In size, the *Podiceps auritus* is somewhat less than the Sclavonian Grebe, or *P. cornutus*, from which it may readily be distinguished by the absence of the chestnut-coloured neck and rufous stripe which passes from the base of the bill through the eye to the occiput.

The present species may be considered as one of the rarest of the genus in this country; but we are led to suppose, from the seasons in which it is taken, that it sometimes resorts to our inland waters for the purpose of breeding. The female lays about four eggs, of a dirty white colour. The young differ very considerably from the adult; the characteristics of which we have faithfully portrayed in the annexed Plate, where it will be seen that the prevailing colour of the immature bird is a uniform grey on the upper surface, with a silvery appearance spreading over the whole of the under parts.

Reasoning from analogy, we may suppose that the *Podiceps auritus* undergoes the same variations at different seasons of the year which we know to take place in the other species of the genus; gaining its darker colour and ornamented ear-feathers only as the breeding season advances. When this period is past, and during the winter, we believe the adult to bear a close resemblance in plumage to the young of the year which have not yet undergone any change. The male and female offer but little difference.

M. Temminck informs us that it is extremely rare both in the marshes and on the coasts of Holland, its native locality appearing to be more especially confined to the rivers and fresh waters of the North of Europe.

Its food consists of small fishes, crustaceous animals, the larvæ of water insects, &c.

The bill is black; the irides bright red; the ear-feathers long and silky, radiating from the eye to the occiput, and of a light glossy chestnut; the head ornamented with a short full crest, which, with the throat, neck, and upper surface, is of a uniform blackish brown. The quill-feathers dark brown, secondaries white; sides of the rump dark chestnut brown. The whole of the under surface a pure silvery white; legs greenish-black.

Weight thirteen ounces; length twelve inches and a half.

Podiceps minor (Linn.)



LITTLE GREBE, OR DABCHICK.

Podiceps minor, *Linn.*

Le Grêbe custagneux.

The changes in plumage which even a bird so common as the Dabchick undergoes, have been until lately so little understood as to have produced for a single species a double nomenclature. It is now, however, known that the black-chinned Grebe of older authors, and by them supposed to be a distinct species, is the *Podiceps minor* in its summer plumage. In this state, as well as in that which it assumes in winter, we have introduced it in our Plate.

To this little bird, as to its congeners, the water is the native and familiar element. Extensively spread over Europe, except as we approach the more northern regions, it may be seen busily traversing the surface of inland waters, or dipping and diving in pursuit of its food; still it is shy, and distrustful of man, disliking his presence, and avoiding his prying curiosity by retreating at his approach to its reedy covert; or, if this be impracticable, diving among floating weeds and water-lilies, where, with its bill alone above the surface, for the purpose of breathing, it will remain patiently watching till the danger be past, when it will cautiously emerge and seek its wonted haunt.

At ease and alert as is the Dabchick on the waters, it exhibits on *terra firma* a complete contrast, waddling along in an awkward and constrained manner, and glad to escape to its congenial element again. Its powers of flight are also inconsiderable; unless, indeed, it rises to a certain elevation, when, notwithstanding the shortness of the wings and absence of tail, it can sustain a long and rapid excursion.

The young when just excluded are in the perfect possession of all those powers which especially tend to their preservation. While yet covered with down, and perfectly incapable of flight, they may be seen, in company with the parent birds, swimming and diving, either in the exuberance of animal enjoyment, or in pursuit of food: hence the legs and beak, which in most birds are long in acquiring their full development, outstrip in the present instance the acquisition of the powers of wing, this latter endowment being less immediately and intimately connected with their preservation and the manner of obtaining subsistence.

In winter, while in its brown plumage, the Dabchick gives the preference to broad extensive waters, lakes or rivers, associating together in small numbers during the season of clouds and storms, and on the approach of spring separating by pairs in different directions over the country in search of a more secluded and congenial breeding-place; often taking up their abode in small ponds close to the habitation of man.

Should the lover of nature watch them at the time of their building without being discovered, (an attainment of the utmost difficulty, as every sense seems alive to danger and gives notice of intrusion,) he will be delighted to mark their playfulness and agility, while the tone of happiness and enjoyment which pervades their actions and their mutual labours, throws an additional charm over the picture.

The nest of this bird is composed of a mass of green plants, loosely interwoven, which floats on the water. In this the female deposits her eggs to the number of four or five, the original whiteness of which becomes discoloured, apparently from the juices of the plants in contact with them, and the wet feet of the parent birds.

The female Dabchick, at least under certain circumstances, (as the author has often personally witnessed,) is undoubtedly in the habit of covering her eggs on leaving the nest; and he has watched while this action has been performed: it is effected in a rapid and hurried manner, by pulling over them portions of the surrounding herbage.

In the summer plumage the beak is blackish; tip, base, and naked skin which extends to the eye, yellowish-white; eyes reddish; crown of the head, back of the neck, and chin, of a brownish black with green reflections; sides and front of the neck of a lively chestnut; the whole of the upper surface together with the sides and wings blackish with olive reflections; the thighs and rump tinged with ferruginous; the under surface more or less silvery; legs and feet dark olive-green, without assuming a flesh-colour on the inner surface.

In winter the colour of the plumage differs little from that of the birds of the first year, which consists of a uniform brown above and more or less silvery beneath; the two sexes having little external distinction either in winter or summer.

The total length nine inches.

NORTHERN DIVER.
Colymbus glacialis Linn.



Genus COLYMBUS, *Lath.*

Gen. Char. *Bill* longer than the head, strong, straight, compressed, and sharp-pointed. *Nostrils* basal, lateral, linear, oblong, pervious, half closed by a membrane. *Wings* short, acuminate, having the first quill-feather the longest. *Tail* short and rounded. *Tarsi* thin, very much compressed. *Feet* large, of four toes, three before and one behind; outer toe exceeding the middle one in length; front toes entirely webbed; hind toe furnished with a lobe, and partly connected with the exterior membrane of the inner toe. *Nails* flat and broad.

NORTHERN DIVER.

Colymbus glacialis, *Linn.*

Le Plongeon Imbrim.

This noble species of Diver, the largest and most typical of its genus, appears to be equally dispersed over the whole of the northern hemisphere, giving preference to the regions within the arctic circle during summer, and progressing southward as far as latitude 36° on the approach of autumn and winter, at which seasons they are by no means of rare occurrence in our own islands, although, in accordance with that general law of Nature which causes the young to wander furthest from their native habitat, we find a much greater proportion of immature birds than of those which bear the beautifully contrasted livery of the adult. The great dissimilarity of plumage which characterizes the species at different ages has caused much confusion in its nomenclature, the bird of the first year having been described as specifically distinct from the adult, while, again, those of the second year, when they have partially assumed the mature livery, have been considered as differing from both. In this latter state they are frequently met with round our coasts, but less so than the birds of the first year, which may be very commonly observed even in our lakes and estuaries.

M. Temminck states that on the European Continent it gives a preference to the shores of the sea, although the young are frequently found up the large rivers; and even the German and Swiss lakes are not altogether exempt from its visits. That it inhabits the shores of the Black Sea, and without doubt the Mediterranean, is a fact with which we are made acquainted by the circumstance of the Zoological Society's having received an individual, in the second year's plumage, from their valued correspondent Keith E. Abbot, Esq., of Trebizond.

We have before alluded to the far-extended wanderings of the young migratory birds; and as no instance is on record of these birds having bred in southern latitudes, we may reasonably infer that the individual above mentioned had wandered from the regions of the arctic circle, which form their almost exclusive summer residence and breeding-place. Are we, then, to presume that the individuals found in the Black Sea have proceeded thither by way of the Atlantic Ocean and Mediterranean Sea, or by crossing partially over land, following the course of the large rivers, as the Danube, the Don, the Volga, &c.? We incline to the latter supposition, as all migratory animals pursue, with as little deviation as possible, a course from north to south, or *vice versâ*.

Its dependence for food rests entirely on its great activity in diving, as it subsists solely, whether at sea or in fresh water, upon fish, aquatic insects, &c., in the capture of which it displays astonishing agility and rapidity of motion.

The situation chosen for the purpose of nidification are the borders and islands of inland seas, lakes, and rivers; the nest being placed close to the water's edge, so as to be easily accessible to the parent, whose perfect adaptation for progression on the water, its natural element, totally unfits it for walking, though it contrives to propel itself forward by means of resting its breast upon the ground and striking backward with its feet, somewhat like the action of swimming.

The plumage of the sexes is strictly similar, the adults having the top of the head and neck fine black glossed with purplish green; a transverse bar of white spotted with black crosses the throat, and a wider band of the same colour passes lower down upon the back part of the neck; the whole of the upper surface glossy black, each feather having white spots, one on each side the shaft, forming rows, those on the scapularies becoming larger and square, but continuing small and nearly round on the back and rump; primaries black without spots; flanks and sides black spotted with white; whole of the breast and under surface white; bill and legs black; irides reddish brown.

The young of the year has the top of the head, back of the neck, upper surface, and flanks light greyish brown, the centre of each feather being darker; under surface pure white; bill, inner side of the tarsi, and interdigital membrane fleshy greyish white; outer side of the tarsi and toes brownish black.

The Plate represents an adult male and a young bird of the year, about two thirds of the natural size.



BLACK-THROATED DIVER.

Colymbus arcticus, *Linn.*

Le Plongeon Lumme, ou à gorge noire.

The accompanying figures of the young and adult of the Black-throated Diver were taken from two specimens of exquisite beauty, placed at our disposal by W. Baker, Esq., of Bayfordbury in Hertfordshire, by whom they were shot during his tour through Norway in the pleasant pursuit of natural history. That gentleman informed us that they were both killed upon one of the small lakes of the interior, from which circumstance we may infer that it was an adult, with its own young of that year.

The range of the Black-throated Diver extends over the whole arctic circle, everywhere giving preference to inland waters and small lochs. It must have afforded much pleasure to Sir Wm. Jardine, Bart., and Mr. Selby, during their late visit to the extensive wilds of Sutherlandshire, to observe a pair of these birds inhabiting almost every small loch they visited. Before this period it had not been fully ascertained that this species made any portion of the British Islands a permanent residence, or that it remained in them during the period of incubation. It is of rare occurrence in all the temperate portions of the globe, its migrations being less extended, perhaps, than any other species of its genus, the young, as is generally the case, wandering furthest from home. It is not an unfrequent occurrence to find individuals in their first year's plumage in the London market. While in this stage they often frequent the sea and the mouths of large rivers, where they obtain an abundant supply of fish, crustacea, and other marine animals, which constitute their principal food. It will be scarcely necessary to inform our readers, that when the inland lakes of the northern climes become frozen, the adults retreat to the ocean, where they brave with impunity the severities of the coldest winters. Their power of diving is vigorous and remarkable, not more for swiftness than for the long time they are capable of continuing submersed: it is this amazing power that enables them to avoid with the greatest ease every artifice of man to capture them on the open sea or large lakes.

When fully adult the sexes offer little or no difference in the colouring of their plumage: the young, on the contrary, are clothed in a much more sombre vest, being entirely destitute of the black throat and contrasted bars of white and black which ornament the back and scapularies of the adults.

The nest is placed at the brink of the water; the eggs being generally two in number, of a dark olive brown blotched with spots of black.

Head and neck dusky grey, deepest on the fore part of the head; throat and front of the neck deep black with purple and green reflections; below the throat a narrow transverse band of black; a broad band, longitudinally rayed with white and black, extends from the ears down each side of the neck; upper surface deep glossy black; the greater part of the scapulars and the side feathers of the mantle marked with large white spots, forming on the scapulars several transverse bars; wing-coverts spotted with white; sides and flanks black; the remainder of the under surface being pure white; legs deep brown on the outsides, paler within; bill brownish black; irides reddish brown.

The young undergo three moultings before they attain their full colouring, during which changes they gradually pass from the plumage of the year represented in our Plate to that of the adults.

The Plate represents a male in full plumage, and a young bird of the year, about three fourths of the natural size.



PRE ID - TERRODATE ID DIVER.
Colymbus septentrionalis, Linn.

RED-THROATED DIVER.

Colymbus septentrionalis, *Linn.*

Le Plongeon à gorge rouge.

The Red-throated Diver, although possessing all the characteristics of the genus, differs very considerably both in colour and disposition of its markings from the other two species, viz. the Northern, and Black-throated, which form its European congeners. Of these it is the least in size, but by far the most abundant, being found in considerable numbers along the European coasts, and is especially plentiful in the arctic regions of both the European and American quarters of the globe. Although far from being uncommon on the sea-shores, it appears to evince great partiality for fresh and inland waters, taking to the sea when these are frozen ; hence in winter it is common along the coasts of England and Holland, beyond the latitudes of which it rarely passes southwards.

Like the others of its genus, it is a bold and vigorous diver, a mode of progression to which its lengthened neck and body are admirably adapted. Its principal food consists of small fish, crabs and other crustacea, to which, when it visits fresh waters, are added frogs, newts, and aquatic plants. Its flight, when it is mounted into the higher regions of the atmosphere, is rapid, and it has the capability of sustaining it for a long time.

We are able from experience to assure the reader, that the British Islands, particularly Scotland, the Orkneys and Hebrides, are to be reckoned among its annual breeding-places ; nor have we any reason to doubt that the northern shores of Europe in general afford it an asylum also for a similar purpose. It constructs a slight nest of grasses and vegetable fibres, among the herbage of morasses, and at the edges of such large lakes as invite it by their seclusion and quietude. Its eggs, two in number, are of a dark red brown blotched over with spots of black. The young, immediately after exclusion from the shell, are very active, follow their parents to the water, and instantly commence their search for food. Their growth is rapid, so that they soon acquire their full size, though not the adult colouring of the plumage till after the first autumn.

The young bird has hitherto been described in works on Ornithology as the *Colymbus stellatus*, the Speckled Diver, &c. ; the white throat which characterizes the birds of the year, together with the speckled plumage of the upper parts, having doubtless led to the mistake. The throat and fore part of the neck in the adult bird are covered with short, thick-set, velvety feathers of a dark grey, having in the centre a broad longitudinal band of rich chestnut,—at least during the summer, for we are as yet in doubt whether this character be lost as winter advances ; certain it is, that the adult birds taken in autumn have both the grey and chestnut of the throat less distinct and intermingled with patches of white. When the bird has become fully adult, the white specks which more or less distinguish the upper plumage of the young birds, according to their age, disappear, leaving the back of a uniform greenish brown. The upper part of the head and back of the neck are marked with longitudinal, wavy, narrow lines of white edged with black ; breast and under parts white ; flanks dashed with ash-coloured blotches ; beak black ; irides orange ; tarsi on their external aspect, and toes, of a deep olive black, having their internal sides and webs of a livid white.

We have figured an adult and a young bird of the year two thirds of their natural size.

RED-THROATED DIVER.
Colymbus septentrionalis, Linn.



FOOLISH GUILLEMOT.

Uria Troile: *(Lath.)*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

Genus URIA.

Gen. Char. *Beak* of mean length, straight, strong, compressed, and pointed; upper mandible slightly arched; *tomia* intracted; angle of the lower mandible gently ascending; *commissure* nearly straight. *Nostrils* basal, lateral, concave, longitudinally cleft, and half covered with the feathers of the *antiæ*, or projecting side angles of the cranium. *Wings* short, narrow, and acute. *Tail* of twelve or fourteen feathers, very short. *Legs* situated at the back of the abdomen and concealed within its integuments. *Tarsi* short and compressed. *Feet* of three toes, all directed forwards and palmated; outer and middle toes of equal length, the inner one much shorter. *Claws* fulcate, the middle one the longest.

FOOLISH GUILLEMOT.

Uria Troile, *Linn.*

Le Grand Guillemot.

The native habitat of this well-known bird extends throughout the northern regions of both hemispheres, and it is probably more abundant than any other of the oceanic birds of the same family. In its habits and manners it is truly aquatic, making the sea its permanent place of residence, except during the season of breeding, when it assembles on the ledges of the precipitous rocks which overhang the deep. In the British dominions, it collects annually in vast multitudes at the high cliffs and the Needle rocks in the Isle of Wight, the Bass rock in the Firth of Forth, the steep rocks on the west and east coast, the Shetlands and Orkneys, and, in fact, any coast whose bold and precipitous rocks afford a place suited for incubation. Here, united with Puffins, Cormorants, Razorbills, and Gulls, the assembled multitude offers to the eye a striking, novel, and animated picture, their continued clamour mingling with the hoarse beating of the sea, and completing a scene of no ordinary interest to the lover of nature; the Puffin seeking his hole in the rock, the Cormorant and Shag resorting to the topmost cliff, and the broad-winged Gull the lowermost range, covered with scanty herbage, while the Guillemot takes possession of the middle ledges along the face of the precipice, where thousands may be seen patiently performing the work of incubation, each sitting upright on its single large egg, which were it not for its peculiar shape would every moment be swept away from its narrow resting-place. After the breeding-season is over, they again take to the watery element, where, with their young, they traverse the wide ocean, not returning to the rocks till the succeeding spring. After breeding, they appear to undergo a partial moult: they lose their primaries so simultaneously as to be incapable of flight for a considerable period; a circumstance of little moment, as they easily elude pursuit by diving, in which they excel surprisingly. At this time they also begin to lose the obscure black of the cheeks, which is exchanged for delicate white; this white also characterizes the young of the year, which can only be distinguished from the adult in winter, by the darker colouring of the body, and by the more abbreviated and fleshy coloured bill. There is no perceptible difference in the sexes at either season.

Independently of the great resort of this bird to the British Isles, they abound in similar situations along the whole of the coast of Northern Europe, whence they gradually migrate southwards on the approach of winter, returning again with the vast shoals of fishes which pass northward in spring.

The whole of the upper surface of the throat and neck is of a uniform sooty black, inclining to grey, with a slender bar of white, which extends half across the wings; the under surface is a delicate white; bill blackish brown; irides dark hazel; tarsi dark brown, with a slight tinge of olive.

The Plate represents an adult and a young bird of the year of the natural size.



BRIDLED GUILLEMOT.

Uria lachrymans, *(Lapyl.)*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

BRIDLED GUILLEMOT.

Uria lacrymans, *Lapyl.*

Le Guillemot bridé.

Although we have figured this bird under the name of *lacrymans* we are doubtful of its specific value, bearing as it does so close a resemblance to the common species (*Uria Troile*), and from which it differs only in the white mark which encircles the eyes and passes down the sides of the head. It inhabits the same localities, and is even often found in company with the common species, and that too on various parts of our coast, particularly those of Wales, where, we have been informed, both kinds are equally numerous. It was firs-described as distinct by Choris, who states that it is abundant at Spitzbergen and the neighbouring seas. By M. Temminck and the French naturalists the two birds are considered to be distinct, and as such we have figured them.

The head, neck, all the upper surface, wings, and tail are deep sooty black; a line encircling the eye and passing down the side of the head, the tips of the secondaries, and all the under surface pure white; bill black; feet brown.

Our figure is of the natural size.

BRUNNICH'S GUILLEMOT.
Uria Brunnichii, Sabine.



BRUNNICH'S GUILLEMOT.

Uria Brunnichii, *Sabine.*

Le Guillemot à gros bec.

