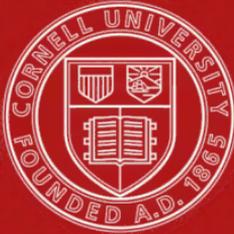




GAME BIRDS  
OF THE  
BRITISH ISLANDS

*CHARLES DIXON*



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THE GAME BIRDS AND WILD FOWL  
OF  
THE BRITISH ISLANDS.







BLACK GROUSE (MALE AND FEMALE).





THE GAME BIRDS  
AND  
WILD FOWL  
OF  
THE BRITISH ISLANDS

BEING  
A Handbook for the Naturalist and Sportsman

BY  
CHARLES DIXON

AUTHOR OF

"RURAL BIRD-LIFE," "EVOLUTION WITHOUT NATURAL SELECTION," "OUR RARER BIRDS," "ANNALS OF BIRD-LIFE," "STRAY FEATHERS FROM MANY BIRDS," "IDLE HOURS WITH NATURE," "THE BIRDS OF OUR RAMBLES," "THE MIGRATION OF BIRDS."

*ILLUSTRATED BY A. T. ELWES*

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CHARLES DICKENS AND EVANS,  
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## PREFACE.

---

EVERY naturalist may not be a sportsman, but there are certainly very few sportsmen that are not, or do not eventually become, ardent naturalists. The habits and economy of birds are specially the naturalist's own province; but then, on the other hand, no sportsman worthy of the name is indifferent to the life-history of the birds and beasts that are the object of his chase. A man who would be a successful sportsman must be familiar with the ways of the creatures that furnish his sport; not only so, the constant chase of bird and beast, in nine cases out of ten, creates a desire for knowledge, and a wish to know something more of their economy.

The present volume has been written with the object of furnishing the naturalist and sportsman with concise yet fairly complete, and I hope accurate, information respecting the Game Birds and Wild Fowl of the British Islands, and their allied races and species in other parts of the world. I have sought to bring this information up to date, not only by including several species new to our avi-fauna, but by dealing with these birds from an evolutionary point of view, and according to modern ideas on and recent discoveries in that particular branch of natural knowledge which is embraced by Darwinian Ornithology. Hence it has been my constant care to discard insular and narrow study, which only too often leads to pedantry and error, and to treat the birds incorporated in the following pages on broad, evolutionary lines, and from a more cosmopolitan point of view. The inevitable result of such treatment has been the recognition of local races, subspecies, or climatic varieties, into which many of

our British Game Birds and Wild Fowl have been separated by the endless segregating process of Evolution, working as surely at the present day as it has undoubtedly worked in past ages, and will continue to work in ages yet to come.

Of course, in a work of the present nature, I have had to rely much upon the labours of other naturalists; but in every case where such has been necessary I have sought the highest, the latest, and the most trustworthy authorities for the information required; whilst my own more than twenty years' experience in the study of Ornithology, both from the scientist's and the field-naturalist's point of view, has been of incalculable service in assisting me to separate the sound wheat of reliable knowledge from the unstable chaff of ignorance and error. The last twenty years have been eventful ones for Ornithology, fraught with discoveries and pregnant with importance, not only respecting the economy of British species, but with the past history of all birds, much light having been thrown on their affinities and origin. The classification of birds is still in a most unsatisfactory state, although the great and ever-increasing attention that the subject is receiving must ultimately result in some uniformity of opinion. At present no two recognised authorities agree in their estimation of the taxonomic value of respective characters. Among the latest systems elaborated may be mentioned those of Dr. Sclater, Professor Newton, the late Mr. Forbes, the late Professor Garrod, Dr. Reichenow, Professor Coues, Dr. Stejneger, Mr. Seebohm, and last, and perhaps most important of all, the great work of Professor Fürbringer. I have had an opportunity of studying each of these important Avian classifications, and it is quite needless to remark the wide, nay almost hopeless and bewildering divergence of opinion expressed by their talented authors and compilers. Until some sort of uniformity of opinion is arrived at, the arrangement of species in a work like the present appears to me to be a matter of little importance; for the classification of yesterday that you may adopt to-day is out of date and antiquated to-morrow. The whole subject of classification, at present, is in a violent state of eruption; one would think that scientists had "lost their heads." Fortunately the scope of the present volume calls for no elaborate classification, and the

species dealt with are units of fairly well-defined groups, about which, as groups, systematists are on the whole pretty well agreed.

The number of species and races of Game Birds and Wild Fowl which may fairly claim to be included in the British Avi-fauna is 127. The majority of these do not breed within our limits, but are either regular winter visitors, or abnormal migrants, of varying degrees of rarity, to the United Kingdom. The British and foreign geographical area of each of these has been traced, and the various allied forms noted, with their distribution and distinguishing characteristics. The habits, notes, food, nest, and eggs have been described as fully as space allowed, or as completely as our knowledge extends; whilst the diagnostic characters of each will enable the naturalist or sportsman readily to identify the various British species, and are in my opinion infinitely preferable to long, tedious, detailed descriptions of plumage.

Little need be said of the sport that our British Game Birds and Wild Fowl yield, or of the healthy invigorating recreation derived from the pursuit of that sport. Field and covert shooting is not without its excitements and delights, even in these degenerate days of breech-loaders and battues; but, to my mind, the cream of all gun sport is skimmed by the wildfowler and the shore-shooter. There is a charm about the chase of Wild Fowl which no covert-shooting can excel or equal; for the incomparable skill demanded in punting up to the flocks of wary Ducks and Geese, in stalking the shy Waders on the muds and marshes, or in "getting on" to the fleeting Fowl with deadly effect as they pass like arrows over your cold and lonely ambush during flight time, is very different from that required for the work of even a warm corner in some highly preserved cover. Then there is the charm of uncertain expectancy which is the shore-shooter's and wildfowler's own—the delicious feeling of never knowing what the next shot may be, as fen and marsh are traversed. Away from the mere pleasure of killing, which, alas, seems inherent in male human nature, there is the greater pleasure of watching the ways of the wary Fowl, of studying their habits and economy. Sportsmen have it in their power to render

incalculable service to Natural History, if they are only put in the way of making observations. No better proof of this is furnished than that of the army of Indian sportsmen, who, encouraged and directed by that great ornithologist and sportsman, Allan Hume, have done so much for the Ornithology of our Eastern Empire, and set an example to sportsmen at home which might be followed with inestimable profit to British Ornithology. By their aid the magnificent and unrivalled collection of Indian birds was formed, which now, thanks to the noble generosity of Mr. Hume, forms a part of our National Collection at South Kensington.

Should the present volume be the means of creating a taste for observation among those sportsmen who have hitherto been neglectful of the scientific side of their pursuit, to the advantage of Natural History, or prove of some help to the naturalist in his studies of this important and interesting group of birds, the labour involved in writing it will ever be recalled with pleasure.

I desire also to place on record my great appreciation of the work of my contemporaries, and my sincere thanks for the profit of their experience; also to acknowledge my gratitude to many friends for valued information. My thanks are specially due to my old friend Mr. F. H. Waterhouse, the courteous Librarian to the Zoological Society of London, whose bibliographical assistance, from time to time, has been invaluable.

CHARLES DIXON.

*January, 1893.*

# CONTENTS.

---

## Order COLUMBIFORMES.

	PAGE
Family COLUMBIDÆ or PIGEONS . . . . .	I
Genus COLUMBA or TRUE PIGEONS . . . . .	2
<i>Columba palumbus</i> .—Ring Dove . . . . .	3
„ <i>ænas</i> .—Stock Dove . . . . .	6
„ <i>livia</i> .—Rock Dove . . . . .	9
Genus TURTUR or TURTLE DOVES . . . . .	12
<i>Turtur auritus</i> .—Turtle Dove . . . . .	13
„ <i>orientalis</i> .—Eastern Turtle Dove . . . . .	16

## Order GALLIFORMES.

Family PTEROCLIDÆ or SAND GROUSE . . . . .	17
Genus SYRRHAPTES or SAND GROUSE . . . . .	18
<i>Syrrhaptes paradoxus</i> .—Pallas's Sand Grouse . . . . .	19

## Order GALLIFORMES.

Family PHASIANIDÆ or GAME BIRDS . . . . .	22
Genus LAGOPUS or MOOR GROUSE . . . . .	23
<i>Lagopus mutus</i> .—Ptarmigan . . . . .	24
„ <i>scoticus</i> .—Red Grouse . . . . .	27
Genus TETRAO or WOOD GROUSE . . . . .	31
<i>Tetrao urogallus</i> .—Capercaillie . . . . .	32
„ <i>tetrix</i> .—Black Grouse . . . . .	37
Genus PHASIANUS or TRUE PHEASANTS . . . . .	41
<i>Phasianus colchicus</i> .—Pheasant . . . . .	42

## CONTENTS.

	PAGE
Genus PERDIX or TRUE PARTRIDGES . . . . .	47
Perdix cinerea.—Partridge . . . . .	48
Genus CACCABIS or ROCK PARTRIDGES . . . . .	51
Caccabis rufa.—Red-legged Partridge . . . . .	52
Genus COTURNIX or QUAILS . . . . .	55
Coturnix communis.—Quail . . . . .	56
 <b>Order RALLIFORMES.</b>	
Family RALLIDÆ or RAILS . . . . .	59
Genus CREX or CRAKES . . . . .	60
Crex pratensis.—Corn Crake . . . . .	61
„ porzana.—Spotted Crake . . . . .	65
„ bailloni.—Baillon's Crake . . . . .	68
„ parva.—Little Crake . . . . .	71
Genus RALLUS or TYPICAL RAILS . . . . .	74
Rallus aquaticus.—Water Rail . . . . .	75
Genus GALLINULA or TRUE WATERHENS . . . . .	78
Gallinula chloropus.—Waterhen . . . . .	79
Genus FULICA or COOTS . . . . .	83
Fulica atra.—Common Coot . . . . .	84
 <b>Order GRUIFORMES.</b>	
Family GRUIDÆ or CRANES . . . . .	88
Genus GRUS or CRANES . . . . .	89
Grus communis.—Common Crane . . . . .	90
„ virgo.—Demoiselle Crane . . . . .	94
 <b>Order CHARADRIIFORMES.</b>	
Family OTIDIDÆ or BUSTARDS . . . . .	98
Genus OTIS or BUSTARDS . . . . .	99
Otis tarda.—Great Bustard . . . . .	100
„ tetrax.—Little Bustard . . . . .	103
„ macqueeni.—Macqueen's Bustard . . . . .	106

## Order CHARADRIIFORMES.

	PAGE
Family CHARADRIIDÆ, or PLOVERS, SAND-PIPERS, and SNIPES . . . . .	109
Subfamily CHARADRIINÆ or PLOVERS . . . . .	111
Genus ŒDICNEMUS or STONE CURLEWS . . . . .	112
Œdicnemus crepitans.—Common Stone Curlew . . . . .	113
Genus ÆGIALITIS or RINGED PLOVERS . . . . .	116
Ægialitis minor.—Little Ringed Plover . . . . .	117
„ hiaticula major.—Greater Ringed Plover . . . . .	120
„ hiaticula.—Ringed Plover . . . . .	124
„ vocifera.—Killdeer Plover . . . . .	127
Genus ÆGIALOPHILUS or SAND PLOVERS . . . . .	129
Ægialophilus cantianus.—Kentish Sand Plover . . . . .	130
„ asiaticus.—Caspian Sand Plover . . . . .	133
Genus CHARADRIUS or TYPICAL PLOVERS and DOTTERELS . . . . .	134
Charadrius morinellus.—Dotterel . . . . .	135
„ pluvialis.—Golden Plover . . . . .	138
„ fulvus.—Asiatic Golden Plover . . . . .	142
„ fulvus americanus.—American Golden Plover . . . . .	145
„ helveticus.—Gray Plover . . . . .	147
Genus VANELLUS or LAPWINGS . . . . .	150
Vanellus cristatus.—Lapwing . . . . .	151
„ gregarius.—Sociable Lapwing . . . . .	155
Genus CURSORIUS or COURSERS . . . . .	157
Cursorius gallicus.—Cream-coloured Courser . . . . .	158
Genus GLAREOLA or PRATINCOLES . . . . .	161
Glareola pratincola.—Common Pratincole . . . . .	162
Subfamily TOTANINÆ or SEMI WEB-FOOTED SANDPIPERS and their ALLIES . . . . .	165
Genus HIMANTOPUS or STILTS . . . . .	166
Himantopus melanopterus.—Common Stilt . . . . .	167

## CONTENTS.

	PAGE
Genus RECURVIROSTRA or AVOCETS . . . . .	171
<i>Recurvirostra avocetta</i> .—Common Avocet . . . . .	172
Genus HÆMATOPUS or OYSTERCATCHERS . . . . .	176
<i>Hæmatopus ostralegus</i> .—Common Oystercatcher . . . . .	177
Genus NUMENIUS or CURLEWS . . . . .	181
<i>Numenius arquatus</i> .—Common Curlew . . . . .	182
„ <i>phæopus</i> .—Common Whimbrel . . . . .	186
„ <i>borealis</i> .—Eskimo Whimbrel . . . . .	190
Genus PHALAROPUS or PHALAROPES . . . . .	193
<i>Phalaropus fulicarius</i> .—Gray Phalarope . . . . .	194
„ <i>hyperboreus</i> .—Red-necked Phalarope . . . . .	198
Genus TOTANUS or HARD-BILLED SANDPIPERS . . . . .	201
<i>Totanus bartrami</i> .—Bartram's Sandpiper . . . . .	202
„ <i>pugnax</i> .—Ruff . . . . .	205
„ <i>hypoleucus</i> .—Common Sandpiper . . . . .	208
„ <i>macularius</i> .—Spotted Sandpiper . . . . .	212
„ <i>ochropus</i> .—Green Sandpiper . . . . .	215
„ <i>solitarius</i> .—Solitary Sandpiper . . . . .	218
„ <i>glareola</i> .—Wood Sandpiper . . . . .	220
„ <i>flavipes</i> .—Yellow-legged Sandpiper . . . . .	223
„ <i>calidris</i> .—Common Redshank . . . . .	225
„ <i>fuscus</i> .—Dusky Redshank . . . . .	228
„ <i>glottis</i> .—Greenshank . . . . .	231
„ ( <i>stagnatilis</i> .—Marsh Sandpiper) . . . . .	234
Genus LIMOSA or GODWITS . . . . .	235
<i>Limosa rufa</i> .—Bar-tailed Godwit . . . . .	236
„ <i>melanura</i> .—Black-tailed Godwit . . . . .	240
Genus EREUNETES or SNIPE-BILLED SANDPIPERS . . . . .	244
<i>Ereunetes griseus</i> .—Red-breasted Snipe . . . . .	245
Subfamily SCOLOPACINÆ or CLEFT FOOTED SANDPIPERS and their ALLIES . . . . .	248
Genus STREPSILAS or TURNSTONES . . . . .	249
<i>Streptilas interpres</i> .—Turnstone . . . . .	250

CONTENTS.

	xiii
	PAGE
<b>Genus TRINGA or CLEFT-FOOTED SANDPIPERS</b>	<b>253</b>
<i>Tringa canutus</i> .—Knot . . . . .	254
„ <i>subarquata</i> .—Curlew Sandpiper . . . . .	259
„ <i>alpina</i> .—Dunlin . . . . .	262
„ <i>fuscicollis</i> .—Bonaparte's Sandpiper . . . . .	266
„ <i>maritima</i> .—Purple Sandpiper . . . . .	268
„ <i>platyrhyncha</i> .—Broad-billed Sandpiper . . . . .	272
„ <i>acuminata pectoralis</i> .—American Pectoral Sandpiper . . . . .	275
„ <i>acuminata</i> .—Siberian Pectoral Sandpiper . . . . .	xv
„ <i>minuta</i> .—Little Stint . . . . .	278
„ <i>subminuta minutilla</i> .—American Stint . . . . .	282
„ <i>temmincki</i> .—Temminck's Stint . . . . .	285
„ <i>arenaria</i> .—Sanderling . . . . .	288
„ <i>rufescens</i> .—Buff-breasted Sandpiper . . . . .	292
<b>Genus SCOLOPAX or SNIPES and WOODCOCKS . . . . .</b>	<b>295</b>
<i>Scolopax rusticola</i> .—Woodcock . . . . .	296
„ <i>major</i> .—Great Snipe . . . . .	302
„ <i>gallinago</i> .—Common Snipe . . . . .	305
„ <i>gallinula</i> .—Jack Snipe . . . . .	310