This species may at all times be distinguished from the *Uria Troile*, with which it has been often confounded, by the stout and abbreviated form of the bill, and by the much shorter space between the nasal orifices and the tip. We are only able to give a figure of it in its supposed summer plumage, which resembles that of the Common Guillemot, with this exception, that the dark parts are deeper and much more intense in colour, verging indeed towards sooty black. Although we have no authentic account of its having been captured in the British Islands, we feel convinced that it must occasionally occur along our northern shores. It is very abundant in Greenland, Spitzbergen, Davis's Straits, and Baffin's Bay; it doubtless also tenants the rugged shores of Norway, Lapland, &c.; and its habits in all probability closely resemble those of its congeners.

Crown of the head and all the upper surface glossy brownish black; sides of the face and front of the neck dark sooty black; tips of the secondaries and all the under surface white; bill black; gape bright yellow; feet greenish.

Our figure is of the natural size.



BLACK GUILLEMOT.

Uria grylle. *(Lath.)*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

BLACK GUILLEMOT.

Uria Grylle, *Lath.*

Le Guillemot à miroir blanc.

The northern parts of Scotland and the Orkney and Shetland Islands form a place of general rendezvous for the Black Guillemot, which being less migratory in its habits than its near ally the Foolish Guillemot (*Uria Troile*, Lath.) seldom quits these isolated groups, whose bays afford it shelter during the stormy season of winter, and whose abrupt and precipitous cliffs are equally inviting as a site for incubation. On the ledges of these rocks it deposits its single white egg spotted with black: the young are hatched in about three weeks, and shortly after are conveyed, but by what means is unknown, to the water, an element to which they are so expressly adapted that they are enabled to swim and dive with the utmost facility the moment they arrive on its surface, and to brave with impunity the rough seas which are so prevalent in northern latitudes. After the process of reproduction is over, the adults are subject to a considerable change in the colour of their plumage, apparently caused by a general moult, even to the primaries, which are so simultaneously lost that the bird is for a considerable period deprived of the power of flight. The fine black plumage by which the Black Guillemot is characterized during the summer now gives place to a mottled dress, consisting of half white and half black feathers unequally dispersed over the body, the former colour predominating so much during the rigorous season of winter as to render the bird almost wholly white. Although this style of plumage characterizes, to a certain extent, the young of the year, still the latter may at all times be distinguished from the former by having the tips of each feather, which is white beneath, only fringed with black; by having the white spot on the wings, at all times uniform in the adult, invariably clouded with black; and by the feet being yellowish brown instead of red.

Although a few pairs of the Black Guillemot occasionally breed on the Isle of May in the mouth of the Frith of Forth, still it is evident that the high northern latitudes form its most congenial and natural habitat. It appears to abound in the arctic circle, being equally common in the polar regions of both continents. According to the continental writers, it is less abundant on the coasts of Holland and France than on those of England, but more frequent on those of Norway and the shores of the Baltic. It rarely, if ever, resorts to inland waters.

Its principal food consists of small fish, marine crustacea, &c.

The sexes are alike in plumage, and the adults, in summer, may be distinguished by their having the whole of the plumage of a sooty-black tinged with olive-green, with the exception of a snow-white patch on the centre of each wing; bill black; irides and feet red.

The Plate represents an adult and a young bird of the natural size.



GREAT AUK.
Alca impennis, (Linn.)

Genus ALCA.

Gen. Char. *Beak* straight, arched, large, very much curved at the point; both mandibles laterally sulcated, and covered for half their length with short feathers. *Nostrils* near the lower edge of the upper mandible partly concealed by feathers. *Wings* short, narrow, and in one species unequal to the purpose of flight. *Legs* short, situated far backwards. *Toes* three before, webbed as far as the claws; hind toe wanting; front of the tarsi and toes scutellated. *Tail* short, pointed, and consisting of twelve or sixteen feathers.

GREAT AUK.

Alca impennis, *Linn.*

Le Pingouin brachiptère.

In this noble species of Auk we recognise a close approximation to the true Penguins, which form the genus *Aptenodytes*: being, like them, destitute of the powers of flight, its narrow slender wing serves more as an oar for aquatic progression than for any other decided purpose; unless, perhaps, in assisting the bird to scramble up the rocks, on the ledges of which it deposits its single egg, which is, indeed, the only time at which it makes the solid earth its abode.

The seas of the polar regions, agitated with storms and covered with immense icebergs, form the congenial habitat of the Great Auk: here it may be said to pass the whole of its existence, braving the severest winters with the utmost impunity, so that it is only occasionally seen, and that at distant intervals, even so far south as the seas adjacent to the northernmost parts of the British Islands. It is found in abundance along the rugged coasts of Labrador; and from the circumstance of its having been seen at Spitzbergen, we may reasonably conclude that its range is extended throughout the whole of the arctic circle, where it may often be seen tranquilly reposing on masses of floating ice, to the neighbourhood of which in the open ocean it seems to give a decided preference. Like the common Razorbilled Auk, it exhibits an annual change in the colours of its throat and neck, the jet black of these parts giving way to white in winter. Deficient as the Great Auk may be in the powers of flight and of easy unconstrained progression on the land, these deficiencies are amply compensated by its extraordinary capability of diving and its express adaptation to the watery element: here it is truly at ease, following its prey and sporting in the midst of the waves. Its food consists exclusively of fish of various species, which, however rapid they may be in their motions, it captures with the utmost facility.

Its single egg is deposited on the naked rock, either in some natural fissure or crevice just above the reach of the highest tides; its colour white tinged with buff, marked with spots and crooked lines of brownish black. The young take to the water immediately after exclusion from the egg, and follow the adults with fearless confidence.

There exists but little or no difference between the size or plumage of the sexes. In summer the whole of the upper surface is black, with the exception of a large white space before the eyes and the tips of the secondary quill-feathers; the whole of the under surface white; bill and legs black, the former being marked with oblique transverse furrows of a lighter tint.

The Plate represents an adult in its summer dress about two thirds of the natural size.

GREAT AUK.
Alca impennis (Linn.)



RAZOR-BILL AUK.

Alca Torda; *(Linn.)*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

RAZOR-BILLED AUK.

Alca torda, *Linn.*

Le Pingoin macroptère.

The habits and manners of the Razor-bill so closely approximate to those of the Common Guillemot (*Uria Troile*, Linn.), that the same description equally applies to both; to enter into them fully would therefore be only repeating what we have said in our account of the last-mentioned bird: like it, the Razor-bill inhabits the wide expanse of the ocean, the severities of which it braves with the utmost indifference; indeed it appears to rejoice in the agitation of the billows, that brings around it multitudes of small fish, which constitute its only support; like it, the Razor-bill, when called upon by the impulse of nature to the great work of incubation, seeks the inaccessible cliffs round the coasts of our island, on which it assembles in immense flocks, to deposit each its single egg on the barren ledges of the rock; and so often do the eggs of the two species resemble each other, that they are scarcely to be distinguished except by a practical observer: that of the Razor-bill is somewhat less, and generally has neither the grotesque marking nor the deep green colour which characterize the greater portion of the eggs of the Guillemot. The Razor-bill is very generally distributed throughout the seas of the arctic circle, a portion of the globe of which it is more especially a native; never, we believe, extending its migrations beyond the temperate latitudes of Europe in the Old World, and the southern portions of the United States in the New. In point of numbers the Razor-bill does not appear to equal its ally, if we may judge by what is to be observed along our own shores: the Guillemots literally swarm during the breeding-season on most of the rocky shores not only of our island but of the northern portions of the Continent in general. The dissimilarity which exists in the beak of the young from that of the fully adult Razor-bill has been the source of no little confusion, and has given rise among ornithologists to synonyms which were erroneously bestowed as specific titles on the young of the year, before the bird had been duly developed, a circumstance which does not take place until the second year: this mistake was further strengthened by the total absence of the white line between the eye and the beak, in birds whose size is equal to that of adults. It is, however, a singular fact, that when just excluded from the egg, this white line is strikingly apparent on the down with which they are then clothed; but with the acquisition of the feathers, this white line disappears, and is regained with the stripes on the upper mandible towards the close of the second year.

During winter the adults of both sexes lose the dusky colouring of the throat precisely in the same manner as the Guillemot. At this period the old and young closely resemble each other in plumage, and are only to be distinguished by the character of the beak.

The sexes are alike in colouring.

The whole of the upper surface and the throat is of a deep sooty black; a distinct white band crosses the wing, and a white line passes from the upper part of the bill to the eye; the remainder of the plumage is white; the bill is black, the upper mandible marked with deep transverse furrows and a clear white band; feet and tarsi brownish black.

Our Plate represents an adult and a young of the year, of the natural size.



LITTLE AUK.

Alca alle; *(Linn.)*.
Mergulus alle; *(Bon.)*.

Drawn from Life & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

Genus MERGULUS.

Gen. Char. *Beak* medial, its base furnished with downy feathers, somewhat thickened, above convex, emarginate towards the tip, curved. *Nostrils* rounded, half-covered with feathers. *Legs* short, three-toed, webbed. *Wings* short.

LITTLE AUK.

Alca alle, *Linn.*

Mergulus alle, *Bon.*

This interesting little oceanic bird, which we have illustrated in the accompanying Plate, inhabits the intermediate countries extending northwards from our latitude to the borders of perpetual ice, occurring equally in the polar regions of both continents. In these severe and high latitudes, it congregates in almost innumerable flocks. Their numbers are often diminished by the crews of vessels, as well as by the native Esquimaux; their flesh being considered both wholesome and delicate, at the same time affording a beneficial change of diet. They are said to be very tame and easily captured,—a circumstance readily accounted for, as the persons engaged in the whale fisheries, and the limited race of natives inhabiting the borders of these seas, are the only human beings they are ever disturbed by.

In these wild and almost impenetrable regions, the Little Auk, it will be observed, finds an almost secure asylum and breeding-place, as well as an element congenial to its habits and mode of life; and it is only from extreme necessity, chiefly from the severities of winter, that it seeks, for a short period, an asylum in more temperate climes. Its visits to the British Isles, and Europe in general, therefore, must be considered more as an accidental occurrence than a periodical migration. Young birds are, as is the case with the young of most species, found to wander furthest from their native habitat; the examples, therefore, we obtain, as well as those from Holland, France, and Germany, average about ten young birds to one adult. We have been particular in our inquiries as to whether the Little Auk breeds in any of the northern Isles, being induced to believe so from the circumstance of a specimen now and then coming to hand in the season of incubation, and in its mature state of plumage: we have not, however, been able to collect any certain data by which to set the question positively at rest; and it yet remains for some zealous naturalist to supply the information. Like the rest of its family, the Little Auk passes a great portion of time on the ocean, where it sports with great ease and fearless self-possession, feeding upon marine insects, small crustacea and fishes, diving for its prey with great celerity and adroitness. Although the sexes offer little or no external difference, still the plumage undergoes considerable changes periodically, which we have illustrated in our Plate. The bird represented in the drawing with a black throat, is in its summer plumage; at this season, the whole of the head, neck and upper surface being black, with the exception of a white band across the secondaries; the scapulars are bordered with the same, and a small spot of white also appears over each eye; the breast and under surface pure white. In the winter plumage, as well as in the young of the year, the throat, like the rest of the under surface, is pure white; beak black; legs and feet of a brownish yellow.

The egg of this species is 1 inch 7 lines long by 1 inch 1 line wide, of a uniform pale blue, very similar in colour to the eggs of the Starling.

We have figured the birds of their natural size, in summer and winter plumage.



PUFFIN.

Mormon Fratercula, *(Temm.)*

Drawn from Life & on Stone by J & E Gould.

Printed by C Hullmandel.

Genus MORMON, *Temm.*

Gen. Char. *Beak* shorter than the head, of greater depth than length, and very compressed; both *mandibles* arched, furrowed, and notched at the point, the edge of the upper one acute and elevated at its origin. *Nostrils* lateral, marginal, linear, naked, almost wholly closed by a naked membrane. *Tarsi* short, retiring. *Feet* palmated. *Toes* three before only, the two inner nails much hooked. *Wings* short; first and second *quill-feathers* equal, or nearly so.

PUFFIN.

Mormon Fratercula, *Temm.*

Le Macareux moine.

Whenever Nature appears to indulge in excentricity in the modification of those organs which are essential to existence, we are not to suppose,—because we cannot follow her through all her mysteries, or discover the motive,—that she ever acts a blind or random part, and the more inclined shall we be to come to this decision, the more closely we examine her operations. We make these remarks, because in the singular construction of the bill of this bird we are at a loss to account for this deviation from the forms which we see possessed by birds whose food and manners are altogether the same.

On a first glance at the Puffin, we cannot fail to be struck by the short and inelegant contour of its figure, and by the strange shape but brilliant colour of its beak, which imparts a singular aspect to the physiognomy of this inhabitant of the ocean; where, as if to belie its round and awkward figure, it displays great agility and an arrow-like quickness of motion;—its beak, deep, compressed, and pointed with a sharp ridge and keel, affords the beau ideal of an instrument for cutting through the water,—a circumstance the more necessary when considered in connexion with a form of body by no means so well adapted for diving with ease and vigour as is possessed by many others. The feathers however are thick, close and smooth, so completely throwing off every particle of water as to render it impossible that the plumage can be wetted. Independent of the use of the beak as a water-cutting instrument, it is a weapon of destruction to innumerable hordes of fry and smaller fishes which swim near the surface of the water. These, at least during the breeding season, are retained by dexterous management between the mandibles, till a row of little pendent victims is arranged along each side, their heads firmly wedged in the beak, and their tails and bodies hanging outside. Thus loaded, as we have frequently ourselves witnessed, the Puffin flies home to its mate or newly hatched offspring. The young, however, are themselves very soon ready for the water, where, long before they are capable of flight, they may be seen in company with their parents diving and sporting on their congenial element. The old birds evince great regard for their young, attending them with assiduity and manifesting the utmost anxiety on the approach of danger.

The Puffin has an extensive range, abounding at the season of incubation on the rocky parts of our coasts, especially the high cliffs and pointed rocks of the Isle of Wight, the rugged and precipitous coast of Wales, Scotland, the Orkneys and Hebrides, as well as on the northern shores of the European and American Continents. It does not however invariably resort to crevices and ledges of rocks, but is known occasionally, during the breeding season, to inhabit deserted rabbit-burrows, or other holes in the ground adjacent to the sea, within which, without constructing any nest, it deposits one or two eggs of a uniform dull white. The young when hatched are covered with long and fine down of a sooty black: their bill, as might be expected, is not so fully developed either as to size or colour, nevertheless it bears the characteristic peculiarity so striking in the adult bird; the sides also of the mandibles do not possess the deep furrows which appear at more advanced age. As they grow up, the general plumage assimilates to that of the adult, but is more obscure in its markings. The adult birds present no external sexual differences, the colour of the whole of the upper surface being of a dark brown, inclining to black with coppery reflections; a collar of the same colour passing round the neck; the cheeks white, shaded towards the lower parts with delicate gray; the whole of the under surface white; the bill blueish ash at its base passing off to a bright reddish orange, with three oblique furrows on the upper and two on the lower mandible; the gape covered by a naked puckered membrane; irides blueish gray; rim round the eye orange; above and below the eye, on the edges of the eyelids, are small bodies of a horny consistence and a deep slate-colour, that below the eye being narrow and two lines in length; their use is not known; legs orange. Total length eleven to twelve inches. Their food consists of fishes and marine insects.

Our Plate represents a male and female in different positions, to exhibit the peculiar character of their physiognomy.



NORTHERN PUFFIN.

Mormon glacialis; *(Leach).*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

NORTHERN PUFFIN.

Mormon glacialis, *Leach.*

Le Macareux glacial.

To a superficial observer the *Mormon glacialis* would appear to present but little difference from the common species, so plentiful during the breeding-season on many of the rocky coasts of our island; but on a comparison of the two species we feel convinced that our readers will coincide in our opinion, of their being specifically distinct. Its larger size and more powerful bill, which is of a uniform rich orange colour, together with the greater length of the fleshy appendages over the eyes, will at once serve to distinguish this species from its near ally the *Mormon fratercula.*

The Northern Puffin, as its name implies, is almost strictly confined to the ice-bound regions of the arctic circle, over the whole of which we have reason to believe it is distributed, numerous specimens having been from time to time brought home from Spitzbergen and Kamtschatka by our navigators on their return from exploring the boreal regions.

It occurs but rarely in the temperate latitudes, hence both the coasts of America and Europe are only occasionally visited by it; the northern shores of Russia, Lapland, &c. being among the only places in our quarter of the globe where it may be looked for with certainty.

The sexes do not appear to differ in the colouring of their plumage, which may be thus described:

Crown of the head and occiput light brownish grey tinged with lilac; collar surrounding the neck, all the upper surface, wings, and tail brownish black tinged with blue; primaries blackish brown very slightly margined with paler brown; sides of the face and all the under surface white; bill bright orange red; corrugated skin at the angle of the mouth gamboge yellow; irides orange red; irides and horny appendages grey; legs and feet orange with the webs paler and the claws yellowish brown.

We have figured an adult of the natural size.



Genus **PELECANUS.**

Gen. Char. *Beak* longer than the head, long, straight, broad, much depressed; the upper mandible channelled, the tip bent down and unguiculated; the lower bifurcate, furnished with a flaccid dilatable sac. *Face* and *throat* naked. *Nostrils* basal, placed in a longitudinal cleft. *Legs* strong, short; the tibiæ naked at the base; the middle claw with its inner edge entire.

PELICAN.

Pelecanus Onocrotalus, *Linn.*

Le Pélican blanc.

Those of our readers who are desirous of seeing this noble bird in a state of nature need only pay a visit to the southern and eastern portions of Europe to gratify their laudable curiosity. Although the tropical climates of Africa and India constitute its natural habitat, nevertheless the eastern rivers of Europe, such as the Danube and Volga, the extensive lakes of Hungary and Russia, and the shores of the Mediterranean, are places in which it dwells in abundance. It is a species strictly confined to the Old World, over a great portion of which it is plentifully distributed. M. Temminck, who quotes the *Pelecanus Philippensis* as synonymous with this bird, states that individuals sent him from Egypt and South Africa do not differ from those taken in Europe.

The *Pelecanus Onocrotalus* is a very large species, measuring nearly five feet in length, and from tip to tip of the wings, when spread, about twelve or thirteen feet, and is remarkable both for longevity and for the long period requisite for the completion of its plumage. The first year's dress is wholly brown; the feathers of the back and breast being broad and rounded. The assumption of the lanceolate feathers, and the rosy tints that pervade the plumage of the adults are only acquired as the bird advances in age; and, judging from individuals which we have opportunities of noticing in a state of partial confinement, it would appear that a lapse of five or six years is required before it may be considered fully mature.

The food of the Pelican is fish of all kinds, in the capture of which it displays considerable activity and cunning; and, although its robust body and immense bill would seem to contradict the assertion, its motions are so quick that even young fry and eels can scarcely escape its vigilance. The same power that renders it so light and buoyant on the water denies it the means of diving, consequently it is only the small and shallow inlets of rivers that are resorted to when in search of its food. Occasionally, however, it will rise to a considerable height in the air, from whence, on perceiving a fish, it descends with astonishing swiftness and unerring aim, the rapidity of its descent forcing it beneath the surface, on which its extreme lightness causes it to reappear instantaneously.