**Order ANSERIFORMES.**

Family ANATIDÆ, or SWANS, GEESE, and DUCKS . . . . .	314
Subfamily CYGNINÆ or SWANS . . . . .	315
<b>Genus CYGNUS or SWANS . . . . .</b>	<b>316</b>
<i>Cygnus musicus</i> .—Hooper Swan . . . . .	317
„ <i>bewicki</i> .—Bewick's Swan . . . . .	320
„ <i>olor</i> .—Mute Swan . . . . .	323
Subfamily ANSERINÆ or GEESE . . . . .	326
<b>Genus ANSER or TYPICAL GEESE . . . . .</b>	<b>327</b>
<i>Anser hyperboreus</i> .—Lesser Snow Goose . . . . .	328
„ <i>segetum</i> .—Bean Goose . . . . .	331
„ <i>brachyrhynchus</i> .—Pink-footed Goose . . . . .	333
„ <i>cinereus</i> .—Gray Lag Goose . . . . .	335
„ <i>albifrons</i> .—White-fronted Goose . . . . .	339
„ <i>albifrons minutus</i> .—Lesser White-fronted Goose . . . . .	342

## CONTENTS.

	PAGE
Genus BERNICLA or BRENT GEESE . . . . .	344
<i>Bernicla brenta</i> .—Brent Goose . . . . .	345
" <i>brenta glaucogaster</i> .—White-bellied Brent Goose . . . . .	348
" <i>leucopsis</i> .—Bernacle Goose . . . . .	350
" <i>ruficollis</i> .—Red-breasted Goose . . . . .	353
 Subfamily ANATINÆ or SHELDRAKES and NON- DIVING DUCKS . . . . .	 356
Genus TADORNA or SHELDRAKES . . . . .	357
<i>Tadorna cornuta</i> .—Common Sheldrake . . . . .	358
" <i>casarca</i> .—Ruddy Sheldrake . . . . .	362
Genus ANAS or NON-DIVING DUCKS . . . . .	367
<i>Anas strepera</i> .—Gadwall . . . . .	368
" <i>acuta</i> .—Pintail Duck . . . . .	372
" <i>penelope</i> .—Wigeon . . . . .	376
" <i>americana</i> .—American Wigeon . . . . .	380
" <i>crecca</i> .—Common Teal . . . . .	382
" <i>carolinensis</i> .—American Teal . . . . .	386
" <i>circia</i> .—Garganey . . . . .	388
" <i>discors</i> .—Blue-winged Teal . . . . .	391
" <i>clypeata</i> .—Shoveller . . . . .	393
" <i>boschas</i> .—Mallard . . . . .	397
 Subfamily FULIGULINÆ, or DIVING * DUCKS, EIDERS, and MERGANSERS . . . . .	 401
Genus FULIGULA or DIVING DUCKS . . . . .	402
<i>Fuligula rufina</i> .—Red-crested Pochard . . . . .	403
" <i>nyroca</i> .—White-eyed Pochard . . . . .	406
" <i>ferina</i> .—Pochard . . . . .	410
" <i>marila</i> .—Scaup . . . . .	413
" <i>cristata</i> .—Tufted Duck . . . . .	416
" <i>albeola</i> .—Buffel-headed Duck . . . . .	419
" <i>clangula</i> .—Golden-eye . . . . .	421
" <i>histrionica</i> .—Harlequin Duck . . . . .	425
" <i>glacialis</i> .—Long-tailed Duck . . . . .	428
" <i>nigra</i> .—Common Scoter . . . . .	431

CONTENTS.

	XV
	PAGE
Fuligula fusca.—Velvet Scoter . . . . .	434
„ perspicillata.—Surf Scoter . . . . .	437
Genus SOMATERIA or EIDERS . . . . .	440
Somateria stelleri.—Steller's Eider . . . . .	441
„ mollissima.—Common Eider . . . . .	443
„ spectabilis.—King Eider . . . . .	447
Genus MERGUS or MERGANSERS . . . . .	450
Mergus merganser.—Goosander . . . . .	451
„ serrator.—Red-breasted Merganser . . . . .	455
„ cucullatus.—Hooded Merganser . . . . .	459
„ albellus.—Smew . . . . .	462

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ADDENDA.

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PAGE 275—An example of the Siberian Pectoral Sandpiper (*Tringa acuminata*) was shot at Yarmouth on August 29th, 1892, and exhibited at a meeting of the Norfolk and Norwich Naturalists' Society by Mr. Southwell on September 27th. (Conf. *Field*, October 1st, 1892, p. 537.)

PAGE 163—As an example of *Glareola orientalis* has recently been obtained in Japan, the range of this species must be increased accordingly. (Conf. Stejneger, *Ibis*, 1892, p. 463.) The Pratincole (*Glareola dacotix*) recently discovered in the Canary Islands appears to be a good species, but as I have not yet had the pleasure of examining specimens I am not prepared to express an opinion on its affinities. The Latin diagnosis is vague. (Conf. *Ibis*, 1889, p. 504.)

PAGE 362—The large number of Ruddy Sheldrakes obtained or observed in our islands during the present year is very remarkable, but occurred too late for me to give details.

PAGE 407—East Palæarctic examples of *Fuligula nyroca* have been described by Radde as distinct under the name of *Fuligula baeri*. (Conf. Seebohm, *B. of Japan*, p. 254.)

## LIST OF ILLUSTRATIONS.

---

Black Grouse (male and female) . . . . .	<i>Frontispiece</i>
Capercaillie, Ptarmigan, Red Grouse . . . . .	<i>page</i> 32
Eastern Turtle Dove, Baillon's Crake, Demoiselle Crane, Pallas's Sand Grouse . . . . .	,, 94
Golden Plover, Gray Plover, Caspian Sand Plover, Ringed Plover . . . . .	,, 139
Macqueen's Bustard, Common Pratincole, Black- winged Stilt, Sociable Lapwing . . . . .	,, 167
Redshank, Common Curlew, Bar-tailed Godwit . . . . .	,, 182
Buff-breasted Sandpiper, Spotted Sandpiper (summer and winter plumage), Red-breasted Snipe . . . . .	,, 213
Sanderling, Knot, Common Snipe . . . . .	,, 255
King Eider, Lesser Snow Goose, White-bellied Brent Goose . . . . .	,, 328
Gray Lag Goose, Bernacle Goose, White-fronted Goose . . . . .	,, 351
Mallard, Teal, Pintail Duck . . . . .	,, 373
Pochard, Common Eider, Goosander . . . . .	,, 411
Blue-winged Teal, American Wigeon, Surf Scoter, Smew, Tufted Duck . . . . .	,, 437

THE  
GAME BIRDS AND WILD FOWL  
OF  
THE BRITISH ISLANDS.

---

**Order COLUMBIFORMES.**

Family COLUMBIDÆ or PIGEONS.

THE Pigeons are a well-defined and important group of birds, closely allied to the Game Birds (through the Sand Grouse) and the Plovers. Their sternum contains two notches on each side of the posterior margin, the interior pair being small, the exterior pair wide and deep. In the modification of their cranial bones they are schizognathous; nasals schizorhinal. In their pterylosis, myology, and digestive organs they show considerable affinity with the Plovers and the Game Birds.

The external characteristics of the Pigeons are: first, their Plover-like bill, covered at the base with soft skin, and in which the nostrils are placed; second, the small hind toe; third, their dense, compact plumage. Primaries ten in number; rectrices variable in this respect. Moults double; young born blind, but clothed with thin yellow down.

Number about 350 species; cosmopolitan, except in the Arctic regions; most abundant in Australian region.

## Genus COLUMBA or TRUE PIGEONS.

.Type COLUMBA ÆNAS.

**Columba** of Linnæus (1766).—The birds comprising the present genus are characterised by their prevailing slate-gray plumage, glossed chiefly on the head, neck, and breast with metallic hues. The wings are long, broad, and rather pointed; the tail is composed of twelve feathers, nearly even. The tarsus is short, scutellated in front, reticulated behind, and feathered on the upper portion. The bill is moderately stout, straight at the base and compressed. Three toes in front, cleft to the base, one toe behind.

This genus is composed of about thirty species which are confined to the Eastern Hemisphere, being inhabitants of the Palæarctic, Ethiopian, and Oriental regions. Three species are resident in the British Islands.

The true Pigeons are dwellers on rock-bound coasts, inland precipices, and in groves and forests. They are birds of sustained and rapid flight, and progress on the ground by running and walking. Their notes are full and soft, but possess little sweetness or variety. They subsist chiefly on grain and vegetable substances. Their nests are slight platforms of twigs, placed on rocks or trees, and their eggs, never more than two, are white or creamy white, and oval. These birds pair for life, and are remarkably prolific. Their flesh is highly and justly esteemed for the table.

## RING DOVE.

COLUMBA PALUMBUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Resident throughout the wooded districts of the British Islands; most abundant in well-cultivated localities. To the Outer Hebrides and to St. Kilda it is only known as an occasional visitor. Range steadily increasing with the planting of trees. *Foreign*. Western Palæarctic region. From Scandinavia east to the Ural Mountains and Caucasus. Resident except in extreme north, where it breeds as far north as lat. 64° in the west and lat. 60° in the extreme east. Breeds locally throughout the basin of the Mediterranean, but is here best known as a migrant during winter. Azores and Faroes only accidentally.

**Allied Forms.**—*Columba casiotis*, an inhabitant of Persia, Turkestan, and Afghanistan as far east as Gilgit, on the frontiers of Cashmere. Differs from the Ring Dove in having the light patches on the neck buff instead of white.

**Time during which the Ring Dove may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.\*

**Habits.**—The Ring Dove is certainly the best known of its tribe in our islands, and one that is almost everywhere on the increase. It is a resident, and frequents the woodland districts, parks, shrubberies, and the open fields. It is more or less gregarious throughout the year, and though one of the shyest of birds, soon becomes trustful and tame in districts where it is not molested, as witness

\* It should here be remarked that in Lincolnshire, Huntingdonshire, the liberty of Peterborough, and the Isle of Ely, the close season (Wild Birds Protection Act) is from March 15th to August 31st (both inclusive).

the extraordinary confidence of the Ring Doves that of late years especially have taken to frequenting some of the London parks. The flight of the Ring Dove is rapid and powerful, and the white patches on the wings and on the neck are very conspicuous as the bird hurries along. The Ring Dove is a silent bird during winter, but early in spring it regains its note, which is continued more or less freely into the following September, and less frequently in October. This note is a loud, full *coo-roo-coo*, most frequently repeated when the bird is in the act of paying court to its mate. In autumn vast flights of this bird congregate in chosen localities, migrants from Scandinavia, which fraternise with our indigenous birds, and frequent the open fields during the day, seeking the fir plantations at dusk to roost, where their homeward flight oft affords good sport to the gunner. The Ring Dove drinks frequently, and is very fond of resorting to salt water. It is a most voracious feeder, and in some districts commits great havoc on the crops of beans and grain, and the tender shoots of clover. During spring and summer it feeds largely on shoots of herbage, mollusks, and seeds, and as the autumn advances grain of all kinds, peas, acorns, beech-mast, fruits, berries, and even nuts are devoured. In winter it has been known to feed on the tender shoots of turnips, and even pieces of the turnips themselves. At this season it will also frequent those places in the game coverts where maize is spread for the Pheasants; and here good sport may often be obtained by lying in wait for the gluttonous pilferers. This species does not frequent the coast anything near so much as the Stock Dove.

**Nidification.**—From what I have observed I am of the opinion that the Ring Dove pairs for life, and yearly nests in the same locality if not disturbed. This species is an early and a prolonged breeder, commencing in March or April and continuing to rear brood after brood until the autumn. The nest is placed in a great variety of situations, both in evergreen and in deciduous trees (the latter often before they are in leaf), and in bushes and amongst ivy on cliffs or tree-trunks. Woods, plantations, odd trees in the hedgerows or in the open fields are selected without choice of situation, and the nest is placed at varying heights. The nest is merely a few dead twigs arranged basket-like in a

flat and almost shapeless mass. The eggs are normally two, but exceptionally one or three in number, oval in form, and pure and spotless white. They are on an average 1·6 inch in length by 1·25 inch in breadth. They are sometimes laid one on each successive day, but often a day is missed between each. Incubation lasts from seventeen to twenty days. Both parents assist in the task, and in ministering to the wants of the young. It should be remarked that in all the species of this family the excreta of the young are never removed, and, caking together, soon form a firm platform with the twigs on which the heavy nestlings rest secure. The young are brought to maturity by being fed with half-digested food regurgitated from the crop of the old birds. The Ring Dove has been known to breed in confinement, and also to hybridise with the domestic Pigeon.

**Diagnostic Characters.**—[Adult] *Columba*, with a conspicuous white bar on the wings, and white patches on the sides of the neck. [Young] with a white wing bar; neck patches, absent. Length, 16 to 17 inches. It might here be remarked that the irides of this bird, as is the case with many other species, change in colour with age. Thus in the young bird they are very dark, nearly black, whilst in the adult they are brilliant yellow.

**STOCK DOVE.**COLUMBA *ÆNAS*—*Brisson*.

**Geographical Distribution.**—*British*. Resident throughout England and Wales both inland and near the coast, but more locally distributed than the Ring Dove. Very rare and accidental in Ireland and Scotland. Range steadily increasing. *Foreign*: West Palæarctic region. From Scandinavia east to the Ural Mountains, the Caucasus, and Asia Minor. A summer visitor only to the northern portions of its range, which extends in the west up to lat. 62° and in the east up to lat. 57°. Breeds throughout Central and Southern Europe and North-west Africa. Rare in Palestine, and doubtfully recorded from Egypt.

**Allied Forms.**—*Columba eversmanni*, an inhabitant of Central Asia. Differs from the Stock Dove in having a pale rump, vinous crown, and black base to the bill; slightly smaller. Represented on the North Atlantic African islands by several allied but quite distinct species.

**Time during which the Stock Dove may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—Although so common and widely distributed throughout the year, the Stock Dove is much less known to sportsmen and naturalists than the preceding species. It is also widely confused with the Rock Dove, in spite of the fact that the two species are very different in appearance. Although this species may be met with frequently on the coast (in Tor Bay it is the only Pigeon of the cliffs, but practically deserts these places during winter), and even in quarries and on moors and downs, it is most abundant in wooded districts, especially where the timber

is aged and hollow. To many sportsmen it is known by the name of "Rockier." It is a shy and wary bird, and rarely allows a near approach unless it considers itself unseen; and will then often remain in trees or on the cliffs until it is well within gunshot. Its flight is rapid and impetuous, the bird having wonderful command over itself, and it is able to dart and twist in and out of the branches, defying all but the quickest shots to bring it down. Like the Ring Dove it frequents the fields and more open country to feed and to dust itself; but when alarmed it hurries to the nearest cover, and always repairs to its accustomed roosting-place in thick plantations or on the ivy-clad cliffs at the approach of dusk. It may frequently be seen running along the horizontal limbs of trees, especially during the pairing season. The note of this bird, persistently kept up all the spring and summer, is much harsher than that of the Ring Dove, and may be aptly expressed as a grunting *coo-oo-uh*. At all times of the year the Stock Dove is socially inclined, and in autumn becomes gregarious, the flocks then assuming large size. Many of these birds are migrants from Scandinavia. All through the autumn and winter these flocks frequent the stubbles and fields of newly-sown grain, flying at nightfall to the woods and coppices where they roost. Ring Doves very often mingle with them. The food of this species largely consists of grain during the time that fare is available; but seeds of weeds, clover, and grasses are often eaten. This bird is also partial to acorns and "mast," and even consumes blackberries. Peas and beans are favourite fare, and in severe weather, when snow is about, it will eat shoots of grain and clover and the leaves and sprouts of turnips. Although it frequents the ocean cliffs, it is rarely seen on the beach below, except to drink the salt water, of which it is particularly fond; but searches for its sustenance on the fields near by, or often flies to some distance where favourite fare chances to be plentiful. This bird in some districts is looked upon as a pest by agriculturists, owing to its depredations among the grain and green crops, yet its good offices in ridding these self-same fields of weeds is some recompense for its pilferings.

**Nidification.**—The Stock Dove pairs for life, and returns yearly to breed in some favourite spot in spite even of much dis-

turbance. What is also remarkable is its sociability, even gregariousness, during this period, numbers of nests often being placed quite close together. This may in some measure be because suitable sites are rare elsewhere. Like its congeners it begins to breed early, and is remarkably prolific, continuing to rear brood after brood from March or April onwards to September and October. I have shot young Stock Doves not many days out of the nest, with filaments of down clinging to the head, in November. The nest is placed in a variety of situations, yet always well concealed. A covered site of some kind is always preferred. Holes in trees, the deserted nests of Magpies and Crows, the old dreys of squirrels, or amongst ivy on trees and cliffs, or even in holes of the latter, or in church steeples, are all favourite places; whilst in more exposed districts it habitually frequents rabbit-burrows for the purpose. I have known it nest several yards up a fissure in the ironstone cliffs of a quarry. The nest is slight, and in many instances is dispensed with altogether. A few twigs or roots carelessly interlaced, or a handful of straws, is the sole provision ever made. The two eggs (three have been said to have been found, but never in my own experience) are creamy white in colour, oval in form, and measure on an average 1·4 inch in length by 1·2 inch in breadth. Incubation lasts from seventeen to eighteen days, and both birds assist in the task; as they also do in rearing the young. These are brought to maturity in a similar manner to those of the preceding species, and are deserted as soon as they can leave the nest.

**Diagnostic Characters.**—*Columba*, with a rudimentary wing bar, no white patches on the sides of the neck, the rump uniform in colour with the back, and the axillaries and under wing coverts grey. Length, 13 inches.

**ROCK DOVE.**COLUMBA LIVIA—*Brisson.*

**Geographical Distribution.**—*British*: Throughout the rocky coasts of the British Islands, extending to St. Kilda. Colonies of white-rumped Doves occur in many inland districts on rocks and the sides of quarries, and are unquestionably tame or domestic Doves which have become feral. *Foreign*: Palæarctic region. Wild birds apparently confined to coasts; inland colonies descendants of tame birds. Resident on Faroes, but only one breeding place is known in Scandinavia, in the Stavanger Fjord. Breeds in the Pyrenees and in the Sierra Nevada. All Atlantic islands, including St. Helena. Rock-bound coasts of Mediterranean, Black and Red Seas, and mountain-chains adjacent. Intricately intermingled with tame birds is found from Egypt, Nubia, and Abyssinia, through Asia Minor and Persia, Beloochistan, Cashmere, and the Altai, across South Siberia to North China and Japan.

**Allied Forms.**—*Columba intermedia*, an inhabitant of India and Ceylon. Differs from the Rock Dove in having the rump dark. *C. rupestris*, an inhabitant of the eastern Palæarctic region, from Turkestan to North China, and from the Altai to the Himalayas. Differs from the Rock Dove in having a broad sub-terminal white band across the tail. All these Doves interbreed wherever their range impinges.

**Time during which the Rock Dove may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Rock Dove, the original stock from which the endless varieties of domestic Pigeon have descended, is a

resident in the British Islands, nor is there much evidence to prove that its numbers are increased in autumn by migrants. Indeed, our information is decidedly negative in this respect, for the Rock Doves in the Faroes and in Scandinavia are said to be resident. The Rock Dove is closely associated with the sea, and dwells on the ocean cliffs and the country in their immediate vicinity all through the year. There are many inland colonies of "Rock" Doves, Doves with the rump white and the wings barred, but these unquestionably are descendants of tame Pigeons which have become feral. The true wild Rock Dove is only found on the coast and the country near at hand. This pretty species is readily identified as it dashes from the cliffs, by its white rump. It is ever shy and alert, although loth to take wing so long as it thinks itself unseen. Its flight is rapid and powerful, performed by quick beats of the wings, the bird often going for long distances to feed. I was assured by the natives of St. Kilda that the Rock Doves breeding on those rock-bound isles visited the Hebrides, some seventy miles away, daily for food. All through the year the Rock Dove is gregarious, and during autumn especially gathers into flocks at the feeding grounds. I have often seen very large flocks of this species in the fields near Flamborough and on the farms at North Berwick. This bird has a great antipathy to trees, never alights in them, and when disturbed from the pastures and stubbles either hurries off to the cliffs at once, or takes a more or less extended flight to another part of the fields. Upon the ground it runs about in true Pigeon style, with quick, short steps and bobbing motion of the head. It is ever on the alert, stopping from time to time to scan the surrounding ground, and rarely admitting of a close approach. These birds often fly in a very regular manner to and from the caves where they roost, and good sport may be obtained by waiting their return, or by visiting (usually in a boat) the cliffs they frequent. It requires all a man's resource to bring down a Rock Dove going at full speed from the caves, as he rolls about in a dancing boat! The note of the Rock Dove is a soft and full *coo-roo-coo*, variously modulated when the bird is under sexual excitement. This note commences very early in spring, a week or so before the actual nesting season, and is continued into the

autumn. The food of this species consists largely of grain ; but seeds of many kinds of weeds, the buds and shoots of herbage, and the roots of the couch-grass are also eaten. The bird is said also to eat great quantities of small land shells. It drinks freely and often, and is fond of sea water. It has been said even to alight on the surface of a river to drink, but I for one doubt the statement.

**Nidification.**—Like its two congeners the Rock Dove is an early breeder, a few pairs commencing to do so in March, but nesting does not become general before April and May. It is also wonderfully prolific, and goes on rearing brood after brood until the following October. The nest is always placed on the rocks, either in clefts and fissures of the cliffs or in caves, those being preferred which are always inaccessible to man save by the use of a boat. In the latter situations the nest is placed in the clefts and crannies of the rugged roof, or on ledges and prominences of the walls. Numbers of birds breed in company, the size of the colony depending to a great extent on the suitability and resources of the site chosen. The nest is slight enough, a few bits of grass or seaweed, a few roots or twigs, or dry stems of weeds ; whilst even green grass has been known to be used. The eggs are two in number, oval in form, and pure white in colour. They measure on an average 1·4 inch in length by 1·2 inch in breadth. These birds pair for life, use the same nesting places year after year, and both parents assist in the duties of incubation—which lasts from sixteen to eighteen days—and in the care of the young. These are brought to maturity in a similar manner to their congeners, and are deserted as soon as they leave the nest.

**Diagnostic Characters.**—*Columba*, with two well-defined black wing bars, a pure white rump, and white axillaries and under wing coverts. Length, 11 to 12 inches.

## Genus **TURTUR** or **TURTLE DOVES**.

Type **TURTUR AURITUS**.

**Turtur** of Selby (1835).—The birds comprising the present genus are characterised by their prevailing brown and non-metallic plumage, by their more or less conspicuous black collar, comparatively small size, and slender, graceful form. The wings are long and rather pointed; the tail is composed of twelve feathers, and is graduated. The tarsus is shorter than the middle toe, and scutellated in front. The bill is slender; nostrils basal, and covered with two soft, tumid, bare substances. Three toes in front, cleft to the base, one behind.

This genus is composed of about twenty-five species, which are confined to the Eastern Hemisphere, being inhabitants of the southern Palæarctic, Ethiopian, and Oriental regions, and the Austro-Malayan division of the Australian region. Two species are British, one a regular summer migrant, the other a rare straggler.

The Turtle Doves are dwellers in woodland districts. They are birds of sustained and powerful flight, and progress on the ground by walking or running. Their notes are full and soft, but with little pretension to variety or sweetness. They subsist chiefly on grain and vegetable substances. Their nests are slight platforms of twigs, placed in trees and bushes, and their eggs, never more than two in number, are creamy white, and oval. These birds pair for life.

**TURTLE DOVE.**TURTUR AURITUS—*Gray.*

**Geographical Distribution.**—*British*: Generally distributed during summer throughout England and Wales, but becomes rarer in Wales, the extreme south-west of England, and north of the Humber. Only occurs as a straggler on migration in Scotland, although it passes the Shetlands regularly on passage. Not been observed in the Outer Hebrides, and only breeds locally in Ireland. *Foreign*: West Palæarctic region during summer. Throughout suitable districts in Scandinavia and Russia south of lat. 60°, eastwards to Turkestan, the Altai and Northern Cashmere, southwards through Afghanistan, Persia, and Asia Minor, westwards to Central and Southern Europe. It passes through Palestine and North Africa on migration, many remaining behind in spring to breed. To the Canaries it is a common summer visitor, but is rare in Madeira. Its winter quarters are in Central Africa.

**Allied Forms.**—*Turtur isabellinus*, a summer migrant to North-east Africa. Differs from the Turtle Dove in having the head buffish brown instead of gray, and in being slightly smaller (length of wing 6 instead of 7 inches, as in Turtle Dove). *T. ferrago*, inhabiting South-western Turkestan and India. Differs from the Turtle Dove in having the light patches on the neck bluish gray instead of white, and the breast not so pink. It is also a larger bird. *T. orientalis*, inhabiting India, South-east Siberia, China, and Japan. Differs from the Turtle Dove in having the under tail coverts and the light tips of the tail feathers slate-gray instead of white. These two latter birds appear only to be subspecifically distinct, intermediate forms occurring in

India, where the geographical area of each impinges. *T. ferrago* is not known, however, to cross with the Turtle Dove in Turkestan, where the range of the two species meets.

**Time during which the Turtle Dove may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Turtle Dove is a summer migrant. Its usual date of appearance is the first week in May, a period which marks its entry into Europe at Gibraltar in greatest abundance; but individuals are occasionally seen during the latter part of April. Its return journey is taken in September, although odd birds are met with from time to time at much later dates. The haunts of this species are in woods and plantations, and parks and fields which are well timbered, or in the vicinity of trees. It is a shy and retiring bird, far more often heard than seen; although when I was in Algeria, on the borders of the Great Desert, in the oasis of Biskra, I found it a most tame and confiding species. Here they frequented the tops of the date palms, hiding amongst the foliage, where they roosted at night. I also observed that they were very regular in visiting the Oued to drink, going in the early morning to quench their thirst and to bathe. Whilst perched in a tree the Turtle Dove will often allow a near approach, but it keeps so quiet that it is almost impossible to detect its whereabouts until it dashes out with almost a whirr, and in erratic flight dodges between the branches and trunks, and soon conceals itself again amongst the foliage. As may readily be inferred, a bird of such extended migrations is a good flyer, and passes rapidly through the air. It is often seen on the ground in the open fields where it goes to feed, and here it runs to and fro with Pigeon-like gait, yet always alert and ready to dash off to the trees the moment danger threatens. The bird's arrival in our English woods is soon persistently proclaimed by its note. This is a gentle, soft, and rich *coo-r-r-coo-r-r-r*, each *coo* more or less gutturally prolonged, as if the bird laboured under no small effort to produce it. The male bird, as usual, calls the most, and is particularly noisy during the season of courtship. This note is maintained all through the summer, but it begins to wane in August and by the time of the bird's departure

for the South is practically suspended. The food of the Turtle Dove is composed of grain of all kinds, the seeds of a great variety of weeds, tender shoots of herbage, fruit, and even snails and insects. In autumn it becomes more or less gregarious again, and in flocks frequents the stubbles, clover-fields, and turnips. It frequently goes long distances to feed on favourite pastures, and is much attached to its roosting place.

**Nidification.**—I am of opinion that the Turtle Dove pairs for life; and even in Algeria, before the northern flight was taken, I saw them sitting in pairs on the palm-tops. Soon after its arrival in England the nesting season commences, and the first eggs are generally laid late in May, in more backward seasons the first week in June. The nest is as a rule made much nearer to the ground than that of the Ring Dove; and trees are not so often used as tall bushes. Sometimes a thick hedge is selected; whilst white-thorns, hollies, and laurels are often chosen. It is a flat basket-like structure made of a few slender dead twigs, through which the eggs are often visible from below. The eggs are two in number, oval, and creamy white in colour. They are on an average 1·2 inch in length by ·91 inch in breadth. Incubation lasts about sixteen days, and both parents assist in the task, as well as in tending the young. Sometimes two broods are reared in the summer, but this is exceptional; and late broods of this species may often be attributed to the fact that the first nest had been robbed. I have not observed much social tendency during the breeding season in this species.

**Diagnostic Characters.**—*Turtur*, with black tipped with pale lavender (nearly white), patches on the side of the neck, and with the under tail coverts and tips of the rectrices white. In young birds the neck patch is absent, and the feathers are edged with brown. Length, 11 to 12 inches.

**EASTERN TURTLE DOVE.**TURTUR ORIENTALIS—(*Latham*).

**Geographical Distribution.**—*British*: A single example of this species has been obtained in the British Islands in Yorkshire. On the 23rd of October, 1889, an example in the plumage of the first autumn (without the pied patches on the neck) was shot at a small stream running from Oliver's Mount, near Scarborough. The specimen was exhibited at a meeting of the Zoological Society of London. See *Proc. Zool. Soc.* 1890, p. 361. *Foreign*: The Eastern Turtle Dove is almost as great a stranger in Continental Europe, but it has been twice recorded (in immature plumage) from Northern Scandinavia. It inhabits India, South-east Siberia, China, and Japan.

**Allied Forms.**—See remarks on the allied forms of the Turtle Dove.

**Time during which the Eastern Turtle Dove may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—In its habits and economy the Eastern Turtle Dove does not differ very much from its European ally.

**Diagnostic Characters.**—*Turtur*, with the under tail coverts and the pale tips to the rectrices slate-gray. Length, 12 inches.

## Order GALLIFORMES.

### Family PTEROCLIDÆ or SAND GROUSE.

THE Sand Grouse are a remarkably isolated group of birds, many of their affinities being with the Game Birds, whilst others, especially those of an osteological character, are with the Pigeons. Some systematists, as, for instance, Sclater and Stjenerger, elevate them to the rank of a separate order; others, as Reichenow and Fürbringer, regard their characters of only sufficient importance to rank as a sub-order. Some naturalists include them in the great natural order of the Columbiformes; others, with as much propriety, include them with the equally distinctive group of Galliformes. The Sand Grouse are one of the few ancient surviving links in the now broken chain of Avian descent; and it is impossible, in the state of our present knowledge, to say to which existing group of birds they are most closely allied. Their double-spotted egg (having underlying as well as surface markings) and precocious nestling is the casting vote in favour of placing them with the Galliformes. Their sternum contains two notches on each side of the posterior margin. In the modification of their cranial bones they are schizognathous; nasals schizorhinal; oil-gland nude; hallux small and sometimes absent; moult single, in autumn. Young hatched covered with down, and able to run almost at once.

The number of species and their distribution are the same as those of the genus.

## Genus **SYRRHAPTES** or **SAND GROUSE**.

Type SYRRHAPTES PARADOXUS.

**Syrrhaptēs** of Illiger (1811).—The birds comprising the present genus form an important link with the Game Birds and the Pigeons, and with the Game Birds and the Plovers. The wings are very long and pointed; the tail is cuneate, and the two central rectrices are frequently much longer than the rest. The tarsus is very short, and clothed with feathers often to the toes. The bill is small and short, decurved from the base to the tip; nostrils basal and almost hidden by feathers. Three toes in front; hind toe small, and in some species absent; soles of feet rugose.

This genus is composed of about sixteen species which are confined to the Eastern Hemisphere, being inhabitants of the southern Palæarctic, and the Ethiopian and Oriental regions. One species is a nomadic visitor to the British Islands.

The Sand Grouse are dwellers on salt plains and deserts. They are birds of sustained and powerful flight, and progress on the ground by running and walking with short, quick steps. Their notes are said to be rather melodious. They subsist chiefly on grain seeds and vegetable substances. Their nests are mere depressions in the ground, and their eggs, usually three in number, are double-spotted, and oval in form. Pairing habits unknown.