The female constructs a nest on the ground, of coarse reedy grass, generally about a foot and a half in diameter, and lined with soft grass, laying two or more eggs, which are white, and like those of the Swan, During the period of incubation it is extremely assiduous in procuring food for its young, carrying it to them in the capacious pouch or gullet which forms so conspicuous a feature in this bird, and which is "one of the most remarkable appendages that is found in the structure of any animal. Though it contracts nearly into the hollow of the jaws, and the sides to which it is attached are not (in a quiescent state) above an inch asunder, it may be extended to an amazing capacity; and when the bird has fished with success, its size is almost incredible: it will contain a man's head with the greatest ease. In fishing, the Pelican fills this bag, and does not immediately swallow his prey; but, when this is full, he returns to the shore to devour at leisure the fruits of his industry." (Shaw's General Zoology, vol. xiii. Part I. p. 111.)

The Pelican bears confinement remarkably well, particularly if space sufficient be allowed for it to plume and wash itself. Fish either dead or alive are voraciously devoured; and fish in plenty obtained, it appears content and satisfied.

Although it possesses the power of perching on trees, yet it gives the preference to rocky shores, which appear to form the best and most natural situation when in a state of repose. On level ground its walk is awkward and inelegant, and when on wing its flight is heavy and apparently effected with great labour.

Along the top of the upper mandible runs a line of crimson, the remainder being reddish at the base and yellowish at the tip; the under mandible pale red; the pouch reddish yellow; the naked spaces around the eyes are flesh colour; the occiput is slightly crested; the whole of the plumage is white, tinged more or less with salmon colour, with the exception of the crest and a few pendulous feathers attached to the lower part of the neck, which are pale yellow, and the primaries and spurious wings, which are black; legs flesh colour; claws grey; irides hazel. The salmon-coloured tint which pervades the whole of the plumage is considerably heightened during the breeding-season.

We have figured an adult male about one third of the natural size.



DALMATIAN PELICAN.

Pelecanus crispus, *Feld.*

A BIRD of such striking magnitude as the present having so long escaped observation even on the shores of Europe, what may we not expect from those more distant countries to which the scrutinizing eye of the naturalist has seldom penetrated? Although this species has been introduced to the notice of the scientific within the last few years only, it has doubtless long abounded where it is now found. The specimen from which our figure is taken was sent us by Baron de Feldegg, and was one of twenty-four killed by him on the shores of Dalmatia.

In the letter which accompanied this specimen the Baron thus writes: "The first example of this bird that came under my notice was shot by myself in the year 1828 in Dalmatia, and was sent to the Imperial Cabinet in Vienna. Two years after this, Messrs. Rüppell and Kittlitz met with this species in Abyssinia, where, however, it would appear to be very scarce, as those gentlemen procured only a single specimen. In the year 1832 I published a description of it under the name of *Pelecanus crispus*. Many ornithologists are of opinion that there is only one species of Pelican in Europe, for which reason they have given it the specific name of *onocrotalus*, and they observe that the size which the bird attains is regulated by the temperature of the climate in which it resides. I possess examples of the true *Pelecanus onocrotalus* taken in Europe and at the Cape of Good Hope, which in all the more important points closely resemble each other; the tarsi, for instance, are of equal length, and the naked spaces round the eyes are of the same extent, while, on the contrary, one shot in Moldavia was much smaller. The *Pelecanus crispus* has undoubtedly escaped notice in consequence of no other naturalist having seen both species together as I have in Dalmatia, where it arrives in spring and autumn, and where it gives preference to the neighbourhood of Fort Opus on the river Naranta, which is bordered with morasses. It comes through Bosnia, seldom alone, but generally in flocks; I have seen as many as twelve together hunting for fish: it is very cunning, and is extremely difficult to shoot. I obtained, at different times, as many as twenty-four examples."

The *Pelecanus crispus* differs from the Common Pelican in possessing a beautiful crest and mane of narrow, elongated, silky feathers; in the naked space around the eye being smaller; in the feathers of the breast being stiff, lanceolate, rounded at the points, and of a firm elastic texture; in the body being more bulky and larger in all its proportions; and in the tarsi being stouter, of a different colour, and considerably shorter. "At all seasons of the year old birds may be found both with and without the crest. I saw a specimen in M. Aker's menagerie which had always had it, while a bird of the same species in another menagerie had none; in all other respects they were the same, and were very healthy; and I possess a female in which the ovaries were largely developed, and which has a large crest covering the whole of the head, which circumstance induces me to conclude that it is a very old bird."

Of its habits, manners, mode of nidification, &c. no details have been ascertained, but we may reasonably suppose that in all these particulars it closely resembles the other members of its family.

"Naked space round the eyes reddish, towards the bill bluish; upper mandible grey, passing into blue and red; gular pouch or sack under the bill blood red intermingled with bluish; feet bluish grey; head furnished with a crest and thickly covered with feathers, which, with the whole of the upper and under surface, are silvery white;" the tail is composed of twenty-two feathers, the shafts of which, with those of the scapularies and secondary wing-coverts, are black; primaries blackish brown; chest tinged with pale yellow.

The young, which are very seldom seen, are wholly brownish grey, the feathers being much finer and closer in texture and more silky in appearance than in the adults.

We cannot close our account of this splendid bird, one of the noblest of its race, without offering our warmest thanks to our esteemed friend the Baron de Feldegg for the very fine specimen of this bird he so obligingly sent us, as also for the very interesting communication transmitted with it, from which are extracted the paragraphs in this paper included between inverted commas.

The Plate represents an adult and a young bird about one fourth of the natural size.



Genus **PHALACROCORAX**, *Briss.*

Gen. Char. *Beak* generally longer than the head, straight, strong, hard, slightly compressed, having the upper mandible terminating in a powerful hook, and furrowed laterally from the base as far as the tip of the lower mandible, with the terminating nail distinct; its tip compressed and truncated; *tomia* of the lower mandible retracted. *Nostrils* basal, concealed. *Face* naked. *Throat* dilatable. *Wings* moderate, the second quill-feather the longest. *Tail* moderate, rounded, and composed of stiff elastic feathers. *Legs* placed far behind, short and strong. *Feet* of four toes, all connected by a membrane; outer toe the longest, the others gradually shortening to the hind one. *Tarsi* reticulated; the upper part of the toes scutellated.

COMMON CORMORANT.

Phalacrocorax Carbo, *Steph.*

Le Grand Cormoran.

Our Plate illustrates this fine although common species in its nuptial dress, a style of plumage which it does not possess in a perfect state above one month out of the twelve, and the peculiarity of which state consists in the narrow white feathers which ornament the sides of the head and neck, together with an occipital crest of long slender black feathers down the back of the neck, and a patch of pure white on the outer side of each thigh. This conspicuous plumage, which is common to both sexes, is assumed about the latter end of February or the beginning of March, the period at which these birds commence the work of nidification, after which the white plumes, together with the white patch on the thighs, gradually disappear, these parts then becoming of a uniform blueish black. This peculiarity of plumage is only found in birds that have attained their third or fourth year, the immature dress up to that period being of a dull brown colour, while the young of the year have the under surface wholly white. These remarkable and contrasted changes have induced the older naturalists to look upon individuals in the various stages of their existence as constituting so many distinct species; but further observation has fully proved their identity, the difference depending upon age and season.

The Common Cormorant is equally and rather numerously distributed along the coasts of the British Islands, often resorting to inland lakes and rivers adjoining the sea, especially such as are not liable to be frozen during winter. They occasionally perch and roost on trees, towers, and rocky projections; and although the summits and ledges of rocks overhanging the sea are the principal and favourite breeding-stations, still it is known to incubate occasionally in trees, and even upon the ground, as is the case in the Farn Islands, and the extensive reed-beds in Holland. The nest is usually composed of dried sea-weed, rudely put together, and often of a considerable thickness; the eggs, generally three in number, are of a greenish white, covered with a chalky coating, and extremely small compared with the size of the bird.

In swimming, the body of the Cormorant is nearly all emersed below the surface of the water, the tail serving as a very effectual rudder, by means of which it is able either to dive or turn in the most rapid and dexterous manner.

Its food, as may naturally be supposed from its powers and structure, consists almost wholly of fish, which it takes by chasing beneath the surface, the dilatability of its throat enabling it to secure and swallow fish of comparatively large dimensions; and we may easily conceive that the quantity it devours and the destruction it occasions in the shoals at various seasons of the year must be enormous, and injurious to the interests of the fishermen. Its distribution over Europe is in the same ratio as in the British Isles, and it is even more abundant on the rocky coasts of the north.

The plumage of spring:—On the back of the head are long plumes, which form a crest of slender feathers of a deep glossy green; on the throat extends a collar of pure white; on the top of the head, and on a great part of the neck and on the thighs, are long silky plumes of pure white; the feathers of the back and wings are of an ashy brown, bronzed in the middle with a broad edging of glossy greenish black; quills and tail-feathers black, which is the general colour of the under surface; beak dull white, clouded and transversely rayed with black; naked skin of the face greenish yellow; irides bright green; tarsi black.

In winter the top of the head, the neck, and thighs entirely lose the white plumes of spring, and are of the greenish black of the rest of the under surface.

The young have the top of the head and upper surface deep brown, with greenish reflections; the whole of the under surface white, more or less clouded with brown according to age.

Our Plate represents an adult male in the spring plumage, and a young bird of the year, three fourths of the natural size.



BLACK CORMORANT.

Phalacrocorax Graculus, *Briss.*

Le Cormoran nigaud.

Our knowledge of the identity of this species is due to the kindness of M. Temminck, who favoured us with a fine specimen, from which the accompanying figure was taken. It is one of those species respecting which much doubt has hitherto existed, and which has led to considerable confusion in the works of our later British ornithologists, who have confounded it with the Common Shag or Green Cormorant. Notwithstanding all our endeavours, we have never been able to substantiate its claim to a place among the British Fauna; a circumstance somewhat singular, as M. Temminck gives Holland, together with a wide range through the northern latitudes of both worlds, as within the limits of its habitat. His words are these: "Habitat, The northern and meridional portions of both worlds. It is migratory in the eastern countries of Europe; is less numerous in its passage in the countries bathed by the ocean; and is very abundant in the regions of the artic and antarctic circles." In addition to this, he adds, that he has received individuals from Africa and North America which differ in nothing from those killed in Holland; and still further, that those killed in Brazil, of which he has seen a great number of examples, differ in no respect from those taken on his own coast. As for ourselves, with the exception of one specimen from Newfoundland, which we believe to be identical with the present bird, we have never seen it among the many extensive collections which it has fallen to us to examine, from the localities assigned by M. Temminck as its habitat. From the Shag and the Cormorant, the only two well-authenticated examples of this genus natives of the British Islands, there are abundant grounds of distinction, as an examination of the colouring and other generic characters will prove.

The figure in our Plate is that of a bird in mature plumage, in the act of assuming the characteristic marks of the breeding-season, which consist of a multitude of delicate white linear dots, occupying the sides of the head and neck and the feathers of the thighs, which moreover are accompanied by a thick occipital crest of black feathers, assumed at the same time with the delicate markings. In size it is inferior to the Cormorant, but rather larger than the Shag, from both of which it may be distinguished, among other things, by the lancet-shaped feathers of the back and scapularies, and by the yellowish red colour of the gular pouch. In habits and manners it is identical with its congeners, of which we may take the Common Cormorant as the most familiar example. Its food is fish, which it takes with the utmost dexterity by diving.

The head, neck, middle of the back, and all the underparts black; wings and scapularies brownish ash in the middle, with a margin of jet black; beak reddish horn colour, black along its upper margin; naked skin round the eye and gular pouch reddish yellow; irides brown; tarsi black. As the breeding-season approaches, the occiput becomes adorned with a crest of glossy black feathers, and the sides of the head and neck and the thigh-coverts become sprinkled with the linear dots of white to which we have already adverted.

The Plate represents an adult bird, about three fourths of its natural size, assuming the white dots and crest of the breeding-season.



LITTLE CORMORANT.

Carbo pygmæus, *Temm.*

Le Cormoran pygmée.

This species, although termed *pygmæus*, is very far from being the least of its genus; still it is much less than any other of its European relatives. It is the eastern portion of Europe alone which constitutes its true habitat, being very common in some parts of Hungary, and especially along the borders of the lower Danube: it is more rare in Austria, and is seldom seen in Germany. From the tracts it frequents in Europe, we are naturally led to expect that it is distributed over the adjacent portion of Asia, and we learn that it is found in great numbers in Asiatic Russia.

In the periodical changes of its plumage, and also in the changes which occur in its progress from youth to maturity, it strictly resembles the Common Cormorant; the birds of the first year having the usual brown tint pervading the upper surface, and the mottled greyish white on the chest and lower parts: as they advance to maturity this dress give place to a more decided and glossy plumage of jet black and grey. At the pairing-season, like the Common Cormorant, it becomes temporarily decorated with numerous fine linear feathers, of a white colour, on the sides of the head, neck, and thighs. Although we have every reason to believe that both sexes participate in this change, we cannot positively assert that this is the case.

The adult male in summer has the whole of the plumage of a glossy greenish black; each feather of the back and wings margined with black; neck, head, and thighs ornamented with fine filamentous white feathers; the rest of the plumage black.

The winter dress resembles that of summer, except that the fine white feathers on the head, neck, and thighs are entirely wanting.

The Plate represents a male of the natural size, undergoing the change from winter to summer.



SHAG OR GREEN CORMORANT.

Phalacrocorax cristatus, *Steph. and Flem.*

Le Cormoran largup.

The present species is rather abundantly distributed throughout the rocky and precipitous shores of the British Islands; indeed it is yet a question whether it does not exceed in number the larger species, *Phalacrocorax Carbo*, with which it associates, particularly during the breeding season, but from which it may easily be distinguished, as also from all the other Cormorants, by the intense green of its body, and, during the season of incubation, by the elegant flowing semi-erect crest, and by the absence at this period of the delicate white markings on the sides of the neck and thighs, so conspicuous in the other species of the genus. The crest is only assumed during the season of reproduction, and is not found at all in birds of the first and second year. When fully adult, the sexes offer no difference in their external characters. In habits and manners they strictly resemble the Cormorant: like that bird, they may be observed going from their craggy haunts early in the morning, either out to sea or up the large rivers in quest of their prey, and regularly returning in small companies on the approach of sunset; thus strongly reminding one, in these particulars, of the habits of the Rook, which almost every person must have observed going out in the morning, and returning in the evening to its accustomed roosting-place.

The Shag is widely distributed over all the northern portions of Europe, and as far southward as the shores of the Mediterranean. Its powers of flight are very great; but not more remarkable than its powers of diving and continuance beneath the surface, where it makes its progress by repeated strokes of the pinions aided by its broadly webbed feet: in this way it easily secures its prey, often fish of large dimensions, for the carrying of which its dilatable throat is well adapted.

The site chosen for incubation is the topmost ledge of some bold precipice, where, secure from the interruption of man, it constructs a nest of dried sea-weed for the reception of its eggs, which are two, three, or four in number, of an oblong shape and a white colour, with a rough calcareous surface. When first excluded from the egg, the young are quite naked, but quickly become covered with thick black down, which remains a considerable time before it is succeeded by the regular feathers.

The adults have the whole of the head, neck, centre of the back, and under surface fine dark green; the scapularies and wings bronze green, each feather being bordered by a narrow band of velvet black; quills and tail black; bill blackish horn colour; angles of the mouth, skin round the eyes and gular pouch fine yellow; feet black; irides green.

The young of the year is distinguished by the whole of the upper part of the plumage being brown, slightly tinted with green; and the under surface brownish ash, more or less inclining to white.

The Plate represents an adult in the summer plumage, and the young of the year, about three fourths of their natural size.

PHALACROCORAX CORMORANT.

Phalacrocorax Desmarestii



DESMAREST'S CORMORANT.

Phalacrocorax Desmarestii.

Le Cormoran de Desmarest.

The present bird is a native of the rocky shores of the eastern parts of Europe, or more properly speaking of the shores of the Black Sea and its tributary streams, and in these localities would appear to represent our common Shag, a species to which it very closely approximates both in size and general appearance, but on a comparison of the two birds from these different localities, no doubt can exist as to their being specifically distinct. The present bird, although not inferior in the size of its body, is decidedly superior in the length of the wing, while it possesses a much longer and more attenuated bill. Our specimens were received from M. Temminck, but no account of its habits and manners has been transmitted to us; we have, however, every reason to believe them to be the same as those of our native species.

The head, which is slightly crested, and the neck are greenish black; the whole of the upper surface green, each feather having a narrow margin of jet black; rump glossy greenish black; abdomen sooty black tinged with green; naked space at the back of the bill rich orange; bill yellowish horn colour; primaries, tail, and feet black.

We have figured an adult of the natural size.



Genus SULA.

Gen. Char. *Bill* longer than the head, thick, strong, straight, acuminate, compressed towards the point, with the dertrum slightly convex; mandibles equal; the upper one laterally sulcated from the base to the tip, and with a hinge near the posterior part, making it appear as if composed of five separate pieces; culmen rounded; lower mandible having the angle rather prominent, gently ascending to the tip; chin-angle narrow and long, filled with a naked dilatable skin; face naked; tomia intracted, obliquely and unequally serrated. *Nostrils* basal, concealed from view. *Wings* long and acuminate. *Tail* graduated. *Legs* abdominal. *Tarsi* short. *Feet* of four toes, all connected by a membrane; the middle and outer toes of nearly equal length; middle claw having its inner edge dilated and toothed.

SOLAN GANNET.

Sula Bassana, *Briss.*

La Fou blanc ou de Bassan.

The seas bordering the European shores are the natural habitat of the Solan Gannet, and nowhere is it more common during summer than on the rugged and precipitous coasts of Scotland, especially the Bass Rock, the isles of Ailsa, St. Kilda, &c., where they breed in vast multitudes: these situations, in fact, appear to be the principal nursery for this race. On the approach of autumn they leave their rocky breeding-places, and go further out to sea, the greater number passing considerably to the south, feeding on herrings, pilchards, and other fishes. Being destitute of the power of diving, they seize their prey by a vertical plunge when within a certain distance, and so forcible is their descent, that we are informed of instances in which they have killed themselves, by darting at fish attached to a board, connected by a rope fifty or sixty yards in length to a vessel at anchor, the neck being either dislocated or the bill driven firmly into the wood. The flight of the Gannet is extremely rapid, vigorous, and capable of being long sustained; hence it traverses the wide surface of the ocean with comparative ease. Although in the breeding-season the Gannets congregate in such countless multitudes, it seldom happens that they are found in flocks out at sea, but mostly alone, dispersed apparently in search of food. On the approach of spring they return to their accustomed rendezvous, which is generally preserved from molestation and farmed by persons who make a profit of the feathers and the young birds, their flesh being considered by some a delicacy, though to most persons its oily and fishy flavour renders it extremely disagreeable. While sitting on their nest, which is composed of sea-weed and other similar materials, they are so absorbed in the task of incubation, that they will sometimes permit themselves to be approached, and even handled, without quitting it: they lay but a single white egg, which in size is between those of a Cormorant and a Common Goose. From the time it is hatched till it arrives at maturity, no bird undergoes a more marked change in the colouring of its plumage. Mr. Selby was informed by two persons who rent the Bass Rock that the Gannet is four years in attaining a permanent state of plumage, and until this period has elapsed it is not known to breed.

The first year's plumage is characterized by the head, neck, and all the upper surface being blackish grey, inclining to brown, each feather tipped with a triangular spot of white; the breast and under surface white, each feather being edged with greyish black; the quills and tail greyish black, the shafts of the latter being white; the bill blackish grey tinged with brown; the irides pale brown; the legs and feet deep grey.