**PALLAS'S SAND GROUSE.**SYRRHAPTES PARADOXUS—(*Pallas*).

**Geographical Distribution.**—*British*: Appears at long and uncertain intervals and in very irregular numbers. First noticed as a British bird in 1859, examples occurring in Norfolk, Kent, and North Wales. Again occurred in 1863, when numbers found their way to almost every county of Great Britain, and to the north-west of Ireland, to the Scilly Islands, the Shetlands, and the Faroes. Again occurred in 1872, a flock visiting Northumberland, and a smaller party the south of Scotland; and again in May (Norfolk), and October (Co. Kildare, Ireland), 1876. Last great visitation in 1888. Many attempts to breed have been made, some apparently successful. *Foreign*: Just as irregular and uncertain in its visits to Europe as to our islands. Has been observed in Poland, Denmark, Holland, Scandinavia, Belgium, Germany, France, Italy, Austria, Turkey, Russia, etc. The habitat of this species is Central Asia, breeding in North-east Turkestan, Mongolia, and Dauria, wintering in West Turkestan and the Kirghiz Steppes, and occasionally in North China.

**Allied Forms.**—None, very closely related, with the exception of *Syrrhaptes tibetanus*, an inhabitant of the table-lands of Tibet, a larger species.

**Time during which Pallas's Sand Grouse may be taken.**—The close time (three years) provided for this species by special Act of Parliament has now ceased. Not being a scheduled species, it may be legally shot from August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The details concerning the habits of Pallas's Sand Grouse are very meagre, and no British naturalist, so far as I am aware, has yet studied them in the far-away Eastern home of this

singularly interesting species. What little we do know has mostly been obtained by the Russian naturalists and travellers. This Sand Grouse appears to be more or less a migratory species, a nomadic migrant, being driven from the vast steppes where it spends the summer by excessive cold and snow. They are apparently early birds of passage, for Radde states that they arrived at their breeding grounds before the end of March, during very cold weather, the thermometer reaching nearly thirty degrees below zero at night. A month later they were nesting. All through the year this bird appears to be more or less gregarious, and to breed in colonies which are scattered here and there over the vast plains. In summer they appear to be very fond of basking in the sun in cavities scratched out of the sand, where they lie on their side and dust themselves. Their flight is described as exceedingly rapid, their quickly-beating long wings making a whirring sound as they go. Upon rising they utter what is described as a melodious chuckle; but this note is often heard as they stand upon the ground. Their short legs make them walk and run somewhat clumsily, with little steps, and the body swaying from side to side. The food of this bird is composed of seeds and the tender shoots of plants growing on the steppes. After feeding they repair very regularly to certain chosen spots to drink, salt lakes or wells, but fresh water is said to be taken by preference. They are remarkably wary, and when once flushed, never appear to alight again until they have carefully scrutinised the selected spot by describing a circle over it. They are said to drink quickly, and to fly for very long distances to the water, especially in the morning. In autumn this bird appears to become even more gregarious, and it then forms into vast flocks, which lead a more or less nomadic kind of life until the following spring, apparently going but short distances from their summer quarters, unless driven away by snowstorms. During winter flocks of Sand Grouse occasionally reach Northern China, and here, according to Swinhoe, the natives take them in clap nets baited with small beans.

**Nidification.**—Whether this bird pairs for life or not is difficult to say, but being so very Pigeon-like in its affinities it may possibly do so. It is an early breeder, and the eggs are said by

Radde to be laid in April; that naturalist, in fact, took nests in April and saw the chicks by the middle of May. The nest is nothing but a little hollow in the sand, with a few bits of grass or weed arranged round the margin. Even this slight addition is often dispensed with. The eggs are usually three, but sometimes four in number, very oval and Pigeon-like in shape, but olive or brownish buff in ground colour, profusely spotted with dark brown and underlying markings of gray. They are, on an average, 1·7 inch in length by 1·1 inch in breadth. The female sits lightly and soon flies from her nest if threatened by danger, leaving the eggs to the concealment afforded by their protective colour. The hot sun also assists largely in incubation, and as soon as it is sufficiently high above the horizon to dispense its genial warmth, the nests are said to be left, and the parent birds to go off in pairs to feed and drink. Incubation lasts a month, and the young, as soon as they are hatched, are able to run and forage a good deal for themselves. Two broods are said to be reared in the year.

**Diagnostic Characters.**—*Syrrhaptes*, with the legs and toes feathered to the claws, with no hind toe, and with the first primary and the two central rectrices finely pointed. The latter character not so pronounced in the female or young. Length, 15 to 20 inches.

## Order GALLIFORMES.

### Family PHASIANIDÆ or GAME BIRDS.

THE Game Birds are a large and important group, but ill-defined on what we may term the boundaries of the family. The most simple way of showing their probable affinities is to place them in the centre of a circle round which must be grouped in varying proximity the Pigeons, the Sand Grouse, the Plovers, the Auks, the Gulls, the Cuckoos, the Bustards, and the Rails. Their sternum contains two notches on each side of the posterior margin, which are so deeply cleft as to resemble abnormally developed ribs. In the modification of their cranial bones they are schizognathous; nasals holorhinal. In their pterylosis they are highly specialised; but their myology shows affinities with the Plovers, and in their digestive organs they show much affinity with the Rails.

No other known order of birds exhibit more diversity in their external characters; the great variety and brilliancy of the wattles, combs, and excrescences which adorn the head, the development of spur, the magnificent colours of their plumage, and the wonderful modification of the tail feathers and coverts, are all of exceptional interest. The bill is always comparatively short and stout, curved, and wide at the base. The hind toe is small and elevated; the other toes are connected at the base by a membrane. Primaries ten in number; wings rounded; rectrices variable in number. One complete moult in autumn; some species have a partial moult in spring; others change their feathers more or less completely several times during the year. Young hatched covered with down and able to run and feed almost directly they break from the shell. Begin to develop quills soon after they are born, and are able to fly in the juvenile or chick stage of their existence, their wing feathers being changed from

time to time, so that by the time they are fully grown they have had three, four, or even five sets of quills.

Number about 300 species; cosmopolitan, with the exception of the Australian region.

The **Phasianidæ** is divisible into seven fairly well-defined subfamilies, viz.: the Tetraoninæ or Grouse; the Perdicinæ or Old World Partridges; the Odontophorinæ or New World Partridges; the Numidinæ or Guinea Fowls; the Pavoninæ or Peacocks and allied forms; the Phasianinæ or Pheasants and allied forms; and the Meleagrinaræ or Turkeys. Three of these subfamilies are represented in the British Islands.

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### Subfamily **TETRAONINÆ.**

#### Genus **LAGOPUS** or **MOOR GROUSE.**

Type **LAGOPUS ALBUS.**

**Lagopus** of Brisson (1760).—The birds comprising the present genus are characterised by their feathered tarsi and toes. The wings are remarkably rounded and short; the tail is composed of sixteen feathers, generally nearly even. The bill is very short; nostrils basal, shielded by an arched membrane, and almost concealed by feathers. Space above the eye naked. Three toes in front, one behind very short, and only just reaching the ground; spurs absent.

This genus is composed of about half-a-dozen species, which are confined to the Northern Hemisphere, being inhabitants of the Palæarctic and Nearctic regions. Two species are resident in the British Islands.

The Moor Grouse are dwellers on moors, tundras, and mountains. They are birds of rapid flight, which, however, is seldom long sustained, and on the ground they progress by running and walking. Their notes are loud and unmusical. They subsist chiefly on fruits, berries, seeds, grains, shoots of herbage, and insects. Their nests are rudely made, placed on the ground, and their eggs are numerous and single-spotted. These birds pair annually. Their flesh is highly esteemed for the table.

digestion ; and according to Macgillivray, the bird eats its fill of food and then goes off to some quiet nook to digest it. Early in autumn, sometimes at the end of July or the beginning of August, the Ptarmigan begins to pack, especially if the season is stormy and unsettled, but during very mild and genial weather this operation is somewhat delayed. These flocks keep to the lower summits, and during winter birds are scarcer on the highest tops and said to be smaller in size. Rough, stormy weather frequently drives them to lower ground. Although subject to the same disease as the Red Grouse, this is never so virulent, the sterner conditions of existence probably doing much to stamp out its tendency to spread and recur.

**Nidification.**—The Ptarmigan is monogamous and pairs early in the year, although the eggs are not laid before the beginning or even the end of May, according to the state of the season. The nest is little more than a hollow in the ground, sometimes beneath the shelter of a bush or beside a rock boulder, sparsely lined with twigs of heather, and perhaps a little dead mountain grass and a few bilberry leaves. The eggs are from eight to twelve in number, buffish white or buff in ground colour, spotted and blotched with rich liver brown. They are, on an average, 1·7 inch in length by 1·1 inch in breadth. The hen-bird sits closely, often allowing herself to be nearly trodden upon before rising. The young chicks run soon after they are hatched, and are very well able to take care of themselves, scattering and hiding amongst the stones and vegetation the moment danger threatens, or the more watchful mother sounds the note of warning. The hen alone appears to incubate the eggs, sitting about three weeks for the purpose. Only one brood is reared each season.

**Diagnostic Characters.**—*Lagopus*, with the primaries white with dark shafts, with the wing less than 8 inches in length. Length, 15 inches.

Family PHASIANIDÆ.  
Subfamily TETRAONINÆ.

Genus LAGOPUS.

## RED GROUSE.

LAGOPUS SCOTICUS—(*Brisson*).

**Geographical Distribution.**—*British*: Confined to the British Islands, where it inhabits the wild moorland districts throughout Great Britain and Ireland, except those counties of England that lie south and east of a line drawn from Bristol to Hull. Although inhabiting the Hebrides and the Orkneys, it is absent from the Shetlands. *Foreign*: No extra-British distribution.

**Allied Forms.**—*Lagopus albus*, Continental representative, an inhabitant of the tundras above the pine region in the willow and birch zones of Arctic Europe, Asia, and America. Differs from the Red Grouse in having a white winter dress, and in having the primaries and secondaries white at all seasons.

**Time during which the Red Grouse may be taken.**—August 12th to December 10th.

**Habits.**—British sportsmen may well pride themselves on the exclusive possession of such a thorough Game Bird and true sport-furnishing species as the Red Grouse, or Moor Fowl. It is one of the most sedentary of Game Birds, and never wanders from its native heath except under very exceptional circumstances. The great haunts of the Red Grouse are the vast expanses of heath-clothed waste that stretch in almost one unbroken line from Wales to the Orkneys and Shetlands. This district is wild and romantic enough, and the great diversity of its physical aspect counteracts the impression of monotonousness that the sameness of the vegetation which clothes them is apt to inspire. Hills and dales, vast plateaux, swamps, lakes, and streams, ridges and peaks break the surface of the moors, and patches of coarse grass, dense

fields of rushes and sedges, of bracken and gorse, and clumps of broom and mountain ground fruits relieve the monotony of the otherwise interminable stretches of heath and ling. Here, all the year round, the Red Grouse is the one dominant bird, cherished and protected everywhere with the greatest solicitude for the unrivalled sport it yields. The Red Grouse is a thorough ground bird, although it may occasionally be seen sitting in the stunted willow, birch, and thorn trees, and is very fond of perching on boulders or on the rough "dry" walls that divide the moors from the highways and upland pastures. In spite of the bird's abundance it does not make itself very conspicuous, and the inexperienced observer may wander over miles of moor without seeing many Grouse. They skulk in the heather, and generally prefer to run out of harm's way instead of taking wing. They are wary enough, too, and are ever on the look-out for approaching danger, craning their heads high above the cover, and looking warily about in all directions. When flushed, however, they will be found to fly well and with great speed, although seldom rising very high. Like the Ptarmigan they often skim on stiff arched wings for a long distance over a ridge or bank, and if much disturbed will prolong their flight across a wide valley, or along the hillsides for a mile or more. At all times of the year the Red Grouse is socially inclined, and in autumn becomes to a great extent gregarious; "packing" towards the end of August, when it becomes more wary and wild. Previous to stormy weather these packs are found on the highest ground; but when the change arrives they seek the sheltered hillsides. During severe snowstorms the Red Grouse will burrow into the snowdrifts for shelter. The note of the Red Grouse is very loud and very characteristic, most frequently heard as the bird rises startled from the heather. It may best be expressed as a loud, clear *go-bac go-bac bac-bac-bac*. Its crow, heard during the pairing season, and especially in the early morning, is slightly modified into a loud and clear *co-k-ok-ok*. The cry of the female is little more than a low croak. The food of the Red Grouse is chiefly composed of the green tender tops of the ling (*Calluna*) and the heather (*Erica*); but various ground fruits are eagerly devoured in autumn (the birds' droppings at this season staining

the rocks dark purple) as well as the seeds of weeds; whilst during harvest and severe weather the birds will visit oat stubbles and even stack-yards at some distance from their usual haunts. I have known Red Grouse to be taken in the streets of Sheffield during severe winters, and great numbers to be shot on farms and near dwelling-houses several miles from the moorlands. Little need be said concerning Grouse-shooting. The sport yielded by driven Grouse is certainly not equalled by any other winged game; and the man who can satisfactorily account for his cartridges after an hour or so's shooting from the "butts" at birds that thunder by like sky-rockets need not be afraid to boast of his prowess. Enormous bags are sometimes made both over dogs and at the butts. The Red Grouse is singularly subject to what may well be termed a mysterious disease, seeing that its causes and nature are most imperfectly understood. Space forbids its discussion here; but I might just remark that in the opinion of an old gamekeeper friend of mine this disease is very closely connected with the moulting of the birds. I offer this merely as a hint to investigators. On the other hand, overstocking of moors, both with birds and with sheep, causes a short food supply, and brings the Grouse low in condition, and less likely to withstand incipient disease. Several attempts have been made to introduce the Red Grouse in some of the eastern and southern counties—at Sandringham, Holt, and other places. It is said that of fourteen brace turned out at Sandringham in 1878, enough remained to produce three broods in 1881. The small extent of moorland in these places seems fatal to the success of the efforts.

**Nidification.**—The Red Grouse is monogamous, and pairs early in the spring. At this period the cock-birds stand on some bit of rising ground and crow defiance to their rivals and invitation to the hens, sometimes accompanying this call by jumping into the air or flapping their wings. Once paired, however, there is no evidence to show that the cock ever mates with more than one hen. The nest is slight enough, always on the ground, either among the ling and heath, under the shelter of a boulder, or even amongst grass and rushes. Sometimes it is made in most frequented places, a yard or so from the highway or footpath;

whilst favourite nesting grounds are near the patches of burnt heather—burnt for the purpose of furnishing a supply of young shoots for the Grouse—where doubtless the abundance of food influences the choice. It is merely a hollow scratched out in the peaty soil and strewn with a few bits of withered ling, heath, dry grass, or dead leaves. The Red Grouse is rather an early breeder, birds on sheltered low ground going to nest early in April, but those inhabiting higher and more exposed districts are several weeks later. The state of the season also considerably affects the time of laying; and sometimes a late fall of snow will overtake the brooding or laying birds and cause great mischief. The eggs, too, vary considerably in number in various years. If wet and cold, the clutches vary from five to nine eggs; if warm and dry, twelve or fifteen are frequently found. They are creamy white in ground colour, very thickly spotted and blotched with rich reddish brown, in some cases almost crimson-brown. The colouring matter is easily rubbed from newly-laid eggs, and during wet weather the feet of the sitting bird spoil much of their beauty. They are, on an average, 1·8 inch in length by 1·25 inch in breadth. The Red Grouse is a close sitter, and will remain brooding until almost trodden upon. The female performs the entire duties of incubation, which lasts twenty-four days; but when the young are hatched both parents assist in tending them. The young broods are generally led by their parents to the wettest parts of the moors, doubtless for the sake of some particular kind of food. Only one brood is reared in the season, but if the first clutch of eggs be destroyed it is usually replaced by another of smaller number.

**Diagnostic Characters.**—*Lagopus*, with the primaries uniform dark brown. Length, 14 to 16 inches.

## Genus **TETRAO** or **WOOD GROUSE**.

Type **TETRAO UROGALLUS**.

**Tetrao** of Linnæus (1766).—The birds comprising the present genus are characterised by their feathered tarsi and bare toes. The wings are rounded and short; the tail is composed of eighteen feathers, and varies considerably in shape. The bill is short and stout, and arched from the base to the tip; nostrils basal, shielded by an arched membrane, and almost concealed by feathers. Space above the eye naked. Three toes in front, one behind, the latter short; edges pectinated; spurs absent.

This genus is composed of about a dozen species which are confined to the Northern Hemisphere, being inhabitants of the Palæarctic and Nearctic regions. Two species are resident in the British Islands.

The Wood Grouse are dwellers in forests and on the broken ground near them. They are birds of rapid if somewhat laboured flight, and on the ground they progress by running and walking. Their notes are loud and, in the males, considerably varied. They subsist chiefly on the buds and leaves of conifers, also on fruit, berries, grain, seeds, and insects. Their nests are rudely made, placed on the ground, and their eggs are numerous and single-spotted. These birds are polygamous, and the female takes sole charge of the eggs and young. Their flesh is highly esteemed for the table.

Family PHASIANIDÆ.  
Subfamily TETRAONINÆ.

Genus TETRAO.

### CAPERCAILLIE.

TETRAO UROGALLUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Bones of this species testify to its former residence in the north of England, such having been found in the caves of Teesdale and amongst the Roman remains at Settle, in West Yorkshire. During the latter half of the last century it was exterminated from Scotland and Ireland, Pennant stating that a few were to be found about Thomastown, in Tipperary, about the year 1760, and mentions an example obtained north of Inverness; so that it would seem that the bird became extinct in Scotland and Ireland simultaneously. Its successful reintroduction into Scotland from Sweden commenced in 1837–38, by Sir Thomas Fowell Buxton, although an attempt had been made some ten years previously at Mar Lodge. From Taymouth, in Perthshire, the centre of its restoration, it has spread during the past fifty years over the greater part of the county Forfarshire, as well as southwards to Stirlingshire. The extension of its range appears now only to be a matter of time. *Foreign*: Western Palæarctic region. Inhabits the pine forests of Europe and Asia; in Scandinavia as far north as lat. 70°; in Russia and Siberia as far north as lat. 67°. Its eastern limit appears to be the valley of the Yenesej up to Lake Baikal. Returning westwards it is found in South Siberia, in the Altai Mountains, and in North-eastern Turkestan up to an elevation of 10,000 feet. It appears not to inhabit the Caucasus and Southern Russia, but is a dweller in the pine forests of the Carpathians, the Italian slopes of the Alps, the Spanish slopes of the Pyrenees, and throughout the Cantabrian ranges. It is still



1. CAPERCAILLIE.

2. PTARMIGAN.

3. RED GROUSE.



found, but in apparently decreasing numbers, in Poland and in Northern and Central Germany.

**Allied Forms.**—*Tetrao urogalloides*, an inhabitant of East Siberia, ranging from the valley of the Yenesay, through Mantchooria, southwards into Northern China. Differs from the Capercaillie in having the head and neck metallic purple and green, more white on the wing- and upper tail-coverts, but with no white on the tail itself, and in having a longer and more graduated tail. The Capercaillie described by Taczanowsky from Kamtschatka as *T. kamtschaticus* is said to be intermediate in colour and size.

**Time during which the Capercaillie may be taken.**—August 20th to December 10th.

**Habits.**—This magnificent Grouse is one of the rarest and most local of those birds which are classed under the head of Game. Its haunts are chiefly in the forests of spruce fir and larch, although it frequently wanders from these localities into birch and oak woods, and on to the bare expanses of moor, or the open parts of the forest where the broken ground is strewn with bracken and with various kinds of ground fruit. It is most partial to the big pine woods, more especially those that are broken up into swampy ground in places, and where small lakes occur. In these wild districts where the Capercaillie is present it is often very conspicuous, as the massive creature sits poised on some topmost point of a pine-tree, his huge form showing out clearly against the sky. Here it is wary enough, and seldom allows a near approach, although when sitting amongst the lower branches, where it considers itself well concealed, the observer is often allowed to walk quite closely past it. The Capercaillie is far more of a tree bird during winter than in summer; but it always prefers to roost in a tree, and to retire to a tree to sit and digest its meal. It is everywhere a resident, although it is given much to wandering up and down the countryside in an aimless sort of way, females and young males especially so. The flight of the Capercaillie is powerful enough, yet the bird seldom flies far, unless it be to cross over a valley from one wood to another; nor is it very loud and whirring, except when he rises almost at your feet, or dashes unexpectedly from the

branches where he has been watching you intently. The food of the Capercaillie in summer consists of the leaves and buds of various plants and trees, such as the alder, birch, and hazel, the leaves of the fir and larch, and less frequently of the spruce. To this fare is added all the various ground fruits that flourish in or near the haunts of the bird, as well as acorns; insects, especially ants and their eggs, and beetles, are also sought for, as are also worms. In winter the needles of the pine-trees are almost the exclusive fare. At all times of the year the male feeds more on these spines or needles than the female, who spends more of her time on the ground. Consequently the flesh of the latter is more palatable than that of the male, whose carcase is frequently too strongly flavoured with turpentine or resin to be pleasant to the taste. Grain is never eaten in great quantities. It is said that during severe weather this bird will bury itself in a snowdrift for shelter. The statements that the Capercaillie is detrimental to the presence of Black Game and Pheasants by its pugnacity and habit of appropriating their nests, do not appear to be borne out by evidence carefully collected for the purpose of ascertaining their truth. That it may do considerable damage to small forests where it may chance to be abundant, is by no means improbable—the crop of one bird shot in November containing the extraordinary number of two hundred and sixty-six shoots and buds, besides a large handful of leaves, of the Scotch fir! For further information on this important subject, as well as the full particulars concerning the reintroduction of this species into Scotland, I must refer my readers to Mr. J. A. Harvie-Brown's exhaustive treatise entitled *The Capercaillie in Scotland*, a book that should be on the shelves of every sportsman and naturalist.

**Nidification.**—The Capercaillie becomes most interesting, perhaps, to the naturalist in the breeding season. It is a polygamous species, and like most of such birds, indulges in various grotesque and interesting habits during that period. This portion of their economy has been most carefully studied and described by Lloyd, and from his important work on Scandinavian Game Birds the following particulars have been obtained. Pairing commences in April and continues through May. The male chooses

some point of vantage in his haunts, generally a pine-tree in the more open part of the forest, or a huge piece of rock with a level surface. Here he takes his stand in the morning just before sunrise, and again in the evening directly after sunset, and from his perch on a bare or dead branch of the tree, or the summit of the rock, he puffs out his plumage, and with extended neck, drooping wings, and erected tail spread out to the fullest extent, he begins to utter his "spel," or love music. This consists of three very distinct notes, *pellep*, *klickop*, and *hede*, the first and last several times repeated. These antics and notes occupy a period of several minutes, and are often repeated at once, during which time the bird works himself up to such a pitch of amorous excitement as to be utterly oblivious of impending danger. The natives take advantage of this, and by advancing during each "spel" or ecstasy, creep up within gunshot. The females respond to this curious exhibition by uttering a harsh croak, advancing to attract his attention, until he finally descends from his perch and pairs with each in turn. These "laking places" are frequented every spring with great regularity by numerous cocks and still more numerous hens, and are usually all in the same neighbourhood of their haunts. Much fighting takes place, the young and weaker birds being driven out, and not allowed to "spel" or "play." The love notes are often uttered so loudly as to cause the tree on which the bird is sitting sensibly to vibrate to the touch, and may be heard for a long distance through the silent forest. A second "spel" is said to take place towards the end of September, or early in October. The female takes all charge of the eggs and young. She makes a scanty nest amongst the bilberry wires and heather in a clearing of the forest, merely a hollow scraped out, and lined with a few dry leaves or scraps of grass. The eggs are from eight to twelve in number, the smaller clutches being the produce of the younger hens. The eggs are brownish buff in ground colour, thickly spotted with reddish brown, and a few larger markings of the same colour. They measure on an average 2.2 inches in length by 1.6 inch in breadth. Only one brood is reared in the year, and incubation lasts from twenty-six to twenty-eight days.

**Diagnostic Characters.** — *Tetrao*, with the tail nearly square, and the wing more than 12 inches in length. Approximate length, 26 inches. Hybrids are pretty frequent in a wild state between the Black Cock and the female Capercaillie, the latter being much given to wandering from their usual haunts and pairing with Black Game during these peregrinations.

Family PHASIANIDÆ.  
Subfamily TETRAONINÆ.

Genus TETRAO.

## BLACK GROUSE.

TETRAO TETRIX—*Linnæus*.

**Geographical Distribution.**—*British*: Formerly widely distributed throughout Great Britain, but exterminated in many localities, in some of which, however, it has been reintroduced. Resident locally in all counties south of the Thames, perhaps with the exception of Kent. Locally distributed in Wales, the Midlands, and in the vicinity of Sandringham, in Norfolk; thence in every county north of Nottingham up to the Border. It is more widely and generally distributed throughout Scotland, including some of the Inner Hebrides; but has not succeeded in establishing itself on the Orkneys or Shetland. Not indigenous in Ireland. *Foreign*: Palæarctic region. Inhabits the pine and birch forests of Europe and Asia: in Scandinavia as far north as lat.  $69\frac{1}{2}^{\circ}$ ; in Russia, and Siberia as far east as the Yenesay, as far north as lat.  $68^{\circ}$ , but in the valley of the Lena not beyond lat.  $63^{\circ}$ . East of the latter valley in North Siberia it does not appear to be found, but in the south of that country it ranges eastwards into the Amoor valley to the Ussuri and Mantchooria. Returning westwards, it is an inhabitant of South Siberia and North-eastern Turkestan, onwards throughout Central Europe as far south as the Alps and the Northern Apennines. It is said to occur in the Eastern Pyrenees.

**Allied Forms.**—*Tetrao mlokosiewiczi*, an inhabitant of the Caucasus. Differs from the Black Grouse in having no white in the plumage, in being somewhat smaller, and in having a very different shaped tail. The female of this species is grayer than the female Black Grouse, and the vermiculations on the plumage are not so coarse.

**Time during which the Black Grouse may be taken.—**

August 20th to December 10th ; except in Somerset, Devon, and New Forest, where it is from September 1st to December 10th.

**Habits.**—The Black Grouse is a bird of the trees, but not quite so much of a forest species as the Capercaillie. It loves wild, broken country on the border of the moors, birch and fir plantations, and the romantic hollows below the level plateaux of heath and ling, where the ground is clothed with bracken and bramble, strewn with rocks, and traversed by dancing streams which sometimes widen out into expanses of rush-grown bog and cotton-grass. In our southern counties favourite haunts of this bird are the wild commons and small isolated tracts of moorland, where pine woods are in close proximity, and plenty of under-wood and trees are to be found. The Black Grouse is extremely partial to districts where water abounds, either swampy ground, or pools and streams. It is a skulking, shy, and wary bird, seldom being seen until it is flushed, either from the ground or the trees ; and even when feeding on the bare hillsides, which it often does, some distance from the plantations, it is ever on the alert, and runs and conceals itself the moment it is alarmed. I have seen Black Cocks take refuge in clumps of rushes growing on the hillside, running from one tuft to another until the plantation was reached. The flight of the Black Grouse is powerful and rapid, but the bulk of the bird seems to lend it a laboured character. The Black Cock, except during the moulting season in July and August, spends much of his time in the trees, and always prefers to roost in a tree, but the Gray Hen is more of a ground bird. I have often remarked the partiality of this species for tall bracken in autumn ; and at that season it also wanders from the covers to the stubbles. During long-continued snowstorms it sometimes burrows into the drifts for shelter. The food of the adult Black Grouse is almost exclusively vegetable. In summer the seeds of rushes and the tender tops and leaves of ling and heath and other plants are its favourite fare ; in autumn, grain and wild fruits and berries are partaken of ; whilst in winter, willow twigs, birch catkins, alder buds, and leaves of the ling and heath are eaten. Black Game, like Red Grouse, always seem bewildered and stupid during misty weather, and then often

allow a much nearer approach as they sit on the half-leafless trees. I might also remark for the benefit of any sportsman unaware of the circumstance, that while Red Grouse always endeavour to fly down wind, Black Game seek to fly up wind. The formation of the tail may have some influence on this. When much shot at Black Game generally mount up high into the air, and fly right away to some distant cover. This species also appears to have an antipathy against flying uphill, and when flushed on a slope usually passes to a lower level.

**Nidification.**—In the matter of its reproduction the Black Grouse very closely resembles the Capercaillie. It is polygamous, and the Black Cocks perform much the same peculiar antics during the pairing season to charm the Gray Hens, as we have already described in the preceding chapter. Certain meeting or “laking” places are chosen in its haunts to which numbers of males resort early in April, and here battles are of frequent occurrence for the females which are attracted by the love notes, or “spel,” and charmed by the grotesque attitudes assumed by the Cocks. The “spel” or song consists of two very distinct notes, one a kind of *coo*, the other a *hiss*, both so loudly uttered that they may be heard for a mile or more across the silent wilderness. During the progress of the “lek” the females creep up to the place with drooping wings, uttering a low note and apparently watching the proceedings with great interest, waiting to pair with the most successful males. A second “spel” is said to take place in autumn, and during this period the cocks keep in companies by themselves. The female takes all charge of the domestic arrangements. About the first week in May the Gray Hen goes to nest. This is always placed on the ground, under a clump of dead bracken or matted bramble and fern, or amongst heather or ling, rushes or bilberry wires. It is merely a hollow into which is scraped a few bits of dry grass, broken fern-fronds or dead leaves of the bilberry, and fallen pine-needles. The eggs, from six to ten in number, are brownish buff, spotted and blotched with reddish brown of various shades of intensity. They measure on an average 2·0 inches in length by 1·4 inch in breadth. Occasionally a single nest will contain as many as sixteen eggs—the produce of two hens who sit together amicably

enough and bring up the numerous progeny in company. This usually occurs in localities where Black Game are thick upon the ground. The Gray Hen is a close sitter, and her plumage is remarkably inconspicuous amongst the dead fern and undergrowth. Incubation lasts about twenty-six days. Only one brood is reared in the season. The young are reared with difficulty, wet seasons being especially fatal to them; and many nests are washed away by being made too near the bank of some mountain stream, which rapidly becomes a torrent and overflows its banks during long-continued rain.

**Diagnostic Characters.**—*Tetrao*, with the tail lyre-shaped [male], and the wing 11 inches in length or less. Length, 22 inches [male], 15 inches [female]. Black Cock hybridises with the female Red Grouse occasionally, and has been known to interbreed with Willow Grouse, Hazel Grouse, and Pheasant.

### Subfamily PHASIANINÆ.

### Genus PHASIANUS or TRUE PHEASANTS.

Type PHASIANUS COLCHICUS.

**Phasianus** of Linnæus (1766).—The birds comprising the present genus are characterised by the absence of any occipital crest, and by their long wedge-shaped and graduated tail. The wings are short and rounded; the tail is composed of eighteen feathers. The tarsus is moderately long, and armed in the male with a conical sharp spur. The bill is of medium length, the upper mandible convex, the tip bent downwards; nostrils basal, and shielded by a membrane. Three toes in front, one behind; hind toe articulated upon the tarsus.

This genus is composed of some thirteen species, which are confined to the Eastern Hemisphere, being inhabitants of the south-eastern Palæarctic region and the northern Oriental region. One species is resident in the British Islands.

The True Pheasants are dwellers in woodland districts, where plenty of cover affords them shelter. They are birds of rapid flight, and progress on the ground by running and walking. Their notes are harsh and discordant. They subsist chiefly on grain, seeds, fruits, berries, tender shoots, insects, larvæ, and worms. Their nests are slight, and made upon the ground, and their eggs are numerous, unspotted brown or green. They are polygamous. Their flesh is highly esteemed for the table.

Family PHASIANIDÆ.  
Subfamily PHASIANINÆ.

Genus PHASIANUS.