The second year's, by the head and greater part of the neck being white, more or less spotted with blackish grey; the upper surface of a nearly uniform brown, the white spots on the tips of the feathers becoming less distinct or entirely disappearing; and by the under surface becoming whiter.

The third year's, by the white increasing all over the body; the scapulars and tertials remaining black or spotted with blackish grey.

The fourth year's, or fully adult plumage, is characterized by the crown of the head, occiput, and upper part of the neck being pale yellow; all the remaining plumage pure white, with the exception of the quills and bastard wing, which are black; bill bluish grey, fading into white at the tip; naked skin round the eyes greyish blue; membrane at the gape and beneath the throat black; irides pale yellow; streak down the front of the tarsi and toes bluish green; webs blackish grey; claws greyish white.

The Plate represents a fully adult bird, and a young one of the first year, about three fourths of the natural size.



BLACK-TAILED GANNET.
Sula melanura. (Temm.)

Printed by Hullmandel

BLACK-TAILED GANNET.
Sula melanura, (Temm.)

P. Oswald del et lith.

BLACK-TAILED GANNET.

Sula melanura, *Temm.*

We are indebted to the kindness of M. Temminck for the loan of the fine specimen of this bird from which the accompanying figure was taken, and which he informed us was killed in Iceland. In every respect, except in having a black tail, it resembles the Solan Gannet, *Sula Bassana*, which bird when fully adult has a white tail. Whether this difference be an accidental variation, or if not, whether the difference is of sufficient importance to justify a specific distinction, we are unable satisfactorily to decide. M. Temminck regards it, we believe, as a true species, and as such we publish it, leaving the question still open for further investigation: at all events it will not be destitute of interest to the scientific naturalist. It may perhaps be said that as the Gannets change from almost black to white in passing from youth to maturity, this bird exhibits an intermediate state of plumage, the original black colouring still remaining on the tail: there can be no doubt, however, that the bird was fully adult, and we may remark that the first change that occurs in the plumage of the young shows a disposition in all parts to approach towards the colouring of the adults; it is therefore unlikely that the tail should be even of a deeper black than that of the young Gannet, while the rest of the plumage is that of complete maturity.

The figure is about three fourths of the natural size.



CASPIAN TERN.

Sterna Caspia. *(Linn.)*

Drawn from Nature & on Stone by J. & E. Gould. *Printed by C. Hullmandel.*

Genus STERNA, *Linn.*

Gen. Char. *Bill* as long or longer than the head, nearly straight, compressed, drawn to a fine point, with both mandibles of equal length, and the upper slightly convex; tomia rather intracted and sharp-edged; lower mandible having a prominent angle near its middle part. *Nostrils* basal, lateral, linear, oblong, pervious. *Wings* very long, acuminate, the first quill-feather the longest. *Tail* more or less forked. *Legs* having the tibiæ naked for a short space above the tarsal joint. *Tarsi* short. *Feet* of four toes, three before, one behind; the three former united by a membrane more or less scalloped, the hind toe small and free. *Claws* arched and sharp.

CASPIAN TERN.

Sterna Caspia, *Pall.*

L'Hirondelle de Mer Tschegrava.

This large and powerful species is dispersed over the northern shores of Africa, the eastern portion of Asia, and all the temperate parts of Europe, where it appears to evince a partiality to inland seas rather than to the wide ocean, and hence we find it most abundant in the Mediterranean, Black, and Caspian Seas, from the latter of which it takes its name. Of its visits to the shores of Great Britain the instances are but few, and at no regular or definite periods.

In size this noble bird is not exceeded by any other member of its race: it is even larger than many of the Gulls, from which tribe the Terns differ much in their structure, and are moreover destined to fill a very different station in the scheme of creation.

Its food consists of fish, crustacea, mollusca, &c.

The sexes of the Caspian Tern offer no external difference in the colouring of the plumage, but the crown of the head, which is white in winter, becomes on the approach of spring of a deep rich and glossy black, which change is common to both sexes.

The nest is merely a hollow scraped in the sand or shingle; the eggs are four in number, and we have ourselves received them from the small shingly islands at the mouth of the Baltic, which, from the numerous specimens we have seen from that locality, we conceive must form one of the stations to which the Caspian Tern resorts in great numbers for the purpose of breeding: it doubtless also breeds on most of the shores of the Black and other seas before mentioned.

In summer the forehead, crown of the head, and occiput, are black; back, scapulars, wing-coverts, and tail pearl grey; quills greyish brown; the remainder of the plumage pure white; bill rich vermilion; legs and feet black.

The young of the year are clouded and transversely barred with marks of brown, much after the manner of the young of the Sandwich and other European Terns.

The Plate represents a male in summer of the natural size.



SANDWICH TERN.

Sterna cantiaca, *(Gmel.)*

SANDWICH TERN.

Sterna cantiaca, *Gmel.*

L'Hirondelle de Mer caugek.

Like most others of its race, the Sandwich Tern visits the British Isles only during the warmer part of the year, breeding along our shores; and in some localities, as the coast of Kent, Essex, and the Farn Islands off Northumberland, being in considerable abundance. As the severity of winter approaches, and drives into deeper water the young crustacea and fishes on which it feeds, it leaves us for more temperate latitudes, where its food is ever accessible. It is one of the largest of our British Terns, and, unlike some of the genus, is seldom or never seen along inland rivers or upon the large European lakes. Its locality is very extensive, there being few coasts in the Old World where it is not found. In manners and general economy, it differs in no respect from its congeners, being equally remarkable for rapid flight and all that activity and address which fit it for passing over the rough billows of the rock-bound sea.

The process of nidification—for nest it makes little or none—takes place on the naked rock, the shingly beach, or other situations close to the edge of the water. The eggs are two or three in number, marbled with brown or black on a whitish ground.

The male and female offer but little difference of plumage, both being remarkable for a jet black head in summer, which becomes mottled in autumn, and wholly white, or nearly so, in winter. The young, on the contrary, display a very different state of colouring, exhibiting on the upper surface a succession of arrow-shaped marks of black on a light grey ground. In this stage it has been called the Striated Tern by Gmelin and Latham.

In one particular the present bird is very remarkable, having a black beak (the tip alone being yellow in the adult), black tarsi and toes, whereas most of the species of this genus are uniform in the rich red with which these parts are deeply tinted.

In the full plumage of summer, the adult has the head and occiput jet black; the upper parts delicate blueish ash; the sides of the head, the throat and under parts pure white; the bill black with a yellow tip, and the tarsi black. In winter the head is white; and in the intermediate season the progress of change goes on through various stages of mingled black and white, the black of the head returning with the spring.

The young of the first autumn resemble the parents in the colour of the beak and tarsi, except that the former is black to the tip; the upper parts are light grey, the head being barred with transverse semilunar marks of black, and the rest of the upper surface with arrow-headed spots of blackish brown, the quills alone being clear; the under surface white.

The Plate represents an adult of its natural size, and a young bird of the first year in the mottled livery.

GULL BILLED TERN.
Sterna Anglica: *Montagu.*



GULL-BILLED TERN.

Sterna Anglica, *Mont.*

Le Hirondelle de Mer Hansel *of Temm.*?

This rare species of Tern was first made known from specimens obtained in this country by Colonel Montagu, and was described and figured by him in the Supplement to his Ornithological Dictionary. The bill is wholly black, about an inch and a half long, thick, strong, and angulated on the under mandible, at the symphysis or junction of the two portions, in which particular it resembles the Gulls, and this Tern may be considered as a link between the species of the two genera. The upper part of the head, occiput and back of the neck are black in summer; all the upper parts cinereous; outer tail-feathers and all the under parts of the body white; the first five quill-feathers are tipped with greyish black, part of the inner webs white; legs long, exceeding one inch and a half, nearly black; toes long, claws almost straight. In the winter plumage the head is white, with dusky markings about the eyes. Young birds have the head, back and wings mottled with ash colour, light brown and dusky. The sexes are alike in plumage, but the female is rather smaller than the male.

It seems to be now a very general, but not a universal opinion, that the *Sterna Anglica* of Montagu is not the same bird as the *Sterna Anglica* of Temminck's *Manuel d'Ornithologie*, but that this latter bird is identical with the *Sterna aranea* of Wilson and the Marsh Tern of Peale. We have had no opportunity of examining American specimens of this rare Tern, but examples brought from India by Colonel W. H. Sykes were compared, and found to correspond exactly with Colonel Montagu's birds in the British Museum, both in their winter and summer plumage; and that the *Sterna Anglica* of Montagu exists in the Dukhun does not therefore admit of a doubt. Colonel Sykes remarks, that with the aspect, length of wing, lazy flight, and habits of the Tern, this bird has a bill approximating to that of the Gull, and not quite identical with the bill of *Viralva*, under which genus Mr. Stephens has arranged our *Anglica* in his Ornithological portion of Shaw's Zoology, vol. xiii. p. 174.

Numerous fishes were found in the stomachs of the examples of this bird killed in the Dukhun, and this fact is in accordance with the remarks of Charles Lucian Bonaparte, Prince of Musignano, who in his Observations on the Nomenclature of Wilson's Ornithology, states that the habits of the two species of Tern, *Sterna Anglica* and *S. aranea*, are very different; the former is confined to the sea-shore, and feeds sometimes on fishes, while the latter is generally found in marshes, and feeds exclusively on insects.

The Gull-billed Tern is said to frequent, and even to be common on the eastern parts of the European continent, particularly during the summer, where it lays three or four oval-shaped olive-brown eggs, spotted with two shades of darker brown.

We have figured a bird in the summer plumage and of the natural size.

Sterna Anglica; J. Montagu del.

COMMON TERN.
Sterna Hirundo. *Linn.*



COMMON TERN.

Sterna Hirundo, *Linn.*

La Hirondelle-de-mer Pierre Garin.

All the members of this interesting tribe inhabiting the British Islands are strictly migratory: several species visit us for the purpose of breeding, while others, being inhabitants of more distant countries, are of more rare occurrence.

The Common Tern, although not universally dispersed over our coasts, is nevertheless a very abundant species, being found in great numbers over the southern shores, but more sparingly over the northern, which are almost exclusively inhabited by its near ally the Arctic Tern.

It is now satisfactorily ascertained that the Common Tern does not extend its range to the American Continent, and that its place is there supplied by another species, to which the Prince of Musignano has given the specific appellation of *Wilsonii*, in honour of the celebrated ornithologist by whom it was first described.

How far the Common Tern is distributed over the Old Continent we have not satisfactorily ascertained, but we believe its range is extended from the Arctic Circle to the Mediterranean, and even to the coast of Africa and India, to which southern and eastern countries it is supposed to retire during our winters.

The Common Tern does not confine itself entirely to the sea, but frequently resorts to inland streams, &c.; and when thus ascending our creeks and rivers these little fairies of the ocean fearlessly fish around our boats, nothing can be more pleasing than to observe their poise and dip. When with their scrutinizing eyes they have observed a fish sufficiently near the surface, they precipitate themselves upon it with an unerring certainty, and a rapidity that is truly astonishing; this mode of capture strongly reminds us of the *Fissirostral* tribe among the land birds, and they may, indeed, be truly termed the Swallows of the ocean, their long and pointed wings, and small but muscular bodies, being admirably adapted for rapid and sustained flight, and affording the means by which they are enabled to traverse the surface of the deep with never-tiring wings.

The Common Tern breeds upon the sand or shingle beyond high-water mark, making no nest, but scraping a slight hollow for its eggs, which are two or three in number, and which vary much in colour, some being of a deep olive green, while others are of a cream colour, but all blotched with blackish brown and ash grey. "In warm and clear weather," says Mr. Selby, "this bird incubates little during the day, the influence of the sun upon the eggs being sufficient; but it sits upon them in the night, and also through the day under a less favourable state of the weather. The young when excluded are assiduously attended by the parents, and are well supplied with food until they are able to fly and accompany them to sea. During the time of incubation the old birds display great anxiety, and are very clamorous when any one approaches their station, in flying round and frequently descending so near as to strike the hat of the intruder."

Forehead, crown, and occiput black; back, wings, and tail pearl grey, the edge of the external quill in the wing being black for three parts of its length; face, sides of the head, neck, and all the under surface white; bill bright red for two thirds of its length, the tip black; legs and feet bright red.

The Plate represents two adults, one in the winter and the other in the summer plumage, of the natural size.



ROSEATE TERN.

Sterna Dougallii. (Mont.)

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

ROSEATE TERN.

Sterna Dougalli, *Mont.*

Le Hirondelle-de-Mer Dougall.

The delicate rose-colour which pervades the breast of this bird, together with the slender black bill, at once distinguishes it from every species of British Tern; and although not one of the rarest, it is nevertheless more thinly distributed than any other species known to make the British Islands a place of incubation. Continental writers have asserted its occurrence on various northern shores; but it is there also, we have reason to believe, extremely limited in numbers. The first recognition of it as a distinct species is due to Dr. MacDougall of Glasgow, who discovered it breeding on the Cumbray Islands, in the Frith of Clyde. It has since been observed in several other parts of the northern portions of England and Scotland; and it is, perhaps, more abundant in the Fern Islands than on any other part of the coast of this country. Mr. Thompson of Belfast has recently discovered it to be a periodical visitor of the northern coast of Ireland, where it appears to resort annually for the purpose of breeding.

We have ourselves received it rather abundantly from India, particularly the coast of Malabar, a circumstance which is remarkable when we consider that in our latitudes it prefers the more northern parts, being seldom or never seen on the southern coasts of England. From America we believe no examples have yet been seen, nor have we ever observed it from the arctic regions; and as our examples from India were in their full breeding plumage, we are inclined to believe that it is a species which abounds more particularly in the southern regions of the Old World. Mr. Selby, who has seen it in a state of nature, informs us that it is easily to be distinguished while on wing from all other species, its flight being peculiarly buoyant, and sustained by a slower stroke of the pinions: the length of the tail is also characteristic, and its cry is different in expression, resembling the word 'crake', uttered in a tone not unlike that of the Landrail. In the Fern Islands it breeds on the outskirts of the stations occupied by the Arctic Tern, and its eggs much resemble those of that bird, but are a little larger, more pointed at the small end, with the ground colour inclining to cream white or pale wood brown. In habits and manners it scarcely differs from its allied congeners, and it preys on the same kind of fish. The time of its arrival may be stated to be the same as that of the Sandwich and Arctic Terns, and by the end of September nearly the whole of them have departed for warmer latitudes.

The male and female offer little or no difference in the colours of their plumage.

The top of the head and occiput jet black, from the base of the upper mandible; cheeks, throat, and under parts white, delicately tinged with rosy red; the whole of the upper surface delicate grey, with the exception of the outer edge of the first quill-feather, which is black; bill slender, red at the base, the remainder black; tarsi and membrane vermilion.

The Plate represents an adult male in its breeding plumage, of the natural size.

Sterna Dougallii, (Mont.)



ARCTIC TERN.

Sterna Arctica, (Temm.k)

Drawn from Life and on Stone by J. & E. Gould.

Printed by C. Hullmandel.

ARCTIC TERN.

Sterna Arctica, *Temm.*

L'Hirondelle de Mer arctique.

It is to M. Temminck that we owe the knowledge of the present bird as constituting a different species from that of the Common Tern (*Sterna Hirundo*, Linn.), to which it bears so close a resemblance as almost to require actual comparative examination of the two species, to determine the characters which form the line of distinction:—the accurate representation, however, which we have given of both species, with the minute indications pointed out in the letter-press, will, we trust, clear up every difficulty attached to these two species, so nearly allied, and so often confounded. We have ourselves had abundant proofs that the present bird is a constant inhabitant, in considerable numbers, of many parts of our coast, but more especially its northern portion, and the adjacent Islands the Orkneys and Shetland, where it is known to breed regularly; and it is not a little singular, according to the most credible information, that these Terns, although bearing so close an affinity to each other, do not associate together at the same breeding-places, but that each retains its peculiar locality although both breed in the immediate neighbourhood of each other. Thus one species will occupy an island, or a portion of it, to the entire exclusion of the other, and *vice versâ*. M. Temminck informs us, that it is especially common in the Arctic circle, which he considers to be its true habitat, and where it occupies the place of the *Sterna Hirundo* of more southern latitudes. We have had opportunities of examining this species in all its stages, and we find that they strictly correspond with those of its allied congeners. The young offer also but little difference from those of our Common Tern. There is, however, one infallible rule by which not only the adult but the young in any stage may be at once discriminated, viz. by a comparison of the length of the beak and tarsus, characters on which the greatest reliance may always be placed. The Arctic Tern is altogether smaller and more slender, with a longer and more elegant tail, the beak wholly red and much less robust, as well as a quarter of an inch shorter, measuring from the gape to the tip; the tarsi are also proportionately smaller, measuring in length only seven lines; to which may be added that its colour is much more uniform, nearly the whole of its body, both above and below, being covered by a blueish ash colour; the head and back of the neck black.

It breeds among the shingles on the sea shore, the female laying two or three eggs very similar in colour and markings to those of the Common Tern, but smaller.

We have figured a male in its summer plumage.



LITTLE TERN.

Sterna minuta, *Linn.*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

LITTLE TERN.

Sterna minuta, *Linn.*

La Petit Hirondelle de Mer.

This elegant species of Tern appears to be more generally distributed than any other of its race: we have ourselves received specimens from various parts of India, which, with others from America, prove to be strictly identical with those found in Europe. It visits the coasts of England in great numbers on the approach of spring; and not our coasts alone, but those of the Continent to a considerable extent northwards, apparently arriving from more southern latitudes where it has been passing the winter. It associates in large flocks, and may be observed winging its way over the surface of the sea, particularly off coasts which are flat, low, and shingly, and where small islands are left by the retiring tide. These islands afford for them and many other maritime species a resting-place, where they collect in considerable numbers until the rising waters force them to take wing again. The adjoining shingly beach also affords them a place of nidification, their eggs being deposited in a slight depression among the broken shells just above high-water mark; and so closely does the colouring of the eggs assimilate with the mingled mass around them, that they escape the casual search of inexperienced eyes.

Winged insects, small fishes, and marine animals, form their food: these latter they take from the surface of the water as they fly, but without diving, a power which the Terns, as we scarcely need observe, do not possess.

The young and adult offer marked differences of colouring. The former, before the autumn moult, have the forehead yellowish white; the top of the head, occiput, and back of the neck, brown with black bars; a black stripe passes through the eyes; the back and wings light brownish grey, each feather having a border of blackish; tail- and quill-feathers tipped with whitish. After the autumn moult the back of the head is black, and the under parts are, as in the adult, light grey.

The adult plumage may be thus characterized. The forehead white; a black stripe passes from the base of the upper mandible, through the eye, and joins a large black patch on the occiput and back of the neck; upper parts fine blueish grey, the rump and tail being white, as are also the under parts; beak orange tipped with black; tarsi orange; length $8\frac{1}{2}$ inches, but when seen with outspread wings flapping over the sea, the bird appears much larger than it is in reality.

Our Plate represents an adult and a young bird of the natural size.

NODDY TERN.
Sterna stolida. (Linn.)



NODDY TERN.

Sterna stolida, *Linn.*

Le Mouette brun, ou Le Fou.