## PHEASANT.

PHASIANUS COLCHICUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Probably introduced into the British Islands by the Romans. Resident throughout all parts of the country where it is preserved, even in some of the wildest parts of the Outer Hebrides, the presence of cover being all that is required in addition to artificial feeding during severe weather. *Foreign*: Although introduced into most parts of Europe (with the exception of Spain and Portugal), the true habitat of this species is in Western Asia, in the western basin of the Caspian Sea, and the southern and eastern basins of the Black Sea. It is a resident in the valleys of the Caucasus up to 3,000 feet above sea-level, and inhabits the country along the Caspian, from the Volga in the north to Asterabad on the southern shore; it lives in the northern districts of Asia Minor, south to Ephesus, and is a resident on the island of Corsica.

**Allied Forms.**—The various species and races which are most closely allied to the Pheasant of Western Asia and Europe (the typical English species) are by no means clearly defined, and it is probable that further research may prove that several of these forms are only the result of interbreeding. A table showing their geographical distribution and points of distinction is inserted at the end of the present chapter.

**Time during which the Pheasant may be taken.**—October 1st to February 1st.

**Habits.**—The almost uninterrupted interbreeding which has been going on between the Ring-necked Pheasant from China and the typical Pheasant from Colchis for the past ninety years has so far contaminated the original stock that few, if any, pure-

bred birds are to be found in the British Islands. In very few localities in this country does the Pheasant exist in anything approaching a thoroughly wild state. Wherever it is fostered and protected by man, suitable cover being provided, its natural enemies kept in check, and a certain amount of food being supplied during severe weather, there the Pheasant flourishes and multiplies apace. The habits, therefore, of such a semi-domesticated bird need not be dwelt upon at any great length. As previously remarked, *cover* is one of the Pheasant's chief requirements. The Pheasant is not only a ground bird but a shy one, and is seldom seen far from cover of some kind. It thrives best in places where the woods contain plenty of undergrowth, and where there is plenty of feeding accommodation in the shape of fields near by. It is ever shy and wary, and although often seen in the open hurries off to the nearest cover the moment danger threatens, or crouches close to the ground amongst the friendly herbage until the cause of its alarm has passed. It is capable of running with marvellous speed amongst the herbage and undergrowth, and when flushed rises with a startling whirr, and with rapidly beating wings mounts above the underwood and threads its way among the trees to safer quarters. As a rule the flight of the Pheasant is not very prolonged, but sometimes the bird will go for several miles before alighting. Like other Game Birds, it is fond of dusting its plumage, and not only drinks often but is fond of bathing, so that water is one of the essentials of a good pheasantry. In spite of the fact that this bird spends most of its time on the ground it prefers to roost in trees, except occasionally in summer when it sleeps on the ground; evergreens being favourite situations, especially in winter. It is most active early in the morning and towards sunset, when it leaves the covers and wanders out into the open in quest of food. This is composed of a great variety of substances. Grain of all kinds perhaps forms its staple support, but to this must be added many kinds of seeds and berries, acorns, beech-mast, and tender shoots of various kinds. It also feeds largely on worms and insects, especially ants and their larvæ, and also consumes great numbers of grubs and wireworms. In most preserves a great deal of maize and other food is scattered in the woods, either on the

bare ground under certain trees, or on the drives, or on platforms of branches raised several feet from the earth in the woods. Patches of buckwheat and beans are also sown close to the covers in many places for the sole benefit of the Pheasants, the thick growth affording concealment as well as food. The note of the male Pheasant is a short harsh crow, sounding something like *cor-r-k*. The bird becomes most noisy at nightfall just before retiring to rest, and each successive crow is followed by a flapping of the wings.

**Nidification.**—Semi-domestication appears to have so far affected the morals of the Pheasant that it has caused it to depart from its usual monogamous instincts and to adopt the looser ethics of polygamy, just as the domesticated descendants of the Wild Duck have done. In its native wilds the Pheasant appears to be strictly monogamous, but in this country the male bird almost invariably associates himself with several females (as many as his prowess or his charms can keep or attract), and upon them devolves all care of the eggs and young. Instances, however, are on record where Cock Pheasants in our islands have been known to assist, not only in the duties of incubation, but in attending to the brood. The Pheasant does not appear to have been polygamous long enough to have certain recognised pairing stations or “laking” places, but towards the end of March the cock-birds begin to crow and fight for the females, each collecting and maintaining a harem varying in size with his prowess. The hens go to nest in April and May. The inherent timidity or shyness of this species causes it to breed in seclusion, and the great nesting grounds are well in the cover of plantations and woods, although many odd birds nest wide amongst growing crops, or in the hedge bottoms. Sometimes the nest is placed by strange caprice in an old squirrel’s drey, or on the top of a stack; and I have known it in the centre of a tuft of rushes within a couple of yards of a much-frequented footpath. Each female makes a scanty nest, under the arched shelter of brambles, or dead bracken, or very often beneath heaps of cut brushwood which has been left upon the ground all winter. It is little more than a hollow, in which a few bits of dry bracken or dead leaves and scraps of grass are collected. The eggs are usually from

eight to twelve in number; sometimes as many as twenty are found; and I have known of an instance in which a single hen has brought off twenty-six chicks from as many eggs! They vary from brown through olive-brown to bluish green in colour, and are unspotted. The late Mr. Seebohm, Jun., and myself took a clutch some years ago in Northumberland of the normal colour, amongst which was one of a delicate greenish blue. They measure on an average 1·8 inch in length by 1·4 inch in breadth. Incubation lasts, on an average, twenty-four days. The Pheasant only rears one brood in the year; but if the first clutch is unfortunate, other eggs are laid, as hens have been known to sit as late as September. When leaving her nest for a short time to feed, the hen carefully covers her eggs with leaves, and invariably flies from her home when she quits it voluntarily, returning in the same manner. The young are seldom fully grown before the end of July.

**Diagnostic Characters.**—*Phasianus*, with no white collar, and with reddish brown wing coverts, and purplish red rump (typical *colchicus*). Length: male, 30 to 36 inches, including tail; female, about 24 inches, including tail.\* The Pheasant has been known to hybridise with the Black Grouse, and the Guinea Fowl. Old females sometimes assume the plumage of the male. Males subject to considerable variation in colour, ranging from pure white through every intermediate stage to the normal colour. Males moult June and July; females July and August.

\* The two central rectrices of the cock Pheasant vary considerably in length according to age, old birds being often met with in which these feathers measure upwards of 24 inches.

## PHASIANUS COLCHICUS AND ALLIES.

SPECIES OR RACE.	GEOGRAPHICAL AREA.	POINTS OF DISTINCTION (MALES).
Phasianus elegans . .	South-western China.	Similar to <i>P. versicolor</i> , but flanks golden brown barred with black.
Phasianus versicolor .	Central and Southern islands of Japan . .	Underparts unspotted metallic green.
Phasianus torquatus .	China (including Tsushima or the "Twin Islands" in the Strait of Corea), South Siberia, Mongolia and Thibet East of E. long. 90°. (Typical form confined to S. E. Siberia, E. Mongolia, and E. China) . . . .	Prevailing colour of rump and upper tail coverts green; wing coverts gray; white eyestripe and white ring round neck.
Phasianus torquatus, var. decollatus . . .	S. E. Thibet and W. China . . . . .	No white eyestripe, and no ring round neck.
Phasianus torquatus, var. vlangalii . . .	N. E. Thibet . . . .	Centre of back and shoulders unspotted; only traces of white collar at back of neck.
Phasianus torquatus, var. formosanus . .	Formosa . . . . .	Back and flanks buffish white instead of brownish buff.
Phasianus mongolicus	Mongolia West of E. long. 90°. Turkestan.	{ Wing coverts white; rump and upper tail coverts reddish instead of green.
	(Typical form confined to N. W. Mongolia, and E. Russian Turkestan). . .	{ With broad white ring nearly extending round the neck, broken in front.
Phasianus mongolicus, var. shawi . . . . .	Chinese Turkestan . .	No white ring round neck, and no green reflections on upper tail coverts.
Phasianus mongolicus, var. insignis . . . .	South Russian Turkestan. . . . .	Upper tail coverts with scarcely a trace of green reflection; white neck-ring very narrow; green tips to feathers of underparts very broadly defined.
Phasianus colchicus .	Western Turkestan and Europe . . . .	Most readily distinguished by its reddish brown wing coverts.

## Subfamily PERDICINÆ.

### Genus PERDIX or TRUE PARTRIDGES.

Type PERDIX CINEREA.

**Perdix** of Brisson (1760).—The birds comprising the present genus are characterised by their bare tarsi, scutellated in front, reticulated behind, by their short rectrices (sixteen in number), and rounded wings. The bill is short and stout, the upper mandible curved from the base to the tip; nostrils basal, shielded by an arched membrane or scale, and bare of feathers. Three toes (long) in front, one behind, small and elevated; spurs rudimentary.

This genus is composed of about half-a-dozen species and varieties, which are confined to the Eastern Hemisphere, being inhabitants of the Palæarctic region. One species is resident in the British Islands.

The True Partridges are dwellers in open country, cultivated districts, grain lands, and prairies. They are birds of rapid but seldom long-sustained flight, and sedentary in their habits. Their notes are shrill and unmusical. They subsist on grain, seeds, fruits, shoots of herbage, insects and larvæ. Their nests are rudely made, placed upon the ground, often under the shelter of bushes, and their eggs are numerous, whitish or buffish olive in colour, unspotted in all known instances. These birds, so far as is known, are monogamous. Their flesh is highly esteemed for the table.

Family PHASIANIDÆ.  
Subfamily PERDICINÆ.

Genus PERDIX.

## PARTRIDGE.

PERDIX CINEREA—*Brisson.*

**Geographical Distribution.**—*British*: Resident throughout the agricultural districts of the British Islands wherever it is preserved. Absent from the Outer Hebrides, but now introduced into the Orkneys. *Foreign*: West Palæarctic region. Local in Scandinavia up to lat. 66°; West Russia, north to lat. 60°; East Russia, north to lat. 58°; West Siberia, north to lat. 57°, in which locality it is a migrant, wintering in North Turkestan. Southwards its range extends into Central Asia, North Persia, and the Caucasus; whilst westwards into Europe it may be met with in North Turkey and Austria, the lowlands of Italy, North Spain, France, Germany, Holland, and Denmark.

**Allied Forms.**—*Perdix cinerea*, var. *robusta*, an inhabitant of the Altai Mountains. Differs from the Common Partridge in being grayer in colour, and larger. *P. barbata*, an inhabitant of East Russian Turkestan, South-east Siberia, East Mongolia, North-east Thibet, and North China. Differs from the Common Partridge in having the horseshoe-shaped mark on the breast black instead of chestnut, and the feathers on the throat elongated; it is also a smaller bird.

**Time during which the Partridge may be taken.**—September 1st to February 1st. Ireland: September 20th to January 10th.

**Habits.**—The great strongholds of the Partridge are the well cultivated districts, where the fields are not too large, the hedges dense and affording cover during the breeding season, and where grain is grown in abundance. It may be aptly described as a bird of the farm-lands, although it is by no means rare in many moorland districts, and in some counties is fairly

plentiful on commons and rougher ground. It shows no partiality for wooded districts, and is so thoroughly a ground bird that the known instances of its perching in trees are remarkably few. The Partridge lives upon the ground, and at all times shows more or less reluctance to fly. Should danger threaten, it prefers to squat close to the earth or to run with great quickness to the shelter of standing crops or thick hedges, where its movements are so rapid as to enable it to elude pursuit with ease. When flushed, however, it not only rises quickly and suddenly, but flies well and with no small speed, its rounded wings as they rapidly beat the air making a loud whirring noise. Sometimes the bird holds its wings stiff and arched and skims along for a short distance before alighting. The Partridge obtains its food on the ground, and is most active in search of it during morning and early evening. During the hottest part of the day it is fond of lying close in cover, and frequently resorts to some bare spot in the fields to dust its plumage and to bask in the sun. Its food consists of shoots and leaves of herbage, insects and their larvæ, snails, grain and seeds, and various wild fruits. From the time the broods are grown until they are thinned down by the sportsman, the Partridge lives in coveys of varying size, which feed and sleep in company. At night each covey has a particular resort to which the birds retire to rest, usually sleeping in a circle on the ground, each with its head turned outwards so that approaching danger is readily detected. The note of the Partridge, which is uttered by both sexes, is a peculiarly shrill *kir-r-rrrick*, most frequently uttered towards evening and in the pairing season. In districts where the birds are not very persistently chased by the sportsman the Partridge shows gregarious tendencies during autumn and winter, several coveys joining into a flock. During severe weather the Partridge will visit the rick-yards, and is occasionally met with in most unusual localities, tempted thither by food. When fired at this bird has been known to fly out to sea for a considerable distance, returning to land in a very exhausted condition.

**Nidification.**—The Partridge is one of the earliest birds to separate into pairs, but although it does so often in February, its nest is seldom found until a couple of months later. It is

a monogamous species, and may even very probably pair for life, although the old cocks are often very pugnacious and fight freely with the younger birds. The Partridge goes to nest in England about the beginning of May, but in Scotland it is nearly a month later. The female makes a scanty nest in a dry hedge bottom or a ditch, amongst growing corn or clover, or dense herbage on rougher ground, often in places most exposed, and in some instances in very curious situations. For instance, I have known it bring off a brood from the top of a bean-stack. The nest is simply a hollow scratched out in the ground and lined with a few bits of withered herbage. The eggs vary, according to the age of the hen, from ten to fifteen or twenty in number, although occasionally much larger clutches are found which may be the produce of several females. A nest containing thirty-three eggs is on record, twenty-three of which hatched safely, and the chicks got away with their parents. The eggs are uniform pale olive-brown, exactly similar to those of the Pheasant; white and pale green varieties are sometimes met with. They measure on an average 1.4 inch in length by 1.15 inch in breadth. Although the male Partridge keeps close and constant watch over his mate and nest, the female incubates the eggs, which usually take from twenty-one to twenty-four days to hatch. As soon as the brood are out both parents tend them, and are most solicitous for their safety, and boldly defend them from predaceous creatures. The female is a close sitter, and covers her eggs when leaving her nest voluntarily. Only one brood is reared in the year, and I am of opinion that if the first clutch of eggs is destroyed no others are laid that season. If the birds continue to call into June and July, it is a bad omen, and a sure sign that the nests have been unfortunate.

**Diagnostic Characters.**—*Perdix*, with the horse-shoe mark on the belly dark chestnut, and with the wing averaging 6 inches in length. Length, 12 to 13 inches. Has been known to hybridise with the Red-legged Partridge. Subject to considerable local variation (especially in young), and it is said that in some districts the tendency to develop a white instead of a chestnut horse-shoe on the belly is increasing.

## Genus CACCABIS or ROCK PARTRIDGES.

Type CACCABIS RUFA.

**Caccabis** of Kaup (1829).—The birds comprising the present genus are characterised by their nearly uniform upper plumage, conspicuous gorget, and barred flanks. The wings are rounded and short, the tail is short, and composed of fourteen feathers. The tarsus is scutellated in front, reticulated behind, and armed with tubercles or spurs. The bill is short and stout, the upper mandible arched from the base to the tip; nostrils basal, shielded with an oblong, horny scale, but bare of feathers. Three toes in front; one behind, small and elevated.

This genus is composed of about half-a-dozen species, which are confined to the Eastern Hemisphere, being inhabitants of the southern Palæarctic region, and extreme northern portions of the Oriental region. One species has been introduced into the British Islands, where it is a local resident.

The Rock Partridges are dwellers in bare and mountainous country, scrub-covered hillsides and thickets. They are birds of rapid but never long-sustained flight, and on the ground run and walk with great ease. Their notes are loud and harsh. They subsist chiefly on grain, seeds, fruit, berries, shoots of herbage, and insects. Their nests are rude, and made on the ground; their eggs are numerous, and more or less spotted. Their flesh is of comparatively inferior quality.

Family PHASIANIDÆ.  
Subfamily PERDICINÆ.

Genus CACCABIS.

## RED-LEGGED PARTRIDGE.

CACCABIS RUFA—(*Linnæus*).

**Geographical Distribution.**—*British*: Introduced into England in 1770 by the then Marquis of Hertford and Lord Rendlesham, who turned out chicks in Suffolk. Chiefly distributed over the eastern counties of England: Norfolk, Suffolk, Essex, Kent, and Sussex; only occasionally elsewhere. Attempts have been made to introduce this bird into Scotland and Ireland, but with small success, climatic conditions probably being the principal cause of failure. *Foreign*: South-west Europe. Most commonly distributed in South and Central France, Portugal, Spain, the Balearic Islands, Corsica, Elba, North and Central Italy, Switzerland, and Savoy. It becomes much more local and rare in Northern France, Belgium, and the districts lying round its usual habitat. It has been introduced into Madeira and the Azores.

**Allied Forms.**—*Caccabis petrosa*, an inhabitant of North-west Africa, the Canaries, Gibraltar, and Sardinia. Differs from the Red-legged Partridge in having the nape and collar brown. *C. saxatilis*, with vars. *chukar* and *magna*, range from the Alps to North China. Differ from the Red-legged Partridge in being larger and paler, and in having the throat and lores buff (*chukar*); neck-band double; throat buff, but lores black (*magna*).

**Time during which the Red-legged Partridge may be taken.**—September 1st to February 1st.

**Habits.**—In many of its habits this handsome Partridge differs considerably from the preceding species. It is much more arboreal in its tastes, and shows a decided preference for rougher ground, such as commons, the open treeless parts of woods, and strips of heathy land covered with gorse, and rush, and bramble.

Nevertheless, it is met with commonly enough on the fields in haunts affected by its British ally, but it is always even more skulking, and ever tries to run and hide amongst the cover rather than use its wings. Another peculiarity sure to be impressed upon the observer is the bird's habit of frequently perching in trees, on corn-stacks, or on hedges and fences; whilst during snowstorms it often quits the open fields entirely, and seeks shelter amongst bushes and brushwood. It is a shy and wary bird, ever on the look-out for danger, craning out its neck and peering in all directions at the least alarm, and continuing to do so as it runs quickly towards the cover. It flies well and strongly, with rapidly beating wings which make a loud whirring noise, whilst on the ground it is capable of running with amazing speed. The note of the Red-legged Partridge is a shrill treble *crik-ik-ik*, which is said to be common to both sexes. Its food is not known to differ in any important respect from that of the Common Partridge, and its habits from the time the broods are reared, onwards through the autumn, are very similar. It lives in coveys, which sometimes join into flocks, but which soon scatter when alarmed, each bird making off to some refuge. In consequence of this peculiarity, the Red-legged Partridge affords poor sport. It will not lie close in the cover until flushed by the gunner, but is ever on the run; so that driving is absolutely necessary to obtain a decent bag.

**Nidification.**—The Red-legged Partridge pairs early in April, sometimes towards the end of March, and during this period it becomes rather pugnacious, and combats are of frequent occurrence between the cock-birds. The female goes to nest rather earlier than the Common Partridge, the eggs usually being laid towards the end of April, or early in May. The nest is slovenly and slight, placed amongst the dense herbage of a hedge bottom or a dry ditch, or amongst growing grain, clover, or mowing grass. Sometimes it is placed amongst the thatch of a stack, or even in the side, and not unfrequently in a very exposed situation by the side of a footpath or highway. It is merely a hollow into which a few bits of dry herbage and leaves are scraped. Here the hen lays from twelve to eighteen eggs, pale brownish yellow in ground colour, spotted and speckled

with dark brown. They measure on an average 1·6 inch in length by 1·2 inch in breadth. Very often the hen lays at irregular intervals. Incubation, which is performed by the female, lasts about twenty-four days. As soon as the brood is hatched, the male assists his mate in bringing up the chicks. Eggs of the Pheasant and the Common Partridge are occasionally found in the nest of this species. I have known instances where the Red-legged Partridge has destroyed an entire brood of the Common Partridge; and in spite of oft-repeated statements to the contrary, I am firmly of opinion that the two birds are better apart. I would not advise the introduction or the encouragement of the Red-legged Partridge in any district where the Common Partridge is already flourishing. There may be, however, many wild districts unsuitable to the latter species where the former might be established with advantage. Only one brood is reared in the year.

**Diagnostic Characters.**—*Caccabis*, with the gorget and lores black, the throat white, and the feathers of the upper breast brown, spotted with black. Length, 13 to 14 inches.

## Genus **COTURNIX** or **QUAILS**.

Type **COTURNIX COMMUNIS**.

**Coturnix** of Bonnaterre (1790).—The birds comprising the present genus are characterised by their long pointed wings and extremely short rectrices. All of the species are birds of small size. The tarsus is scutellated in front, reticulated posteriorly, and in the majority of species spurless. The bill is short and stout, the upper mandible curved from base to tip; nostrils basal, and semi-closed by a horny membrane. Three toes in front; one behind, short and elevated.

This genus is composed of about twenty species which are confined to the Eastern Hemisphere, being inhabitants of all the great zoological regions with the exception of Arctic latitudes. One species is a partial resident in the British Islands.

The Quails are ground birds, and dwellers in open country, cultivated districts, grain lands, and plains. They are birds of prolonged and rapid flight, and progress on the ground by running and walking. Their notes are shrill and not exactly unmusical. They subsist on grain, seeds, shoots of herbage, and insects. Their nests are rude structures placed on the ground, and their eggs are numerous and spotted. They are both polygamous and monogamous. Their flesh is highly esteemed for the table.

Family PHASIANIDÆ.  
Subfamily PERDICINÆ.

Genus COTURNIX.

## QUAIL.

COTURNIX COMMUNIS—*Bonnaterre.*

**Geographical Distribution.**—*British.* Summer visitor to most parts of the British Islands, extending to the Outer Hebrides, the Orkneys and Shetlands, but appears to be nowhere common. A few winter in the south of England and in Ireland, in which country the bird is said to be slowly becoming extinct. *Foreign:* Palæarctic region, from Atlantic to Pacific. The Quail is a summer visitor to Europe south of lat. 64°. It occurs throughout North Africa, Palestine, and Asia Minor, but in the basin of the Mediterranean is chiefly known on passage, although a few remain to breed and a few remain to winter in that district; whilst in the Azores and the Canaries it is a resident. The majority of the West Palæarctic birds winter in South Africa, from Damara Land and the Transvaal southwards to the Cape Colony. Eastwards the Quail visits Persia, Afghanistan, Turkestan (where a few remain to winter), Siberia, and the north island of Japan in summer, wintering throughout India, Burma, and China, south to the tropic of Cancer.

**Allied Forms.**—The East Palæarctic Quails, owing to their slightly smaller size, have been regarded by some naturalists as distinct; but the differences are not sufficiently worthy of even subspecific rank.

**Time during which the Quail may be taken.**—September 20th to January 10th (Ireland); elsewhere, August 1st to March 1st.

**Habits.**—The Quail is a late bird of passage to the British Islands, arriving in May amongst the last of our summer visitors. The passage of this species from Africa across the Mediterranean

into Europe is most interesting, and tens of thousands are caught for food each migration period. The return migration is undertaken during September and October. In some localities this species is said to migrate by night during spring, but by day during autumn ; whether this is the general order of passage remains to be seen. During its sojourn with us the Quail is one of our most skulking birds, far more often heard than seen, but it is a persistent caller, and its very characteristic note of *clik-a-lik* soon proclaims its whereabouts. It is much attached to certain haunts, and appears to return to them each season. Its favourite haunts in this country are the grain and grass fields, and rough hummocky pasture lands. Here it keeps close amongst the growing herbage, rarely using its wings, spending most of its time in the cover, and running with great quickness from the way of impending danger. When flushed it flies quickly, but at no great height, with rapidly beating wings, and always seems intent on dropping into the herbage at the first favourable spot. Sometimes it may be seen to skim on motionless wings for a considerable distance over a hedge or a bare bit of ground, just before alighting. It is nevertheless fond of frequenting bare spots in the fields, where it can dust its plumage and bask in the sun. During the hottest part of the day it does not move much, being most active in early morning and towards evening. The food of the Quail consists largely of grain and such small seeds as those of the plantain and chickweed ; insects and small snails are also eaten by the bird in some abundance. The Quail is for the most part solitary in its habits until the time of migration arrives, although the broods and their parents keep close company. The birds that are stationary in our islands never seem to pack, or to fraternise with other species.

**Nidification.**—In localities where there is an excess of hens the Quail is decidedly polygamous, but in others where the sexes are about equally dispersed the male only pairs with one female, and assists her in bringing up the brood. During the pairing season the Quail is most pugnacious, each cock beating off all intruders from his own particular haunt ; and about this period the merry note of the male sounds incessantly and defiantly from the cover. The female is late in going to nest, the eggs seldom

being laid before June. The nest is scanty, a mere hollow amongst the corn or clover, or the rough grass of the weedy pastures, into which a few bits of dry grass and leaves are scraped. In districts where the cocks run with several hens, the nests are often placed not many yards apart. The eggs vary a good deal in number. I have known nests contain twenty eggs, but from eight to twelve is the usual clutch. They are buffish white or yellowish olive in ground colour, boldly blotched and spotted with various shades of brown, ranging from very pale olive to nearly black. They measure on an average 1.1 inch in length by .91 inch in breadth. The hen bird alone incubates the eggs, which are hatched in about twenty-one days. The young are soon able to run after their parents and forage largely for themselves. It is said that the Quail sometimes rears two broods or bebies in the season, but this must be under very exceptional circumstances; my experience is that if the first nests are taken no other attempts are made.

**Diagnostic Characters.**—*Coturnix*, with the general colour of the plumage buff, and the chin and throat nearly black in the male, buff in the female. Length, 7 inches.

## Order RALLIFORMES.

### Family RALLIDÆ or RAILS.

THE Rails, although an extensive and moderately well-determined group, have exercised the utmost ingenuity of systematists and anatomists in associating them with allied groups. The result has varied with the relative importance of each character employed. Some authorities raise them to the rank of an Order, allied to the Hemipodes, the Cranes, and the Bustards; others remove them from the Cranes, and place them with the Stone Curlews, the Game Birds, and the Cuckoos; others yet again ally them most closely with the Cranes. Their sternum contains only one notch on each side of the posterior margin. In the modification of their cranial bones they are schizognathous; nasals holorhinal. In their pterylosis, myology, and digestive organs they are probably most closely related to the Cranes and Bustards.

The external characteristics of the Rails are their long slender feet, slightly elevated hind toe, short tarsus, and comparatively short, thick beak. Primaries ten in number; wings rounded; rectrices twelve in number, and short. Moults variable; in some species only once in autumn, in others in spring and autumn. In the single-moulted species, nuptial plumage assumed by abrasion and increased brilliancy. Young hatched covered with down, and able to run and swim soon after they leave the shell.

Number nearly 200 species. Cosmopolitan, except in the Arctic regions.

The **Rallidæ** is divisible into two fairly well-defined subfamilies, viz. : the **Rallinæ**, of which the Rails are typical, and the **Gallinulinæ**, of which the Gallinules or Waterhens, Coots, etc., are typical. Both subfamilies are represented in the British Islands.

### **Subfamily RALLINÆ.**

### **Genus CREX or CRAKES.**

Type CREX PRATENSIS.

**Crex** of Bechstein (1803).—The birds comprising the present genus are characterised by their short, thick bill, shorter than the head, and by having the forehead covered with feathers to the base of the culmen. The wings are moderately long, but rather rounded; the tail is short. The tarsus is comparatively short, the lower part of the tibia devoid of feathers. The bill is short and compressed; nostrils linear and oblong. Three toes in front, one behind, the former long and slender; claws curved and sharp.

This genus is composed of about twenty-five species, which are confined to the Eastern Hemisphere, being inhabitants of all the great zoological regions with the exception of Arctic latitudes. Four species are either resident in or visitors to the British Islands.

The Crakes are dwellers amongst the dense and humid vegetation of swamps and marshes; but some species are more terrestrial than others. They are birds of somewhat slow and laboured flight, and on the ground progress by running and walking. Their notes are shrill and harsh. They subsist chiefly on insects, seeds, and tender shoots. Their nests are large, and made of aquatic vegetation, and their eggs are numerous and double-spotted. They are monogamous. The flesh of some species is highly esteemed.

Family RALLIDÆ.  
Subfamily RALLINÆ.

Genus CREX.

## CORN CRAKE.

CREX PRATENSIS—*Bechstein.*

**Geographical Distribution.**—*British:* Generally distributed during summer throughout the British Islands, extending even to the Outer Hebrides, the Orkneys and Shetland, and the Channel Islands. It is an occasional visitor to St. Kilda. Numbers vary considerably locally. *Foreign:* West Palæarctic region, summer; Ethiopian region, winter. Occasional summer visitor to Faroes. Breeds in Scandinavia as far north as Arctic Circle, and has been obtained even three degrees higher. In West Russia it does not appear to range north of Archangel (lat.  $64^{\circ} 32' N.$ ); in East Russia not beyond lat.  $60^{\circ}$ . Eastwards it is common in the Altai Mountains, and in the valley of the Yenesay ranges as far north as lat.  $59\frac{1}{2}^{\circ}$ . Its eastern limit appears to be the valley of the Lena. Although of only accidental occurrence in North-west India, it is common in Afghanistan, and has been found in North Persia. It is a common visitor to Russian Turkestan and the Caucasus; is said to be resident in Palestine and Asia Minor; is only known on passage in Egypt, but is resident in Algeria. It also breeds throughout Central Europe and Southern Europe, with the exception of the Spanish peninsula, Southern Italy, and Greece, where it is only known on passage. It winters in Africa as far south as Natal, and is occasionally found at that season in the Transvaal and Cape Colony. The Corn Crake is a great wanderer, and is an accidental visitor to the Canaries, Madeira, and the Azores, and even to the Bermudas, the east coast of the United States, Greenland, and it is said, New Zealand!

**Allied Forms.**—None very closely related.

**Time during which the Corn Crake may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The migrations of the Land Rail, or Corn Crake, both in spring and autumn, extend over a remarkable length of time. The bird begins its entry into Europe as early as February, and continues to arrive through March and April until nearly the end of May. It arrives in the south of our islands towards the end of April, but in the northern districts it is a week or so later. Its return migration in autumn begins in August and September, and lasts over October. The haunts of the Corn Crake are hay meadows and grain fields, both dry and swampy localities being frequented, the bird showing little or no partiality in this respect. Soon after its arrival, it wanders about a good deal, and then frequently visits less suitable places, or remains in them from necessity until the cover in its more usual haunts is sufficiently dense. No bird is more skulking in its habits, or more loth to take wing. It always prefers to hide in the dense cover and to remain motionless until the danger has passed, or to run with wonderful speed to a safe nook. The arrival of the Corn Crake is very soon proclaimed by the bird's rasping cry, which sounds from the meadows most persistently, especially during night. This loud, harsh note, which I consider is confined to the male, may be easily imitated by drawing a knife-blade smartly across the teeth of a stout comb. It is usually uttered twice, one after the other, then a pause, and then again repeated. I have known this species call as it flew from one field to another, evidently under sexual excitement, and eager either to meet a female or a rival. The note ceases in August, and for the remainder of its stay the Corn Crake is a silent bird. Soon after arrival this bird wanders about from farm to farm, especially at night, and seems to be exploring all the country-side in quest of a suitable haunt. When once this choice is made, however, the bird rarely wanders more than a field or so from home until it departs south in autumn. The Corn Crake lives upon the ground, keeping close to the herbage, and only venturing into the open when all is quiet. It is flushed with the greatest difficulty, rarely indeed a second time, and flies in a slow, laboured manner, with legs held

drooping down. I have known this bird, when lured by a call, to fly from the grass and perch for a few moments on the top of a hedge. In the late summer, when the grass is cut for hay, and the clover crops have been cleared off, the Corn Crake frequently hides itself amongst the standing corn, or in the turnip-fields. It may then often be watched upon the bare pastures, where it strays to feed, running from the cover through the hedge on to the grass. Here it walks about in true Rail style, ever and anon raising its head and looking warily around. At the least alarm it runs back into the hedge, where it skulks until all is quiet again, and then comes out once more. I have known this species to feign death in an astonishingly realistic manner. The food of this species is composed of worms, snails, and insects, especially small beetles, the tender shoots and ends of herbage, and various small seeds. It feeds the most in the early morning, or at dusk, and during the night—a period, by the way, which is also selected for its migrations.