Two individuals of this species having been shot in the summer of 1830, off the coast of Wexford in Ireland, between the Tasker Lighthouse and Dublin Bay, it becomes necessary to include a figure of it in the present work. These examples (the first, we believe, that have occurred in Europe,) have been placed on record by W. Thompson, Esq., Vice-President of the Belfast Natural History Society.

We are indebted to American ornithologists for the best accounts of the habits of the Noddy. Mr. Audubon found numbers collecting from all parts of the Gulf of Mexico and the coasts of Florida, for the purpose of resorting to their breeding-places on one of the Tortugas called Noddy Key, where many of these birds were observed by this gentleman in May 1832 repairing old nests that had been used by themselves or their companions the preceding year.

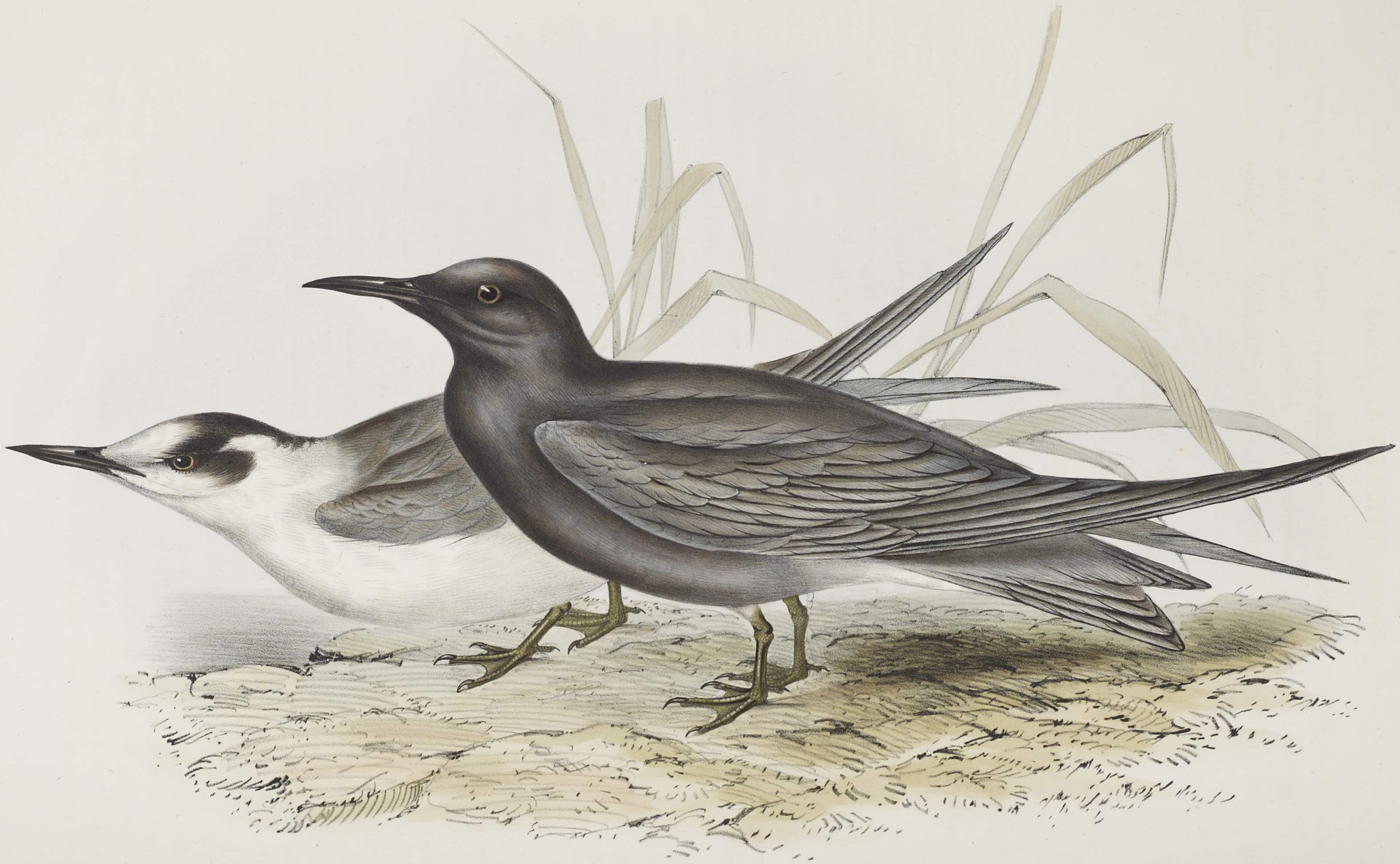
The Noddy, unlike the generality of the Terns, builds in bushes or low trees, making a large nest of twigs and dry grass, while hovering over or near which the old birds utter a low querulous murmur: the eggs are three in number, of a reddish yellow colour, patched and spotted with dull red and purple. The young birds are said to be excellent eating. Unlike the other members of its family the Noddy takes its prey while skimming along the surface of the water; and the old birds seek their food, which consists principally of small fishes, at a greater distance from land than Terns are generally observed to do.

Mr. Nuttall states in his Manual of the ornithology of the United States and of Canada, that "the Noddies breed in great numbers in the Bahama Islands, laying their eggs on the shelvings of rocks;" and we observe that Dr. Latham, on the authority of others, makes a similar statement; he was told also that these birds lay their eggs in vast numbers on certain small rocky islands near St. Helena.

Forehead white passing into grey on the back of the head; immediately before the eye a patch of deep black; throat and sides of the face greyish brown; primaries and tail deep blackish brown; the remainder of the plumage dull sooty brown, inclining to chocolate; bill and feet black.

We have figured an adult of the natural size.

NODDY TERN.
Sterna stolida. (Linn.)



BLACK TERN.

Sterna nigra, *(Linn.)*
Viralva nigra, *(Leach).*

Drawn from Life & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

Genus VIRALVA, *Leach.*

Gen. Char. *Beak* shorter than the head, subulated, nearly straight, slightly compressed, the tip a little inclined: the *upper mandible* nearly straight. *Nostrils* oblong, basal. *Wings* long. *Tail* slightly forked. *Feet* four-toed, slender; the *hinder toe* minute. *Claws* small.

BLACK TERN.

Sterna nigra, *Linn.*

Viralva nigra, *Leach.*

L'Hirondelle-de-mer epouvantail.

Although we have given the generic characters of the genus *Viralva* of Dr. Leach, comprehending those Terns which have their tails almost square, in addition to other less important characters; we still hesitate to adopt the genus of this naturalist, on the ground, that the separation is established on characters too trivial in our opinion to substantiate a new genus. It will, however, be our aim to give a complete account of the habits of the present bird and the other European species included in this genus, leaving our readers to adopt it, or not, as they think best.

The Black Tern is an abundant species, but confined more especially to the vicinity of large rivers, fresh-water lakes, and morasses, particularly those of Holland and Germany, and extending thence as far as the Arctic circle. It annually visits the fens and marshy districts of this country, such as those of Cambridgeshire, Norfolk, and Lincolnshire, for the purpose of incubation, but is not near so abundant now as formerly. This species assembles to breed in flocks more or less numerous among the flags and willows which border the edges of water, laying four or five eggs of a dark olive brown, marked with numerous spots of darker brown and black.

The Black Tern differs in its habits, manners, food, mode of nidification, the situations it selects for that purpose, and its manner of flight, from the true Terns, which may at once be distinguished from it by their very long wings, and swallow-like form of tail, and by their giving a preference to the sea and its inlets, where they obtain their food, which consists in a great measure of small fish, mollusca and other marine productions; but in the present bird we find the wing less elongated, and the tail less forked, the tarsi longer, and the toes less webbed, while the food is taken almost solely during flight, and consists of winged insects, such as moths, flies, and the larger species of gnats, to which are added aquatic larvæ, and occasionally small fishes.

The flight of the Black Tern also, instead of that heavy flapping motion which characterizes the oceanic Terns, is smooth and rapid, while the bird continues to pass and repass over the same space like the Swallow in search of its insect food. In England, the Black Tern appears to be migratory, leaving us after the breeding season is over, and returning the following spring; a circumstance we should consider to take place also in the northern portions of Europe. Although the young of all the Terns differ in colour from the adult bird, the contrast of the present species is the most remarkable, the colouring of the two being almost diametrically opposite; they notwithstanding soon assume the adult state of colouring, and in about eight months gain their mature livery. The males and females are alike in plumage.

The adult birds have the beak, head, neck and breast black, becoming paler on the abdomen; the whole of the upper surface and tail of a fuliginous grey; vent and under tail-coverts white; legs dusky red; irides brown. The young have the forehead, cheeks, neck, and whole of the under surface of a pure white; the top of the head and occiput greyish brown; the back, wings and tail grey, intermingled with brown.

We have figured an adult and a young bird of the natural size.



WHITE-WINGED TERN.

Sterna leucoptera; *(Linn.)*
Viralva leucoptera; *(Leach).*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

WHITE-WINGED TERN.

Sterna leucoptera, *Linn.*

Viralva leucoptera, *Leach.*

L'Hirondelle-de-mer leucoptère.

The White-winged Tern would appear to represent in the southern districts of Europe the Common Black Tern of the more northern latitudes, frequenting, like that bird, inland lakes and marshes, as well as the low flat borders of the sea. We are informed that it inhabits all the bays and gulfs along the shores of the Mediterranean, and that it is very common in the neighbourhood of Gibraltar: it visits also, according to M. Temminck, the lakes and marshes of Italy, such as Lucarno, Lugano, Como, &c., but never extends its journey to Holland or the parallel latitudes.

In habits, manners, size, and structure, it strictly resembles the Black Tern; the pure whiteness of its tail, and the greyish white of its wing, will, however, serve at once to distinguish it from that species.

Its food consists of insects, particularly dragon flies, moths, and other winged and aquatic insects, worms, and occasionally small fishes.

Of its nidification and the number and colour of its eggs, little is at present correctly ascertained; but we have every reason to believe that they bear a close resemblance to those of the Black Tern.

The sexes do not differ in the colour of their plumage, but the young of the year have less white on the wings, and the rest of the plumage is of a lighter and browner hue; in fact, it undergoes a change very similar to that of the Black Tern.

The whole of the head, neck, back and belly, and the two outer quill-feathers black; the remainder of the wings greyish white; the rump, tail, vent, and under tail-coverts white; beak brownish red; tarsi brownish red.

The Plate represents an adult of the natural size.

MOUSTACHE TERN.
Sterna leucopareia. (Natt.)
Viralva leucopareia. (Schleg.)



MOUSTACHE TERN.

Sterna leucopareïa, *Natt.*

Viralva leucopareïa, *Steph.*

L'Hirondelle-de-mer moustac.

For the knowledge of this species we are indebted to M. J. Natterer of Vienna, who discovered it in the marshes of Hungary. It has also been seen by M. Temminck in Capo d'Istria on the coast of Dalmatia.

The Moustache Tern, like its black- and white-winged brethren, appears to prefer inland and extensive marshes rather than the ocean. Like the last-mentioned species it is almost confined to the eastern portions of the Continent. In Europe it is perhaps one of the rarest of its tribe, and although its habits are but little known, we may reasonably conclude from its peculiar form that its general economy is strictly similar to the other Viralves, or Marsh Terns.

Its food consists of the winged insects inhabiting the marshes, to which are added worms, snails, &c.

The sexes offer no perceptible difference in their plumage. The young, says M. Temminck, have the top of the head of a reddish colour varied with brown; the occiput, the region behind the eyes, and the orifice of the ears of a blackish ash; the back, scapularies, secondaries, and quills brown in the middle, bordered and terminated with yellowish brown; the tail-feathers blackish ash with the exception of the outer ones, which are tipped with white; beak brown, reddish at the base; feet flesh colour.

According to M. Temminck's description the adults are subject to considerable seasonal changes; for he informs us that in winter the top of the head, the occiput, and all the under parts are pure white; a black spot is situated behind the eye; the back, rump, tail, and wings are of a clouded ash grey; the beak and feet deep lake red; the irides black; and that in spring the whole crown of the head is deep black, and the under surface clouded with blackish ash, becoming lighter towards the throat, and leaving the sides of the face and ear-coverts pure white, whence it has received the appellation of moustache.

The Plate represents a male of the natural size in its full spring dress.

MOUSTACHE TERN.
Sterna leucopareïa, (Natt.)
Viralva leucopareïa, (Steph.)



LAUGHING GULL.

Xema ridibundus; (Boje).

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

Genus XEMA.

Gen. Char. *Beak* short, slender, straight, laterally compressed, its tip bent down; the lower mandible somewhat angulated beneath. *Nostrils* very slender, linear. *Legs* slender; *tibiæ* naked on the lower part. *Tail* forked.

LAUGHING GULL.

Xema ridibundus, *Boje.*

La Mouette rieuse ou à Capuchin brun.

The characters which distinguish the genus *Xema* of Dr. Leach from the genus *Larus*, consist not only in a decided difference of form, but in certain points of colouring, and the changes which the species comprised in it undergo at different seasons; for example, the bill and legs are bright red, and the head changes in spring from white to black or deep chocolate brown, which latter colouring is certainly confined to the breeding-season, and disappears on the approach of autumn; in addition to this we find that the young pass through a very different gradation of plumage to that which obtains among the Gulls in general. Independently of these variations in the colouring, we may observe that the general contour of the species is much more light and elegant, the bill more feeble, and the tarsi more slender; they choose, moreover, a very different place for the purposes of nidification, always resorting to low flat lands, often some distance from the sea, the nest being placed on the ground, whereas the generality of the Gulls build upon ledges of rock bordering the sea.

Of all the species comprised in the present group which inhabit our island, the Laughing Gull is by far the most common and perhaps the most elegant of its genus. During the summer it resorts in immense flocks, for the purpose of nidification, to many of our marshy islands near the coast, after which it again returns to the sea, or the mouths of large rivers, and is found at this season round the whole of our coasts, but is not then to be distinguished by the bright chocolate colouring of the head, which character is so remarkable during the breeding-season. In general habits, manners, and mode of flight, it agrees with the rest of the Gulls; though, as its light form and long tarsi sufficiently indicate, its actions on the ground are much more nimble and rapid. It is said to be a bird of passage in Germany and France, but is found in the greatest abundance in Holland throughout every season of the year. Its food consists of various insects, worms, mollusca, and small fishes.

In its full summer plumage the bill, naked skin round the eye, and tarsi, are bright red; the whole of the head and throat deep chocolate brown; the back and shoulders delicate grey; quills white on their outer edges, with the exception of the first, in which it is black, the extremities of all the rest being black slightly tipped with white; rump, tail, and whole of the under surface white.

The winter plumage is similar to that of summer, with the exception of the chocolate hood, which is gradually exchanged for pure white, a change which Mr. Yarrell has correctly observed in his valuable paper "On the Laws which appear to influence the assumption and changes of plumage in Birds," published in the Transactions of the Zoological Society of London, (vol. 1. part 1. p. 13,) is produced not by a process of moulting, but by an alteration in the colour of the feathers.

The young of the year have the colour of the bill and tarsi much more obscure; the top of the head and ear-coverts are mottled with brown, which is also the colour of the back and shoulders, each feather having a lighter margin; the tail is broadly edged with black.

The full plumage of maturity is not acquired until after the moulting of their second autumn, and is assumed by gradations. The sexes do not differ in their colouring.

The Plate represents an adult, and a young bird of the year, of the natural size.

BLACK-WINGED GULL.

Larus atricilla, (Linné)



BLACK-WINGED GULL.

Xema atricilla,

Larus atricilla, *Linn.*

La Moutte à ailes noires.

In figuring this species of Gull under the specific title of *atricilla*, we would beg to observe that it should not be confounded with the *atricilla* of M. Temminck, which name must necessarily fall in consequence of its having been previously given to another species.

The present bird is common in the United States of America, and was, we believe, the only species of Gull figured by Wilson, who considered it to be the true *atricilla* of Linnæus. Of the capture of this bird in Europe no later account has been published than that given in the publications of Montagu, whose original specimen, now in the British Museum, has afforded us an opportunity of determining it to be identical with the American bird. Beneath we have annexed the account given by Montagu, who clearly points out the distinctions between it and the common species, *Xema ridibundus*. "In the month of August 1774, we saw five of them feeding in a pool upon the shingly flats near Winchelsea; two only were black on the head, the others were mottled all over with brown. One of them was shot, but although the remaining four continued to resort to the same place for some time, the old ones were too shy to be procured. We also saw two others near Hastings in Sussex. They may easily be known from the Black-headed Gull even while flying; the flight is different, the bird appears much larger and the tail shorter in proportion."

In its habits, manners, mode of nidification and food, this species closely resembles its congeners, feeding upon the refuse of the fisherman or any animal substances thrown up by the tide: it may also be observed scattered over marshes and newly-ploughed fields busily engaged in searching for worms, insects, and their larvæ. It usually breeds in the marshes near the coast, and lays three eggs, of a dull clay colour, thinly marked with irregular patches of pale purplish brown.

The whole of the head and the upper part of the neck are blackish lead colour; circle surrounding the eye, the neck, all the under surface, and tail pure white; primaries black, with the exception of their extreme tips, which are white; the remainder of the upper surface and wings dark grey passing into white on the edge of the shoulder and the tips of the secondaries; bill red; feet reddish brown.

We have figured an adult of the natural size.

BLACK HEADED GULL.

Xema melanocephalus, (Temm.)



BLACK-HEADED GULL.

Xema melanocephala, *Boje.*

Le Mouette à capuchon noir.

This species of *Xema* may be readily distinguished from its European congeners by the jet black colouring of the head, the robust bill, and the silvery whiteness of the tips of the primaries. Several examples of this fine species in different stages of plumage were obligingly sent us by M. Temminck, from one of which the accompanying representation of the bird in its full summer dress was taken. In winter, the conspicuous black hood is entirely changed to white, as is the case with all the other species of this remarkable genus.

The native habitat of the Black-headed Gull is the more southern parts of Europe, particularly along the shores of the Adriatic. It is said to be very abundant in Dalmatia, inhabiting and breeding in the marshes in the same manner as the Laughing Gull (*Larus ridibundus*, Linn.), so common in our island.

Its food consists of small fishes, snails, and various species of marine insects.

The whole of the head, with the exception of a small patch of white above and below the eye, is of a profound black; the back of the neck, chest, tail, and all the under parts pure white; the whole of the upper surface delicate pearl grey; the primaries white at their tips; the outer web of the first primary is black for three parts of its length from the base; beak, legs, and eyelids vermilion; irides brown.

The figure is of the natural size.



LITTLE GULL.
Xema minutus; (Boje).

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

LITTLE GULL.

Xema minutus, *Boje.*

Le Mouette pygmée.

Of all the Gulls which frequent the British shores, the present species is by far the smallest as well as the rarest: nor is it much more common in the western part of the European continent, its native habitat being more especially the eastern portions of Russia, Livonia, Hungary, and the shores of the Black and Caspian Seas; and although it has been considered as identical with a species common to America, we have the best reasons for affirming it to be entirely distinct. It was first noticed as occurring in our island by Colonel Montagu, since which period examples have been killed at different times, and we have ourselves had the pleasure of receiving it in a recent state.

Like the other species of the present genus, the Little Gull is a bird which exhibits a remarkable disparity of colouring in the winter and summer states of plumage, as well as from youth to maturity: all the examples killed in our island have been either in their immature or winter plumage. In summer it is characterized by a black head, which colouring it loses before the approach of winter; but in all the winter-killed specimens we have had an opportunity of examining, traces of this summer plumage remained, and in this state we have figured an adult, which is represented by the foremost bird in the Plate. Its flight is as light and buoyant as can well be imagined, and its general actions and form resemble those of the rest of the genus.

The colouring of the adults in their winter plumage is as follows:

The whole of the upper surface is of a beautiful bluish ash; the quills and secondaries tipped with white; the throat and under-surface pure white, with a slight tinge of rose-colour; bill brownish red; tarsi bright red; irides brown.

In summer the whole of the head and the upper part of the neck become of a brownish black.

The young when a year old resemble the adult in the winter plumage, with this exception, that the shoulders, scapulars, quill-feathers, and tip of the tail are deep brownish black, and that the beak and legs are not so red.

The Plate represents an adult in its winter plumage, and a young bird of the first year, of the natural size.

Printed by C. Hullmandel.

Drawn from Nature & on Stone by J. & E. Gould.

Tab. 72. LITTLE GULL.
Xema minutus, *Boje.*



SABINE'S GULL.

Xema Sabini; *(Leach).*

Drawn from Nature & on stone by J. & E. Gould.

Printed by C. Hullmandel.

SABINE'S GULL.

Xema Sabini, *Leach.*

La Mouette de Sabine.

This species has been added to the British Fauna in consequence of two examples having been killed in Belfast Bay and one in Dublin Bay, of which notices have been recorded in the 5th No. of the Magazine of Zoology and Botany; it has therefore become necessary to include a figure of it in the present work. It is almost strictly an arctic species, and as we have nothing to add to the account of its natural history published by Dr. Richardson, we prefer quoting the words of this scientific traveller as given in the Fauna Boreali-Americana, to recording the same facts in any language of our own.

"This interesting species of Gull," says Dr. Richardson, "was discovered by Captain Edward Sabine. It was first seen on the 25th of July, at its breeding-station on some low rocky islands, lying off the west coast of Greenland associated in considerable numbers with the Arctic Tern, the nests of both birds being intermingled. It is analogous to the Tern not only in its forked tail, and in its choice of a breeding-place, but also in the boldness which it displays in the protection of its young. The parent birds flew with impetuosity towards persons approaching their nests, and when one was killed, its mate, though frequently fired at, continued on the wing close to the spot. They were observed to get their food on the sea-beach, standing near the water's edge, and picking up the marine insects which were cast on shore. A solitary individual was seen in Prince Regent's Inlet, on Sir Edward Parry's first voyage, and many specimens were procured in the course of the second voyage on Melville Peninsula. Captain Sabine also killed a pair at Spitzbergen, so that it is a pretty general summer visiter to the Arctic seas, and is entitled to be enumerated amongst the European as well as American birds. It arrives in the high northern latitudes in June, and retires to the southward in August. When newly killed it has a delicate pink blush on the under plumage. The eggs, two in number, are deposited on the bare ground, and are hatched in the last week of July. They are an inch and a half in length, of an olive colour with many dark brown blotches."

In summer, the head and upper part of the throat are blackish grey, bounded below by a collar of velvet black; the mantle and wings bluish grey; greater coverts and primaries deep black, the latter tipped with white; edge of the shoulder and the extremities of the secondaries white, forming an oblique band across the wing; neck, all the under surface, and tail pure white; bill black at the base, and yellow at the tip; eyelids red; irides, legs, and feet black.

The young birds of the year have the head mottled with blackish grey and white; back, scapulars, and wing-coverts blackish grey tinged with yellow brown; wing-primaries white with black ends; throat and breast pale ash colour; belly white; upper and under tail-coverts white; tail-feathers white tipped with black.

We have figured an adult male in the summer plumage, of the natural size.



E. Lear. del

GREAT BLACK-BACKED GULL.

Larus marinus, *(Linn.)*

E. Lear. del. et lith.

Printed by C. Hullmandel.

Genus LARUS.

GEN. CHAR. *Bill* of mean length, strong, straight, cultrated, the upper mandible having the tip incurved; symphysis of the upper mandible strongly angulated, and ascending from thence to the point. *Nostrils* placed in the middle of the bill, lateral, oblong, narrow, and pervious. *Tongue* pointed, with the extreme tip cloven. *Wings* long, acuminated. *Tail* even, or slightly forked. *Legs* placed near the centre of the body, of mean length and strength, with the lower part of the tibiæ naked. *Feet* of four toes, three before and one behind; the three in front united by a membrane; the hind one short and free.

GREAT BLACK-BACKED GULL.

Larus marinus, *Linn.*

La Goêland à manteau noir.

THIS fine species of Gull, of which an adult in its winter plumage is represented in the accompanying plate, is rather abundantly dispersed round the shores of our island as well as on the opposite coasts of France and Holland. Three years at least are required to accomplish the plumage of maturity; hence by far the greater number of those which are captured are yet in their youthful dress, which differs so much from th a of the adult as to have caused considerable confusion in its nomenclature. Even the large surface of our publication will not admit of our illustrating the present species of the natural size, and we have not deemed it necessary to insert a figure of the bird in its youthful state; this deficiency will, however, be remedied by our figures of the old and young of the Lesser Black-backed Gull, which resembles the species in question in every respect except in size, and which undergoes precisely the same changes.

Many authors have asserted that the *Larus marinus* is not an inhabitant of America, while others have stated that it is there a bird of considerable rarity. Mr. Audubon has, however, just sent forth to the world a magnificent drawing of an individual shot by himself within the United States; thus satisfactorily proving that the New World is included in its range. It is widely distributed along the shores of the European Continent, more particularly the seas of its northern regions. The British Islands afford several localities which are resorted to by this Gull for the purpose of breeding, among which, according to Mr. Selby, may be enumerated the steep holmes and sandy islands in the Bristol Channel, Souliskerry in the Orkneys, the Bass Island in the Frith of Forth, and one or two stations on the Scottish coast.

It breeds also in the marshes at the mouth of the Thames, making a nest on the ground, of reeds, rushes, and flag leaves. The eggs are three in number, like those of the Herring Gull in shape, but larger; the ground colour of various shades of brown, always blotched and spotted with darker brown.

On the water it is extremely light and buoyant, swimming with little exertion, gracefully rising and falling with the undulating waves of the ocean; and, being capable of sustaining a long and continued flight, constantly wandering over the surface of the water or searching along the coast with every rising and receding tide, it seldom fails to find for the gratification of its omnivorous appetite a plentiful supply of half-decomposed animal substances, the refuse from ships, marine crustacea, &c.

The female differs from the male only in being rather smaller, and in her colouring being somewhat less intense.

The only change of plumage which this Gull undergoes after having attained maturity is in the snowy white head and neck of summer giving place to a mottled grey colouring of these parts in winter.

The young of the first and second year is distinguished by a mottled grey and white plumage covering the whole body. In this stage of its existence both this and the young of the Lesser Black-backed Gull have been known under the names of Wagel, Cobb, &c.

The adult has the head, neck, throat, tail, and all the under surface pure white; the mantle and wing-coverts greyish black; the primaries and secondaries black tipped with white; legs pale pinkish white inclining in some individuals to fleshy red; bill pale yellow with a blood-red spot on the angular projection of the lower mandible; irides yellowish hazel.

The figure is about two thirds of the natural size.

GREAT BLACK-BACKED GULL.
Larus marinus, (Linn.)

LARGER BLACK-BACKED GULL.

Larus fuscus (Linn.)



LESSER BLACK-BACKED GULL.

Larus fuscus, *Linn.*

La Goëland à pieds jaune.

This species so nearly resembles the *Larus marinus*, or Great Black-backed Gull, that were it not for the different colour of its tarsi, and their greater length in comparison to the size of the bird, its inferiority in size would be the only distinguishing difference: and indeed, except in these particulars, so closely do they resemble each other, that on a casual view the two species might readily be thought identical or mere varieties: the above-mentioned characters being, however, permanent, no doubt can possibly arise as to their being really distinct. Not only do they closely resemble each other in their form and colouring, but they are also very similar in their habits and manners, both species breeding alike on our shores and both being permanent residents on the British Islands, particularly on the Northumbrian shores and in some districts of Scotland, where, as Mr. Selby informs us, it may be found at all seasons of the year; he also adds, that it breeds abundantly on the Fern Islands.

The Lesser Black-backed Gull, inhabiting as it does the borders of the sea, depends for its subsistence, like the rest of the genus, upon the produce of that element, feeding upon fish, mollusca, &c., in search of which it sails to and fro at no great distance from land: it is also observed to frequent pastures or newly ploughed fields near its usual resort in search of worms, larvæ, and insects. It wanders far up the mouths of large rivers, and in winter is occasionally seen upon the larger inland lakes. On the shores of the continent of Europe its habitat is spread from the Baltic to the Mediterranean.

It builds in morasses and on the rocks near the sea-shore, in which particular alone it differs from the larger species, the nest being formed of dried grass; the eggs are three or four in number, of a deep olive green irregularly blotched with brownish black.

As is the case with the whole of the tribe to which it belongs, the young and old offer a marked contrast in their colouring; the youthful dress being characterized by a plumage of mottled white and brown, which is not wholly lost until the third year; in this state it has not only been confounded with the young of the Great Black-backed Gull, but has also been considered by many as a distinct species; hence Brisson described it under the name of *la Mouette grise*, in which opinion Storr coincided.

The sexes are alike in plumage, but in winter the head and neck of the adult have every feather streaked down its middle with a dash of brown, which disappears in summer, leaving those parts of a pure white: the back, which does not alter, is of a fine bluish black: the quill-feathers are black; the two external ones have a white oval mark near their tips, the remainder tipped with white: the whole of the head, neck, rump, tail and under surface pure white: beak fine light yellow, with the exception of the angle, which is red: irides light yellow: tarsi yellow.

The young of the year have the throat and the fore part of the neck greyish white streaked longitudinally with brown; the neck and under surface white, largely blotched with deep brown; the feathers of the upper surface blackish brown on the middle, with a lighter margin; quills deep black with a long white mark towards the tip; the tail grey at the base, the rest being black in the centre and fading off to white at the tip; beak black at the point and brown at the base: tarsi dull yellow: irides brown.

The Plate represents an adult and a young bird of the year, rather more than two thirds of the natural size.

LESSER BLACK-BACKED GULL.
Larus fuscus (Linn.)



GLAUCOUS GULL.
Larus glaucus. (Brunn.)

E. Lear del. et lith.

Printed by C. Hullmandel.

GLAUCOUS GULL.

Larus glaucus, *Brunn.*

La Goëland Burgermeister.

This noble species fully equals in size, if it do not exceed, the Great Black-backed Gull (*Larus marinus*, Linn.), but from which it may at all times be distinguished by the extremely delicate grey colouring of its mantle and upper surface. Although frequently occurring on our coast, the individuals taken are in the proportion of about twenty young birds to one adult, immature birds having a more decided propensity to wander far from their native habitat than the old ones.

As its pale and almost white colouring would seem to indicate, the Glaucous Gull is a native of the high polar regions, where it frequents shores bound up by ice and snow, crags of ice, and floating icebergs. The British Islands lying, as it were, directly in its way during its wanderings southward, is one reason why this Gull is more abundant with us than it is on most of the other coasts of Europe; but, as we have stated above, these visitants are principally young birds.

In its habits and manners it perfectly agrees with the rest of the larger Gulls; if anything, its flight is more buoyant and easy, which may be occasioned by its denser plumage.

It breeds on precipitous rocks, and its eggs are stated to be of a pale purplish grey with spots of umber brown.

It is a bird of voracious appetite, preying not only upon fish but upon every kind of carrion; nor are small sea birds free from its attacks, and there is some reason to suppose that the Little Auk frequently falls a prey to its craving appetite. Although the rocky shores of Norway and Sweden as well as those of Holland and France are visited by this Gull, they do not come within the number of its breeding-places.

The adult bird in summer has the whole of the plumage pure silky white, with the exception of the mantle and wing-coverts, which are delicate grey; bill pale yellow, with the angular projection of the lower mandible blood red; legs and feet flesh colour. In winter the head and sides of the neck are streaked with pale brown, which disappears on the approach of spring.

The young birds have the whole of the plumage of a dirty greyish white, spotted and barred all over with greyish brown; the shafts of the primaries white; the bill reddish yellow at the base and black at the tip; and the feet pale flesh colour.

Our Plate represents an adult male in the summer plumage and a young bird about two thirds of the natural size.

GLAUCOUS GULL.
Larus glaucus. (Brunn.)
Printed by C. Hullmandel.
F. Learad et lith.

ICELAND GULL.
Larus Islandicus. (Edmonston.)

Drawn from Nature & on stone by J. & E. Gould. Printed by C. Hullmandel.



ICELAND GULL.

Larus Islandicus, *Edmonston.*

Larus glaucoïdes, *Temm.*

La Mouette d'Icelande.

The occurrence of this beautiful species of Gull on our coast is more frequent than is generally supposed; but it appears to have escaped observation in consequence of its close resemblance to the *Larus glaucus*, which resemblance is even more striking in the young birds, and it is seldom that any but immature birds of either species are captured in any of the temperate portions of Europe.

The northern regions constitute the native habitat of this Gull, whence it is driven southward by the extreme severity of the weather; the young, as is usually the case in migratory birds, wandering to the greatest distance from home. Considerable confusion, it would appear, has existed respecting the nomenclature of this species, but this has been so carefully cleared up by Mr. Selby, that we have taken the liberty of quoting in full his observations. "In Mr. Edmonston's first notice of the *Glaucous Gull*, under the name of *Larus Islandicus*, a suspicion is started, from the difference of size existing between individuals of the newly observed kind, that there might be two species, having such a relation to each other as that between the Greater and Lesser Black-backed Gulls (*L. marinus* and *L. fuscus*). This upon further investigation was found to be actually the case; and some interesting remarks upon the new species, by the same gentleman, were afterwards published in the latter part of the fourth volume of the Wernerian Society's Memoirs, where he has appropriated to it the specific title of *Islandicus*, having then ascertained that the larger species previously noticed, and to which he had applied the term, was already recorded, and generally known by the name of *Larus glaucus*. In point of priority, therefore, this name ought to be adopted for the present species, in preference to that of *Larus arcticus* given to it by Mr. Macgillivray, or that of *L. leucopterus*, under which it is described by Richardson and Swainson in the Fauna Boreali-Americana, and by the Prince of Musignano in his Synopsis. Captain Sabine in his memoir on the Birds of Greenland, in the twelfth volume of the Linnean Transactions, has described the same bird under the title of *Larus argentatus*, and this in deference to the opinion of M. Temminck, who at that time considered it as a variety of the *Herring Gull*, occasioned by the rigours of a polar climate. The fact, however, of the true *L. argentatus* having been found with its characteristic markings unchanged in those regions, together with the perfect and undeviating whiteness of the wings of the other bird, and the difference of proportions, observable in the bills of the two species, might justly have made the former author hesitate, before yielding even to the authority of a naturalist so deservedly eminent. The present species, in all its states of plumage from adolescence to maturity, bears the closest resemblance to the Glaucous Gull, and can only be distinguished by its striking inferiority of size, and by the greater length of its wings, which reach, when closed, upwards of an inch beyond the end of the tail; whereas in the other bird they scarcely reach that part. Like its prototype it is a winter visitant to the Shetland Isles and the northern parts of Scotland, and a few occasionally stray as far southward as the Northumbrian coast, where I have obtained three or four specimens, but all in the immature plumage. Its habits are stated by Mr. Edmonston to be more lively than those of the Glaucous Gull, and it displays more elegance of form. It is a common species in the arctic regions, and is mentioned by Sabine and Richardson as being plentiful in Baffin's Bay, Davis's Straits, and Melville Island. It is also common on the Iceland coast, to which it is probable many of those that winter with us, and in similar latitudes, retire to breed. It feeds upon fish, the flesh of whales, and other carrion, and when upon our shores is sometimes seen in company with the Black-backed Gull."

In summer the adults have the head, neck, tail, and under surface pure white; the mantle and wing-coverts pale grey; the shafts and tips of the quills pure white; bill pale reddish flesh-colour at the base, and black at the tip; feet pale flesh-colour; irides pale yellowish grey.

In winter the head and neck are streaked with grey.

The young have the entire plumage pale yellowish grey barred and mottled with pale brown; the quills greyish white tinged with brown; and the tail dull brown marbled with white.

We have figured an adult male rather less than the natural size.

ICELAND GULL.
Larus Islandicus. (Edmonston.)
Drawn from Nature & on Stone by J. & E. Gould.
Printed by C. Hullmandel.

HERRING GULL.

Larus Argentatus (Brunn.)



HERRING GULL.

Larus argentatus, *Brunn.*

Le Goêland à manteau bleu.

The Herring Gull is very abundant along the shores of Great Britain, as well as those of the European Continent. It remains with us during the whole of the year, occasionally visiting our lakes, rivers, and inland waters. The British Islands and the coast of Holland may be considered nearly the extent of its range southwards. M. Temminck informs us, that although the young are occasionally found along the shores of the Mediterranean, the adults are very seldom to be seen there. They breed along the rocky parts of our own coast, particularly at the Isle of Wight, from Fresh-water Gate to the pointed rocks called the Needles; the coasts of Wales, Scotland and the adjacent islands; as well as the lengthened and precipitous coast of Norway and the shores of the Baltic generally. At the time of incubation, these birds assemble in numerous companies, often associating with Guillemots, Razor-bills, and Puffins. They compose their nest of marine vegetables, which is placed on the ledges of rocks, or elevations covered with herbage, as samphire, grasses, &c., the female laying two or three eggs, about two inches and a half long, by one inch and three quarters in breadth, of a greenish olive colour spotted with black and ash brown; in the depth of ground colour and disposition of the markings there is, however, great variety. Independently of the variation in plumage which this bird undergoes in passing from youth to the adult state, there is another change which annually takes place in mature birds,—a deviation from the usual law which under similar circumstances is found to occur.

In the winter, the head, neck and chest no longer retain the pure white which forms the livery of the breeding season, but each of the feathers which cover these parts becomes streaked with a longitudinal mark of brown, so as to give it a mottled appearance; the rest of the plumage remains unaltered. The top of the back and scapulars are of a pure blueish ash; the quills black, each feather tipped with white; the rump, tail and whole of the under surface uniform white; beak yellow; the under mandible has the angular projection of a bright red; the naked skin round the eyes yellow; irides delicate straw yellow; legs and feet flesh-coloured. Length about twenty-two inches. It is not before the third year, at least, that the Herring Gull attains its perfect state of plumage. The young at first have the head, neck, and all the under parts grey mottled with light brown; the upper parts light ash-brown; tail-feathers whitish at the base, becoming gradually brown to their termination; quill-feathers blackish brown just tipped with white; beak dark brown or horn-colour; naked circle round the eye and irides brown; feet blueish brown. From this stage they may be seen in all their intermediate degrees, up to that of maturity, which may be considered as perfect in the fourth year;—it is, however, more than probable that before this ultimate change they commence breeding, as we have seen them at nest with the remains of the colours of nonage intermingled with the white and blue of maturity.

Our Plate represents an adult male, and a young bird in the second year, two thirds of their natural size.



KITTIWAKE GULL.

Larus Rifsa. *(Linn.)*

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

KITTIWAKE GULL.

Larus Rissa, *Linn.*

La Mouette tridactyle.

It would appear that we must consider this species of Gull as only one of the list of our summer birds of passage, as it journeys south in the winter, and returns again in the spring to its usual haunts. Whether this is the case with the birds of this species in the continental parts of Europe we are not able to say; but as it is spread far northward along the whole of the European shores, we may conjecture that at least in the higher latitudes it is a bird of migratory habits. We do not consider that the abbreviated hind toe, which is a distinguishing characteristic of this Gull, is of sufficient consequence to entitle it to rank as a distinct genus; and though Mr. Stephens has thought differently, we are not inclined to adopt the term *Rissa* as a generic title, but retain the word as its specific appellation.

The difference which the plumage of the Kittiwake exhibits at different ages has led to a multiplication of its synonyms and some degree of confusion, the young having been considered by many ornithologists as a separate species, and described under the title of *Larus tridactylus*, and in popular language the Tarrock; this error, like others of the same kind, which in the works of the earlier writers were almost unavoidable, is now cleared up, the various gradations of plumage from youth to maturity being well ascertained.

In its habits and manners the Kittiwake generally resembles the rest of its congeners; it is, however, less addicted to seeking its food on the land, but is observed ever busily engaged over the surface of the water, in pursuit of small fishes, mollusca, crustacea, and other aquatic productions, which constitute its means of subsistence.

The places chosen for its sites of incubation are the ledges of bold precipitous rocks overhanging the sea: numbers breed annually on the Farn islands, at Flamborough Head, on the Bass Rock; many also breed annually about Freshwater, Portland Island, and elsewhere. The nest is made of dried grass and sea-weed, and the eggs are two in number, of an olive white, blotched with dark brown and purplish grey.

The common name of Kittiwake is given to this bird from the peculiar call during the season of incubation, which the male reiterates as he wheels round his mate upon the nest, or pursues his way on buoyant wing over the surface of the waves.

In its adult stage, which is not attained till the second autumn, the plumage of the Kittiwake is very simple, the mantle and wing-coverts being fine pearl grey; the quills are tipped and bordered along their outer margin with black; the head, neck, tail, and under surface white; bill yellow; tarsi and toes dark olive green.

The young of the year have the bill black; head, neck, chest, and under parts white, with the exception of a black spot near the eye and nearly encircling it; a marked crescent of black crosses the upper part of the back, and advances upon the neck; the rest of the back and scapulars are grey; the lesser wing-coverts black; the greater coverts and secondaries grey, passing into dull white, with terminal patches of black; tail white, largely tipped with black.

After the first general moult the black markings become more obscure and limited, and the bill acquires a tinge of olive; at the next autumn moult, that is, in twelve months after the first, the full plumage is acquired.

Our Plate represents an adult bird and a young bird of the year, of the natural size.

IVORY GULL.

Larus eburneus. *(Gmel.)*

Drawn from Nature & on Stone by J. & E. Gould. *Printed by C. Hullmandel.*



IVORY GULL.

Larus eburneus, *Linn.*

La Mouette blanche, ou Sénateur.

From the circumstance of two or three examples of this beautiful Gull having been captured at different times within the precincts of the British Islands, all modern writers have included it in the Fauna of this country. The snowy whiteness of its plumage renders it one of the most delicate and interesting species of its genus. Dwelling almost solely within the regions of the arctic circle, the few stragglers which now and then pass the boundary line, and visit the more temperate portions of the European continent, are, if taken by the ornithologist during these peregrinations, considered a prize of no little rarity and value. The first authenticated instance of its being captured in the British Islands was communicated to the Wernerian Society by L. Edmonston, Esq., and a notice of the occurrence published in the fourth volume of the Memoirs of that Society. This individual, which was killed in Balta Sound, Shetland, in December 1822, and one since, in an immature state, in the Frith of Clyde, are the only recorded instances of its having been found near our coasts. In a note in the Manuel of M. Temminck, we find this author also expatiating on its extreme rarity in our latitudes, two individuals only having at that period come under his notice.

From the accounts given of this Gull in the works of Dr. Richardson, Capt. Sabine, and most arctic voyagers, we learn that in those regions it is a species of no rarity; and from its being equally common in Greenland and Spitzbergen, we may naturally conclude that it ranges over the whole of the arctic circle. In these solitary wilds it is constantly accompanied by the Fulmar Petrel; and like the generality of its tribe, which are constantly observed in the neighbourhood of shipping, it is always to be seen following the whalers and feeding upon the refuse thrown overboard, which, with blubber, small fish, and crustacea, forms the principal portion of its diet.

It is said to breed in rocks overhanging the sea, but the number and colour of its eggs we have yet to discover.

The sexes, when fully adult, are alike in colouring; the young, on the contrary, (as is the case with most species of the genus,) are so very dissimilar that they have been mistaken, and described as a distinct species. The plumage of the first autumn is an almost uniform blackish grey, which gradually gives place to a mottled livery of black and white, the ends of the primaries and tail retaining the dark marking the longest, and until the end of the second year. It is said that the immaculate white plumage is that of summer, and that the head and neck are streaked with grey in winter.

The base of the bill is deep lead colour, the remainder being fine ochre yellow; the irides are brown; the feet black; and, as the name implies, the whole of the plumage is pure white.

The Plate represents an adult male rather more than three fourths of the natural size.



COMMON GULL.

Larus canus. *(Linn)*

Drawn from Nature & on stone by J. & E. Gould.

Printed by C. Hullmandel.

COMMON GULL.

Larus canus, *Linn.*

La Mouette à pieds bleus.

The Common Gull, as its name implies, is one of the most abundant species inhabiting the British seas, there being no part of our coast on which it may not be found; it is, moreover, a resident species, breeding, according to Mr. Selby, on bold rocky headlands "overhanging the sea, and sometimes on islands; or on the shores of lakes, as I have found in two or three instances in the Western Highlands of Scotland. At St. Abb's Head, a bold and rocky headland of Berwickshire, these birds are very numerous during the breeding-season, and occupy the whole of the face of the cliff."

The nest is formed of sea-weed and grasses; the eggs, which are two and sometimes three in number, are of a yellowish white, blotched irregularly with brown and grey.

Like many of the other members of the genus, this bird is two, if not three years before it attains its perfect plumage, the change being from mottled greyish brown to a delicate lead colour on the upper surface and white beneath.

It is sometimes seen, particularly in the winter season, at a considerable distance from the shore, and it is often known, like the Rook, to follow the plough, and to wander in small flocks over fallow lands in search of worms, insects, and their larvæ.

It is said to possess an extensive range, and to pass the summer in most of the arctic regions, inhabiting equally those of North America, Europe, and Asia, whence on the approach of winter it migrates southward, and inhabits for a time most of the temperate parts of Europe.

In winter the head, occiput, nape and sides of the neck are white streaked with brown; the mantle, scapularies, and wing-coverts pearl grey; primaries black towards their tips, which are white, and the two first have also a large white spot within the black; under surface, rump, and tail pure white; bill bluish green at the base passing into ochreous yellow towards the point; gape orange red; naked skin round the eyes reddish brown.

In spring the brown streaks on the head and neck disappear, and those parts become of a perfectly pure white; the bill changes to a deeper yellow, and the eyelids to bright vermilion.

As above mentioned, the young are at first mottled with greyish brown, grey and white, which is gradually exchanged at successive moultings to the adult plumage; the legs and toes are pinkish grey; the base of the bill fleshy red, and the tip blackish brown.

We have figured an adult and a young bird rather less than the natural size.



AUDOUIN'S GULL.
Larus Audouinii. (Temm.)

E. Lear del. et lith.

Printed by C. Hullmandel.

AUDOUIN'S GULL.

Larus Audouinii, *Temm.*

La Mouette d'Audouin.

Although we are not aware of any instance of the occurrence of this fine species of Gull in our seas, still from a letter we have lately received from our friend M. J. Natterer, it would appear that it is by no means rare in the Mediterranean, for says M. Natterer, "I shot three of these gulls near Gibraltar and Tarifa, the whole of which had white heads in the month of August, the species cannot therefore belong to that section of the family which during this month have the head black."

From our knowledge of birds, we should say that the present species is extremely local, and we have never observed it in any of the many foreign collections we have had opportunities of examining. Our figure is taken from a fine specimen sent to us by M. Temminck, but from what locality it was obtained is not stated. It is probable that independently of those of the Mediterranean the whole of the coasts of Northern and Western Africa constitutes its native habitat.

The situation of the nostrils in this species, together with the absence of the black head in summer, sufficiently indicates its separation, as M. Natterer has observed, from those gulls which we have included under the generic title of *Xema*.

Head, neck, all the under surface and tail pure white; mantle and wings pale silvery grey; primaries black, tipped with white; bill and legs red, the former crossed near the tip with two stripes of black.

We have figured a male in the summer plumage nearly of the natural size.

SKUA GULL.

Lestris catarractes (Temm.)



Genus LESTRIS.

Gen. Char. *Beak* moderate, hard, strong, cylindrical, very compressed, hooked at the point, the *upper mandible* covered with a cere, the *under mandible* with an angle on the inferior edge. *Nostrils* approaching the point of the beak, diagonal, narrow, closed on their posterior part, and pervious. *Tarsi* long, naked above the knee. *Feet* having three toes before, entirely palmated; hind *toe* very small; *nails* large and hooked. *Tail* slightly rounded, two middle feathers elongated. *Wings*, first *quill-feather* longest.

SKUA.

Lestris catarractes, *Temm.*

Le Stercoraire cataracte.

The Skua is an inhabitant of the higher regions of both hemispheres: it is constantly found on the Northern seas of the European Continent; and although it is not met with, we believe, in the North American seas, Captain Cook observed it at the extremity of the Southern Continent, being very abundant about the Falkland Islands; and several collected by Captain P. P. King, on his last survey of the Straits of Magellan, and Terra del Fuego, were found on examination to be strictly identical with our own. In Europe; the Orkney, Shetland and Feroe Isles appear to be among the favourite breeding-places, and during the period of incubation the male becomes extremely fierce and pugnacious; it is, notwithstanding, a welcome guest to the inhabitants, whose flocks, but for this bird, would be more frequently exposed to the ravages of the eagle and raven; the former he will courageously attack, and repel, whenever he appears within the range of his dominions, for which service we can personally testify to the unwillingness with which the natives allow this bird to be destroyed.

The *Lestris catarractes* may be often observed wandering about, generally in pairs, on the northern shores of these Islands; the season, however, when the Skua may be most abundantly met with, is that in which the innumerable shoals of herrings visit our shores, at which times they are followed by flocks of Gulls of various species, who find in them an ample repast. It is not, however, for the sake of fishing, himself, that the Skua follows in the train, but, like the rest of his congeners, for the purpose of depriving the more industrious labourers of their booty, harassing them with unceasing ferocity until they deliver up their spoil. Fish thus obtained is not, however, his only food; for carrion, and the flesh of dead cetaceous and molluscous animals are not refused; it is even asserted, that, like the rapacious tribe of Falcons, whose place he may be said to take on the ocean, he will destroy birds of inferior size and strength,—an act for which his formidable talons, strong hooked beak, and great powers of flight, render him extremely well qualified.

The sexes differ but little in colour and size, and, contrary to what takes place in the other species of this genus, the young and adult exhibit but trifling variations. Its entire length is about twenty-two inches.

The bill is long, black, and strongly hooked; legs and feet jet black; length of the tarsi two inches and a half; feet webbed; toes armed with strong hooked talons, that on the inner toe being the most formidable Its general colour is a dark umber brown, varied on the back with light shades of reddish brown; the neck marked with elongated lines of dusky yellow; the first quill-feather of the wings the longest, the upper part of the webs and shafts white; the lower part dark brown; tail cuneiform, the two centre feathers projecting about an inch beyond the others. The egg of this bird resembles that of the Herring Gull in shape and colour, but is rather smaller, measuring two inches and a half in length by one and three quarters in breadth, olive brown blotched and spotted with darker brown.

We have figured an adult male, two thirds its natural size.

In our description of the Pomarine Gull we omitted to notice the egg of that bird, which, as figured by Naumann and Buhle, measures two inches three lines in length, and one inch eight lines in breadth; of a dark olive green, blotched and spotted with two shades of red brown.

Lestris catarractes, (Temm.&c.).



POMERINE GULL.

Lestris pomerinus — Temm.^k

Printed by C. Hullmandel.

POMARINE GULL.

Lestris pomarinus, *Temm.*

Stercoraire pomarin.

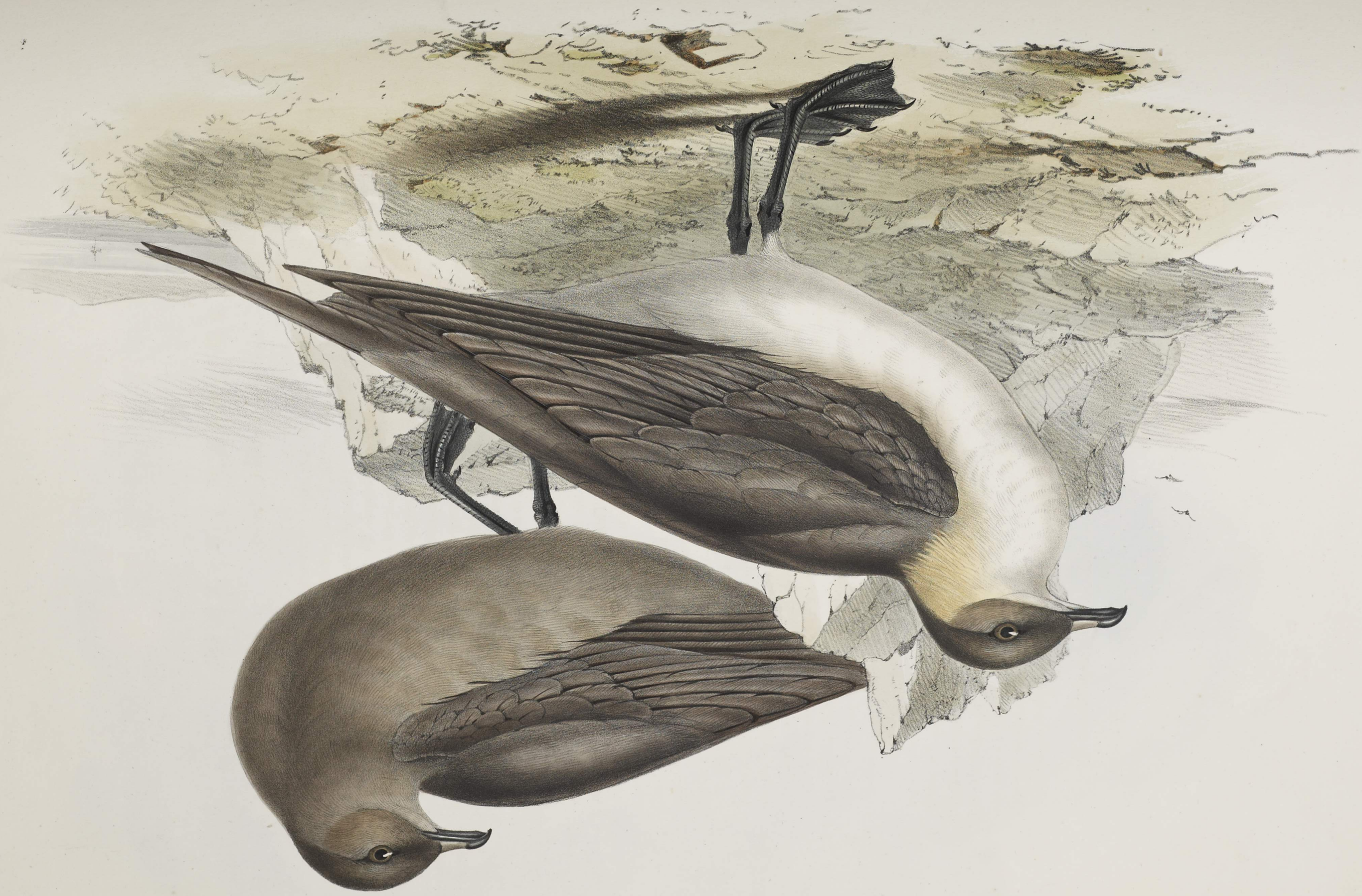
Among the parasitic Gulls, the *Lestris pomarinus* is the second in size, and possesses much the same habits as the preceding species, preferring a life of plunder to one of quiet industry: hence has arisen the generic title of the family, the word *lestris* signifying 'a robber'. We are indebted more particularly to M. Temminck (who appears to have been the first to characterize it,) for our knowledge of the present species, which, from the various changes it undergoes, had previously occasioned no little confusion. It is an inhabitant of the more northern regions of both continents; but on the European side the rocky and extensive coasts of Norway and Sweden are the only localities where it is supposed to incubate. The adult birds appear to confine themselves to the districts where they build, and are rarely met with on our shores, or those of the southern countries of Europe. The young, however, wander very extensively; abounding at certain seasons on our own seas, and along the coast of France; and we further learn, on the authority of M. Temminck, that the Rhine, and the lakes of Switzerland and Germany are also visited by them. We have procured these birds in considerable abundance, from every part of our own coast, while in the performance of their extensive migrations, at which time they have so close a resemblance in colour to the well-known blacktoed Gull, as to be easily mistaken for that bird; from which, however, they may be distinguished by their greater size: the beak in this species is also much more robust; the tarsi longer and more roughly reticulated. But, before entering more fully into a description of the present species, we must not omit to notice a peculiar characteristic in this class of Gulls, consisting in the length of the two middle tail-feathers, which extend beyond the others. In the *Skua* their length but little exceeds that of the tail, their breadth at the base continuing the same to the end, which is squared; in the present species the length is increased, the breadth continuing the same, but the end rounded: in the remaining species of this genus the two middle tail-feathers are extensively prolonged, gradually tapering from the base and terminating in a point. The beak of the adult male is of a greenish yellow ending in a black point, which is much curved; the irides yellowish brown; the feet and webs deep black; a blackish brown covers the head, face, and occiput, where it terminates in a point; throat white; cheeks and sides of the neck covered by silky filamentous feathers of a delicate straw-colour; the whole of the upper surface, wings and tail, of a deep umber brown; the chest thickly clouded with irregular bars of brown, becoming lighter towards the belly, which is white; vent and under tail-coverts brown interspersed with white; the middle tail-feathers exceed the rest by two or three inches. The total length of the bird is fifteen or sixteen inches; the adult male and female resemble each other in plumage.

The young of the year present a uniformity of colouring throughout, which consists of a dark brown, each feather being tipped with ferruginous brown: in this stage, the middle tail-feathers scarcely exceed the others; as they advance in age, the adult plumage gradually supervenes. It is in the intermediate state that the Pomarine Gull is most commonly to be met with.

Our Plate, in which the figures are two thirds of their natural size, represents an adult male in full plumage, and a young bird of about the age of five months in its immature dress.

RICHARDSON'S LESTRIS.

Lestris Richardsonii. (Swains.)



RICHARDSON'S LESTRIS.

Lestris Richardsonii, *Swains.*

This is by far the most common parasitic Gull on our coast. It breeds in the Orkney, Shetland, and Western Isles in very considerable abundance; and from this, its most southern boundary of incubation, it may be found in all the intermediate countries to the polar regions of both continents. It was discovered by Dr. Richardson, breeding on the barren ground north of Hudson's Bay at a considerable distance from the sea, from whence he brought specimens, which we have had opportunities of comparing with others procured in the Orkneys, and find them to be strictly identical. Some confusion appears to have existed in reference to the specific differences of these birds; and had it been consistent with the plan of the present work, it would have been a gratification to us to have figured all the known species contained in this interesting and well-defined genus: they are, however, not numerous;—we are not acquainted with more than two others extra-European, both of which are natives of America. The present species has hitherto been considered as the *Larus parasiticus* of Linneus; and it is somewhat surprising, that its claims to a distinct specific title should so long have escaped the notice of European Ornithologists, and especially the scientific and discriminating eye of M. Temminck. We have had opportunities of examining numerous examples of both species, and also specimens of the bird figured by Edwards under the name of the Arctic Bird, Plate 148, which has legs of a bright yellow colour, and tail-feathers much more elongated. This bird we also consider to differ both from *L. Richardsonii* and *L. parasiticus*; but as it has never been known to visit Europe, further description must, in accordance with our plan, be omitted.

The *Lestris Richardsonii* first received its specific title from Mr. Swainson, in honour of Dr. Richardson; a figure and description of it being published in the Fauna Boreali-Americana, part 2, p. 453; and it is with no small degree of pleasure, that our work affords us an opportunity of illustrating a bird bearing the name of so distinguished a traveller, whose arduous and indefatigable exertions have done so much for science.

The *Lestris Richardsonii* is subject to so great a variety of changes in the colour of its plumage, that a more than usually minute detail in the description is required. The dark chocolate coloured bird figured in our Plate, characterizes at least three fourths of the specimens found breeding in the British Isles; and from this colour to that of the light-coloured bird on the same Plate, it may be seen in all the intervening shades. Both sexes appear to be subject to the same law, and a very light-coloured male may be often seen paired with a dark female, and *vice versâ*. We are therefore led to believe, from the circumstance of the darker-coloured birds forming the greater portion, that this colour prevails solely among young birds, yet sufficiently matured for the reproduction of the species. The young birds of the year present precisely the same disposition of markings and colouring which is so characteristic of the *Lestris Pomarinus*, being brown, numerously barred with transverse lines of a richer colour; the legs and a portion of that part of the web nearest the tarsus are flesh-coloured; the other part of the membrane is black: this very conspicuous character formerly obtained for this species the name of Black-toed Gull (*Larus crepidatus*), an appellation which has long sunk into a synonyme. The *Lestris Richardsonii* is a more robust and powerful bird than the *Lestris parasiticus*; and the upper surface of its plumage is darker and more uniform in colour; the two middle tail-feathers scarcely ever exceed the others more than three inches; and the tarsus, toes, and interdigital membrane are also conspicuously larger.

Total length 21 inches; wing 13 inches; middle tail-feathers 9 inches long, exceeding the rest of the tail 3 inches; beak $1\frac{7}{8}$ inch; tarsus 1 inch 9 lines.



PARASITIC GULL.

Lestris parasiticus, *(Ill: Temm.)*

Drawn from Life and on Stone by J. & E. Gould. *Printed by C. Hullmandel.*

PARASITIC GULL.

Lestris parasiticus, *Ill.*

Le Stercoraire parasite.

This very elegant and delicately coloured species of *Lestris* is, we believe, the true *parasiticus* of Linneus, Buffon, and Temminck. On comparison it will be found to differ very materially from the *Lestris Richardsonii*, but to which it forms the nearest approach, exhibiting, however, a well-defined specific character. Nothing can be more beautiful and complete than the regular gradation which characterizes the species of the genus *Lestris*: commencing with the Skua, which is the largest, a concatenation may be observed throughout the whole. As the species diminish in size, the elongated tail-feathers are still more lengthened. This character is carried to an extreme in an American species, which is rather smaller than *L. parasiticus*, and has the central tail-feathers at least five inches longer, while in the Skua they scarcely extend beyond the remainder of the tail.

We have not been able to ascertain whether the *Lestris parasiticus* breeds among the British Isles, and it is certainly of rare occurrence. Its natural habitat appears to be more confined to the North, viz., the shores of the Baltic Sea, the rugged coasts of Norway and the polar regions. M. Temminck informs us, that it migrates periodically into Germany, Holland and France, but mostly in its immature state. It feeds on fish, insects, and portions of dead cetacea, which it usually procures by harassing and buffeting unfortunate Gulls and Terns, until they are obliged to lighten their bodies by disgorging half-digested fish, &c., the fruits of the labour and search of several hours.

Although it is probable that this bird undergoes variations in plumage similar to those of the *Lestris Richardsonii*, we are by no means able from our own knowledge to state this to be the case; as in all the specimens which we have had opportunities of examining, the markings have been clear and decided, the birds exhibiting a well-defined dark-coloured cap on the head, light under parts, and very long middle tail-feathers.

The female differs but little in plumage from the male, and the young resemble in colouring the other species of the genus of the same age.

The top of the head and the space between the bill and the eyes of a deep blackish brown, terminating at the occiput, the whole of the upper surface of a clear brownish grey; quill- and tail-feathers much darker; the throat, neck, and under surface of a pure white, with the exception of the cheeks and sides of the neck, which are tinged with a delicate straw-yellow; legs and feet black.

Total length 21 inches; wing $11\frac{3}{4}$ inches; middle tail-feathers 12 inches, exceeding the rest of the tail $6\frac{3}{4}$ inches; beak $1\frac{6}{8}$ inch; tarsus $1\frac{1}{2}$ inch.

We have figured an adult male three fourths of the natural size.

MANX'S SHEARWATER.

Puffinus Anglorum. Temm.



MANKS SHEARWATER.

Puffinus Anglorum, *Ray.*

Le Pétrel Manks.

So exclusively aquatic is this little tenant of the ocean, that the impulse of incubation alone induces it to visit terra firma, on which occasion it resorts to those portions only of the land which are washed by the surge, generally selecting such places as small islands, which, from the danger of approach and their rocky nature, are seldom made the residence of man. Whenever he does take up his abode there, the number of birds speedily diminishes; and this is clearly shown by the total absence at the present period of this species in the Calf of Man, where in the time of Willughby and even at a later date they appear to have been very abundant. Mr. Selby is inclined to believe, and we fully concur in his opinion, that this diminution of their numbers is wholly occasioned by the wanton and greedy destruction of their eggs and young, which are eagerly sought after as an article of food, the latter being considered by many a great delicacy, and eaten both fresh and salted.

It is evident that the author above mentioned is not aware that this highly interesting bird is even now, during the months of summer, nearly as abundant on the coasts of South Wales as it was formerly in the Calf of Man. We are fully borne out in this assertion by the circumstance of our having received from thence, through the medium of a friend, no less than four dozens of these harmless creatures at one time, with an assurance that as many more would be forwarded if required. These were all evidently captured by the hand, none of them possessing any of the usual indications of having been shot. From what information we could obtain, it appears that the Manks Shearwater visits these localities for the purpose of incubation during the early part of spring, when they resort to deserted rabbit-burrows, crevices of the rocks, &c., wherein they deposit their single white egg, and the birds then fall an easy prey to the fishermen and others. Giving a decided preference to the western coasts of our islands, they are tolerably abundant in Ireland and in the Western and Orkney Islands. After the conclusion of the breeding-season they retire southwards, even beyond the Mediterranean, where, in consequence of the increased temperature, they find a greater supply of food than they could in more rigorous climates during the season of winter.

Their food consists of all kinds of marine animal substances, such as crustacea, small fishes, mollusca, &c.

In its general contour, the Manks Shearwater is admirably adapted for traversing the surface of the ocean, and from the lengthened form of its wings it undoubtedly possesses great power of flight. The coast of Norway and the shores of the Baltic, although not without the presence of the Shearwater, appear to be much less frequented by it than our own islands; and in the "Manuel" of M. Temminck it is stated to be a bird of very rare occurrence on the shores of Holland and France.

The sexes are alike in the colour of their plumage, and the young resemble the adults at an early age.

The head and whole of the upper surface is of a dark brownish black; the neck, chin, and throat transversely marked with indistinct lines of the same colour; all the remainder of the plumage white, with the exception of a spot of blackish brown behind the thighs; bill yellowish brown at the base, and dark brown at the tip; legs and feet brown; irides hazel.

The Plate represents an adult male of the natural size.



DUSKY SHEARWATER.

Puffinus obscurus.

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

DUSKY SHEARWATER.

Puffinus obscurus.

Le Petrel obscur.

The Dusky Shearwater so closely resembles the preceding species both in form and colouring that its diminutive size may be said to constitute the only difference by which it is distinguished from that bird; no doubt, however, exists in our minds as to their being really distinct. The two species are moreover inhabitants of different parts of the globe, the *Puffinus Anglorum* being almost confined to the northern seas, while the *Puffinus obscurus* is equally confined to the southern, and rarely found further north than the Mediterranean, on the European shores of which sea most of the European examples have been procured. It is more abundant on the shores of Africa, extending from the Cape of Good Hope to its northern boundary: Africa then may be considered as its natural habitat.

The sexes do not appear to differ in external appearance, nor are the young of the first year distinguished by any particular plumage.

In habits and manners this species is supposed closely to resemble the *Puffinus Anglorum*, but on these points little or nothing is at present known.

Crown of the head, ear-coverts, all the upper surface, wings and tail sooty black; sides of the face and throat transversely marked with indistinct lines of the same colour; all the remainder of the plumage white; bill lead-colour at the base, becoming black towards the tip; feet olive; external web light olive.

We have figured an adult of the natural size.

CINEREOUS SHEARWATER.
Puffinus cinereus? (Steph.)



CINEREOUS SHEARWATER.

Puffinus cinereus, *Steph.*

Le Petrel Puffin.

If it should ultimately appear that the bird obtained by Mr. Strickland from the Tees mouth, and characterized by him, in the Proceedings of the Zool. Soc. for 1832, under the new specific title of *Puffinus fuliginosus*, is identical with the young of *Puffinus cinereus*, a circumstance which is by no means unlikely; and if a bird apparently in the adult plumage, subsequently obtained by the same gentleman, should prove to be the adult of this species, we shall have, with the addition of a specimen obtained by Mr. Selby, three examples of British-killed specimens of this species. With respect to the specimens forwarded by Mr. Strickland, and which we have figured, we have to observe, that these two birds, although agreeing in their admeasurements with each other, differ slightly from a specimen of *Puffinus cinereus* sent to us by M. Temminck as an undoubted example of that species, Mr. Strickland's specimens being less in all their admeasurements; and could we have discovered any difference in the markings of their plumage, we should have had no hesitationin regarding them as distinct: as it is, we have here figured both Mr. Strickland's birds as one and the same species, but with a mark of doubt as to their being examples of the true *Puffinus cinereus*.

The range of the true *Puffinus cinereus* according to M. Temminck is very extensive: "it is spread throughout the Mediterranean, it often appears on the southern coast of Spain and on those of Provence, where many individuals have been killed. It is never seen in the Adriatic. Specimens killed in Senegal and those from the Cape of Good Hope differ in no respect from those killed in Provence. The habits and manners as well as the food of this species do not differ from those of its nearly allied species the Manx Shearwater, *Puffinus Anglorum*, which, as is well known, feeds on all kinds of marine animal matter in a state of putrescency.

The head, cheeks, and all the upper surface pale ash grey, the edges of the feathers on the back being lighter on their external margins, the scapulars, wings, and tail darker; quills deep black; on the sides of the neck and chest are waves of light grey; under-surface pure white; beak yellowish, becoming browner towards the tip; feet and interdigital membrane livid yellow, the webs lightest in colour; irides brown.

Our figures are rather less than the natural size.

FULMAR PETREL.
Procellaria glacialis. (Linn.)



Genus PROCELLARIA.

Gen. Char. *Beak* thick, dilated at the tip, sulcated; the *upper mandible* hooked; the *lower* straight and slightly truncated. *Nostrils* united in a single tube. *Legs* moderate; a claw only in place of the hind toe.

FULMAR PETREL.

Procellaria glacialis, *Linn.*

Le Petrel Fulmar.

The genus *Procellaria*, in which Linnæus placed all the oceanic birds possessing tubular nostrils, and which now form an extensive and well-defined family, has been subsequently divided by naturalists into several minor groups; and we find that in Europe alone there exist examples which illustrate three genera, viz. *Procellaria* (as now restricted), *Puffinus*, and *Thalassidroma*. The Fulmar Petrel constitutes the type of the genus to which it is assigned, and appears to form the passage to the true Gulls by the interposition of the birds composing the genus *Lestris*. How plainly does the present bird exemplify the wisdom which Nature has exhibited in the creation of all her subjects! It is in the almost impenetrable polar regions, among floating fields and bergs of ice, often at a great distance from the land, that the Fulmar finds its true and natural habitat; and in order to enable it to endure the severities of the hardest seasons in these northern latitudes, Nature has afforded it every necessary protection by clothing it in a thick and warm mass of down and feathers of an oily nature, thus precluding cold and moisture. Although the polar regions constitute its native locality, it is nevertheless found, but in much less abundance, in more temperate climates, such as the northern seas of Europe and America, extending itself throughout the lengthened coast of Norway, and not unfrequently Holland and France. It frequents also the northern isles of Great Britain, resorting to the Orkney and Hebrides for the purpose of breeding, but particularly to the Island of St. Kilda.

The food of the Fulmar consists of fish, mollusca, vermes, and the fat of dead cetacea; it will also devour any oily substance or refuse thrown from vessels, which it fearlessly follows, particularly those engaged in the whale fisheries; and hence during the season it obtains an easy and bountiful subsistence. They are very active and buoyant on the water, and their powers of flight are considerable.

Their mode of living renders the flesh very disagreeable and unfit for use. Their stomach and body appear to be continually saturated with oil; and the circumstance of their being able to eject or discharge a quantity of this fluid from their nostrils, when irritated or attacked, is both singular and curious. This power appears to have been given them as a mode of defence, and is characteristic of the whole of the family, from the largest species to the elegant Stormy Petrel; and even this little creature has the power of squirting out an oily fluid from its nostrils with considerable force.

The Fulmar lays one white egg on the grassy ledges of the rocks and cliffs of our northern islands. They make no nest; the egg is very large compared with the size of the bird, and has a strong musky smell, which it retains for some time. Our figure represents the plumage of an adult bird; young birds of the year have the back and wings varied with light grey and brown.



FORK-TAILED STORM-PETREL.
Thalafsidroma Leachii.

Drawn from Nature & on Stone by J. & E. Gould.

COMMON STORM-PETREL.
Thalafsidroma pelagica, (Selby).

Printed by C. Hullmandel.

Genus THALASSIDROMA.

Gen. Char. *Bill* shorter than the head; much compressed in front of the nasal sheath, with the tip of the upper mandible suddenly curving and hooking downwards, and that of the lower one slightly angulated and following the curve of the upper. *Nostrils* contained in one tube or sheath, but showing two distinct orifices in front. *Wings* long and acuminate, with the first quill shorter than the third, the second being the longest. *Tail* square or slightly forked. *Legs* having the tarsi rather long and slender, reticulated. *Feet* of three toes, united by a membrane; hind toe represented by a small, straight, dependent nail.

FORK-TAILED STORM PETREL.

Thalassidroma Leachii.

Le Petrel de Leach.

The first discovery of this Petrel in Europe is due to the researches of Mr. Bullock, who, in the year 1818, while on a tour through the northern and western isles of Scotland, found it breeding on the island of St. Kilda, whence he brought the original specimen from which M. Temminck took his description. In his '*Manuel d'Ornithologie*,' under the article alluded to, he dedicates the bird to Dr. Leach by the title of *Procellaria Leachii*. Since the period of its first discovery, when it appeared to be a bird of extreme rarity, it has been found, and that not unfrequently, on most parts of the British coast, and in the channel intervening between our island and the Continent.

In its habits, manners, food, and nidification it so strictly resembles the Common Storm Petrel that the same description will serve for both. It differs from that bird, as also from all other European Storm Petrels, in being one of the largest in size, in having a forked tail, and remarkably short tarsi.

The colour of the plumage is a sooty black, with the under tail-coverts and a patch on the rump white.

COMMON STORM PETREL.

Thalassidroma pelagica, *Selby*.

Le Petrel tempête.

This, the least of web-footed birds, though by no means the least important, has been long celebrated by the name of "Mother Carey's Chicken," bestowed upon it by the British sailors, as the foreboder of storm and tempest to the mariner.

The habits and manners of this singular group of birds may be described as being both nocturnal and oceanic. During the bright glare of day they conceal themselves in the crevices of rocks, stones, &c., from whence they depart on the approach of evening, and skim over the surface of the sea in search of food: approaching storms and dull murky weather also rouse them from their retreats to visit their congenial element; hence it is that when seen at a distance from the shore they intimate the approach of gales and severe weather. When out at sea they appear partial to the company of ships, which they follow for days together, and, surprising to say, are never seen to settle on the water; in fact, the only period of rest they appear to allow their organs of flight is while, with extended wing, they skim, half flying half tripping, over the surface of the billows; and it would appear as if the bones of the legs were expressly formed for this manœuvre, being sufficiently flexible to bend without breaking to any opposing pressure or sudden concussion. While skimming around ships they pick up any refuse oily matters that may be thrown overboard, and also any of the small mollusca that may be brought to the surface by the agitation of the water which the vessel occasions in her progress.

The Common Storm Petrel is abundant over the whole of the northern seas of Europe, especially in the rocky islands of Scotland, where it breeds in the crevices of rocks, among loose stones, and occasionally in holes on the ground, generally laying a single egg of a pure white. The young remain in their retreats until their pinions are sufficiently strong for flight, and it is a considerable period before they are able to follow their parents.

The adults of both sexes are alike in plumage, which is invariably of a sooty black, with a white spot on the rump; the bill and tarsi black.

We have figured an adult of each species, of the natural size.



BULWER'S PETREL.

Thalafsidroma? Bulwerii.

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Hullmandel.

BULWER'S PETREL.

Thalassidroma? Bulwerii.

Procellaria Bulwerii, *Jard. & Selby.*

On the authority of Col. Dalton of Slenningford, near Ripon, we are enabled to add this rare species to the Fauna of Britain, from a fine specimen which was found on the banks of the Ure, near Tanfield in Yorkshire, on the 8th of May, 1837, and which could not have been long dead, as it admitted of being mounted into a good cabinet specimen. It is now in the possession of Col. Dalton, who doubtless regards it as one of the greatest treasures in British ornithology. In fact, with the exception of one or two foreign examples, we do not recollect that we have observed it among the numerous collections we have had opportunities of examining. The only recorded facts relative to its history will be found in the second volume of 'Illustrations of Ornithology,' by Sir William Jardine and Mr. Selby, in which publication the bird is figured from a specimen sent from Madeira by Mr. Bulwer, after whom it has been named. As it is stated to be an inhabitant of Madeira and the adjacent islands, we may infer that the seas bounding the western shores of Africa constitute its true habitat. The cuneated form of its tail and its large size will readily distinguish it from all the other species of its genus.

We cannot conclude our account of this bird without offering our sincere thanks to Colonel Dalton for the loan of his specimen for the purpose of illustration as well as to C. C. Oxley, Esq., of Ripon, who in this instance and upon all other occasions has taken a kind and friendly interest in the present work.

The whole of the plumage is of a deep sooty black, becoming paler upon the throat, and brown on the edges of the greater wing-coverts; bill black; legs and feet blackish brown.

Our figure is of the natural size.