**Nidification.**—The Corn Crake pairs soon after its arrival ; until this event takes place it is a remarkably restless species, but as soon as mating has taken place it becomes much more sedentary. The eggs are laid according to latitude and the state of the season, either the end of May or during the first half of June. The somewhat elaborate and neatly formed nest is placed on the ground, usually amongst the mowing grass, less frequently in growing corn. It is made externally of dry grass and withered leaves, and neatly lined with fine grass, often much of it nearly green. Although this species, so far as is known, is strictly monogamous, and not at all gregarious, I have known a couple of nests within a few yards of each other ; whilst it is no uncommon thing to find several nests in the same field. The eggs are from eight to twelve in number, and range from pale buff through cream-white to very pale blue in ground colour, sparingly spotted and blotched with reddish brown and violet-gray. A pale blue egg is not unfrequently found in a clutch of the usual colour. They measure on an average 1·4 inch in length by 1·1 inch in breadth. The first egg is often sat upon as soon as laid, and incubation lasts from twenty-one to twenty-four days. I have known this species remove its eggs when the nest has been

left exposed by the mowers. The hen sits closely, and slips very quietly off her nest. The young (covered with black down) are ready to follow their parents soon after they are hatched. Only one brood is reared in the year, and as soon as the young are grown they appear to be deserted by the old birds; for during all the period of its stay in our islands the Corn Crake is a solitary and unsociable bird.

**Diagnostic Characters.**—*Crex*, with the general colour brownish buff, spotted with black on the upper parts, and with the axillaries chestnut. Length, between 10 and 11 inches.

Family RALLIDÆ.  
Subfamily RALLINÆ.

Genus CREX.

## SPOTTED CRAKE.

CREX PORZANA—*Linnaeus*.

**Geographical Distribution.**—*British*: Fairly distributed in suitable districts in Great Britain, but owing to reclamation and improvement these have sadly decreased. Its principal strongholds are in the eastern counties of England, becoming more local in the southern counties, and in Wales. On the east of Scotland it breeds as far north as Elgin, but on the west not north of Dumfriesshire. In Ireland it is principally known on autumn passage, but has been found breeding in Roscommon and Kerry. It has occurred in the Orkneys and Shetland. *Foreign*: Western Palæarctic region. Breeds in Scandinavia as far north as lat.  $65^{\circ}$ ; in West Russia up to lat.  $64^{\circ}$ . In the Ural Mountains its range does not extend beyond lat.  $58^{\circ}$ , whilst in West Siberia it falls still lower to lat.  $55^{\circ}$ . South of these limits it is found in summer in Turkestan, as far east as Yarkand, and as far north as Gilgit on the frontiers of Cashmere. It is said to be a partial resident in Persia, but to the Caucasus and South Russia it is only a summer migrant. It is a resident in the basin of the Mediterranean, but only a summer visitor to Central and Northern Europe. In winter it is found throughout Northern Africa, as far south as Abyssinia, and may possibly breed in Egypt. During winter it is found throughout India, occasionally wandering into Burma. Stray birds have been obtained in Greenland and the Canaries.

**Allied Forms.**—*Crex carolina*, a summer migrant to the Northern United States and Canada up to lat.  $62^{\circ}$ , and wintering in the Southern States, Mexico, Central America, and the West Indies. Differs from the Spotted Crake in having the forehead, lores, chin, and upper throat black. An example of this species

was shot near Newbury, in Berks, on the River Kennet. It was exhibited at a meeting of the Zoological Society on Feb. 14th, 1865, by Professor Newton (*Proc. Zool. Soc.* 1865, p. 196). Naturalists, for some inscrutable reason, decline to admit the Carolina Crake as an established British species, but the known wandering habits of birds of this family, in addition to the fact of its occurrence in Greenland, is strong evidence in its favour of having reached our islands voluntarily.

**Time during which the Spotted Crake may be taken.**

—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Spotted Crake is another late migrant to our islands, apparently delaying its arrival until the cover it frequents is sufficiently dense to afford it ample concealment. It usually arrives in May, and leaves us again in October, but it would appear that odd individuals occasionally remain behind and spend the winter with us. The haunts of the Spotted Crake are fens, marshes, and bogs—places where there is plenty of cover, in the shape of reeds, rushes, flags, and other aquatic vegetation, and plenty of water in stagnant pools. Here, like all its kindred, the Spotted Crake skulks close amongst the cover, only venturing out on to the more open spaces when all is still, especially at night, and hurrying back to its marshy fastnesses the moment it is threatened by danger. Although excessively loth to take wing, it is occasionally compelled to do so, and it will then be observed to fly in a slow and laboured manner close to the ground, with legs hanging down, and ready to drop into the first likely spot where it can conceal itself. When hard pressed, either by man or dogs, it will sometimes take refuge in a hedge, or amongst briars, just like the Corn Crake will do. In spite of its abundance in some localities it is very rarely seen. It sometimes leaves its reedy haunts at dusk, and may then be seen swimming across the open pools of calm water from one thicket to another, or threading its way shadow-like through the herbage. It is a most unsociable species. The call-note of the Spotted Crake is a rather liquid *whit*. Its food consists of worms, small snails, and insects, especially beetles, the tender buds and shoots of herbage, and small seeds.

**Nidification.**—The breeding season of the Spotted Crake commences in May, and the eggs are laid towards the end of that month, or during the first half of June. The nest is rather bulky, and placed in the recesses of the reed-beds or in a tuft of rushes, often entirely surrounded by shallow water. The materials consist of bits of reed, rush, and other plants, all in a more or less rotten state, the cup containing the eggs being lined with drier and finer matter. The eggs vary from eight to twelve in number, and range from buff to very pale green in ground colour, spotted and speckled with pale and dark brown, and underlying markings of gray. The markings are bold, large, and distinctly defined, a character which, in conjunction with their green-tinged interior when held up to the light, is sufficient to distinguish them from the eggs of any other British species. They measure on an average 1·35 inch in length by '9 inch in breadth. Incubation, performed principally by the female, lasts twenty-one days. The young follow their parents and take to the water shortly after they are hatched; only one brood appears to be reared in the year.

**Diagnostic Characters.**—*Crex*, with the general colour of the upper parts olive-brown streaked with darker brown, and spotted with white; flanks barred white and brown. Length, 9 inches.

Family RALLIDÆ.  
Subfamily RALLINÆ.

Genus CREX.

## BAILLON'S CRAKE.

CREX BAILLONI—( *Vieillot*).

**Geographical Distribution.**—*British*: An irregular visitor, chiefly on spring and autumn migration. The evidence of its breeding in our islands appears to rest on two reputed nests and eggs obtained in Cambridgeshire during June and August, 1858, and two more taken near Hickling, in Norfolk, during June and July, 1866. Most frequently observed in Norfolk. Has occurred in Suffolk, Derbyshire, Yorks, the Isle of Man, Somerset, and Cornwall. Scotland boasts two instances: one in Sutherlandshire in 1841, and another in Dumfriesshire in 1842. Ireland also can only claim two instances of its occurrence. *Foreign*: Southern Palæarctic region, Oriental and Ethiopian regions. Summer visitor to Central Europe, but does not extend beyond the Baltic; in East Russia it is found breeding as far north as lat. 56°. Breeds in the Spanish peninsula, the marshes of France, Northern Italy, Hungary, and the Black Sea basin. Resident throughout Africa and Madagascar, and is found across Asia from the Caspian, throughout South-east Siberia, North India, and Burma, to China and Japan. In winter it is also found in Ceylon, the Philippines, Borneo, and the Andamans.

**Allied Forms.**—None more closely related than the Little Crake.

**Time during which Baillon's Crake may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—Baillon's Crake differs little in its habits and economy, together with the localities it frequents, from its allies. It haunts the dense aquatic vegetation on the banks of pools, and

is a dweller in marshes and fens. Like all its kindred it is remarkably shy and retiring in its habits, keeping well concealed amongst the vegetation during most of the day-time, venturing out a short distance from cover during the hours of dusk and darkness. It swims to and fro in the secluded reed-fringed pools, now in and out amongst the rushes and water-flags, then out into the more open water, where if it be surprised it dives with remarkable swiftness, and under water hurries to the shelter of the reeds. It is only flushed with the greatest difficulty, and then flies in a slow, laboured manner with legs dangling down, and drops into the nearest cover as soon as possible. Even when hard pressed by enemies on land it always seeks to evade them by running, only using its wings as a last resource. The call-note of Baillon's Crake is a shrill but not very loud *kik-ik-ik*. The food of this species consists principally of insects and their larvæ, small snails, and scraps of vegetable substances. It is said that this Crake frequently catches insects as they flit by whilst it floats upon the water, but whether it ever dives for food is not known. Baillon's Crake sometimes flies round and round above its haunt at night, from time to time uttering its shrill note, just as the Waterhen is wont to do.

**Nidification.**—There can be little doubt that some nests of Baillon's Crake are overlooked in the British Islands, where it is more than probable it breeds every year. When we bear in mind its remarkable skulking habits, the nature of the haunts it frequents, and its small size, we cease to wonder how much it is overlooked. In this country the breeding season of Baillon's Crake appears to commence about the middle of May, and the eggs are laid towards the end of that month or early in June. In India, however, it breeds much later, laying in June and July in Cashmere, and in July and August on the plains of Upper India. In Europe its nest is placed amongst the reeds and sedges, often a floating structure like the Coot's; but in India the rice swamps are its favourite breeding places. The nest is made of bits of aquatic vegetation, loosely yet strongly put together, and rather large for the size of the bird. Hume states that in India the nests are made of rush and weed, and are placed amongst rushes and water-grass very little above the level of the water. The

eggs are from five to eight in number; pale olive or rich buff in ground colour, indistinctly mottled, blotched, and freckled with olive-brown and gray. They measure on an average 1·1 inch in length by ·8 inch in breadth. Incubation lasts about three weeks. The female is a close sitter, and leaves her nest very quietly when disturbed. Two broods are probably reared in the year.

**Diagnostic Characters.**—*Crex*, with no white spots on the sides of the throat and the breast, with the under tail coverts and flanks black barred with white, and with a white margin to the outer web of the first primary. Length, 7 inches.

Family RALLIDÆ.  
Subfamily RALLINÆ.

Genus CREX.

## LITTLE CRAKE.

CREX PARVA—(*Scopoli*).

**Geographical Distribution.**—*British*: Rare visitor on spring and autumn passage. No evidence of its having nested in this country is forthcoming, though odd pairs may remain behind in spring to breed, and stray individuals occasionally stay through the winter. Most frequently observed in Norfolk. Recorded from Suffolk, Cambridge, Lincolnshire, Yorks, Cumberland, Lancashire, Oxfordshire, Middlesex, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall. Scotland (1), Banff, March, 1852; Ireland (1), Balbriggan, March, 1854. *Foreign*: Western Palæarctic region. Breeds in Europe as far north as from Holstein, along the southern coast of the Baltic to Livonia; thence across Russia to Astrakhan and the Caucasus, and eastwards through Persia and Afghanistan to Russian Turkestan. Many Asiatic examples pass down the Indus valley, and winter in Western Scinde. Returning westwards, it appears to be a resident in Algeria, passes through Denmark, Spain, and Greece on migration, breeds in Italy and Sicily, Savoy, the valley of the Rhone, Central France, Southern Germany, Poland, and Austro-Hungary. It is said to have nested in South Sweden.

**Allied Forms.**—None more closely related than Baillon's Crake.

**Time during which the Little Crake may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Little Crake, in many of its habits and in the localities it frequents, somewhat closely resembles the preceding species. It is, however, not quite so shy or skulking, and may

be far more frequently observed in the open. It frequents marshes, swamps, and reed-beds, and pools of stagnant water, and though fond of swimming, is often seen on land. It has the same reluctance to take wing, and always tries to escape danger by running to the nearest cover or diving. When in Algeria I met with the Little Crake in the beautiful oasis of Biskra, on the northern limits of the Great Desert. It had its haunts among the short reeds that fringed the margin of a small pool. I first of all saw a female floating amongst the reeds a few yards from shore, but as I approached it swam gently towards the vegetation and hid itself in the cover. It floated very buoyantly for such a tiny bird, and every now and then seemed to pick an insect from the stems, and often buried its head amongst the grass-like weed floating on the surface. As I approached nearer, and walked round the wet mud at the edge of the pool, a cock-bird rose from the reeds in a slow, fluttering manner, with legs hanging down, and flew towards the other side of the pool. As he rose he uttered the usual clicking note of this species, a shrill *kik-ik-ik*, and I shot him as he went. When I dissected this specimen, which an Arab up to his breast in mud and water had fetched from the pool, I found the remains of beetles in its stomach, and a few bits of gravel. Hume states that he found this Crake very common on the "dhunds" in Scinde; he never flushed them from the sedge or reed, but found them everywhere, either running about the water-lily or lotus-leaves, or swimming from leaf to leaf, jerking their tails and nodding their heads just like Waterhens. The same observant naturalist remarked that this species is more insectivorous than Baillon's Crake. The food of the Little Crake consists principally of insects and their larvæ, especially beetles. It also eats small seeds and scraps of vegetable substances.

**Nidification.**—The Little Crake begins nest-building about the middle of May, and its eggs are laid at the end of the month. The nest is artfully concealed amongst the aquatic vegetation, and is sometimes placed a foot or more above the surface of the water, sometimes under the shelter of a tuft of sedge. Like that of all the Crakes, it is large for the size of the bird, and made of bits of reeds and flag, dry grass, and other aquatic herbage. The

eggs are seven or eight in number, yellowish brown in ground colour, marbled and blotched with olive-brown, and occasionally specked with very dark brown. They measure on an average 1·2 inch in length by ·85 inch in breadth. Only one brood is reared in the year, and incubation is said to last from twenty-one to twenty-four days. At the nest the actions of this bird are very similar to those of allied species. The young chicks, clothed in glossy greenish black down, are able to swim and follow their parents shortly after they are hatched.

**Diagnostic Characters.**—*Crex*, with the white spots on the upper parts confined to the centre of the back, with the flanks slate-gray, the under tail coverts black tipped with white, and no white margin to the outer web of the first primary. Length, 8 inches.

## Genus **RALLUS** or **TYPICAL RAILS**.

Type **RALLUS AQUATICUS**.

**Rallus** of Linnæus (1766).—The birds comprising the present genus are characterised by their long, slender bill, longer than the head, and by having the forehead covered with feathers to the base of the culmen. The wings are moderately long, but rather rounded; the tail is short. The legs are rather long, and the lower part of the tibia devoid of feathers. The bill is long, and slightly decurved; nostrils longitudinal, placed in a groove, and partly shielded by a membrane. Three toes in front, long, cleft to the base; hind toe small and articulated.

This genus is composed of about fifteen species, which are nearly cosmopolitan, being inhabitants of all the great zoological regions, with the exception of the Australian region and Arctic latitudes. One species is a partial resident in the British Islands.

The Rails differ very little from the Crakes in their habits and economy, and in the localities they affect. They are birds of the swamps and marshes, of slow and laboured flight, making bulky nests of aquatic vegetation amongst the herbage of their haunts, and their eggs are numerous and spotted. Their notes are shrill and unmusical. They are monogamous. Their food is very similar to that of the Crakes.

Family RALLIDÆ.  
Subfamily RALLINÆ.

Genus RALLUS.

## WATER RAIL.

RALLUS AQUATICUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Partial migrant; but may be found at all seasons widely distributed in all suitable localities throughout the British Islands, extending even to the Outer Hebrides, the Orkneys, and Shetlands. Perhaps most abundant in the Norfolk Broads. In some districts it is most abundant in summer, in others during winter. *Foreign*: West Palæarctic region. Resident in Iceland, and occurs on autumn passage on the Faroes; whilst a single example has been obtained on the island of Jan Mayen (lat.  $71^{\circ}$ ), the most northern limit of its recorded range. Summer migrant to Scandinavia up to lat.  $63^{\circ}$ ; said to be resident near Bergen in Norway, and to be occasionally observed during winter in the extreme south-west of Sweden. Breeds in West Russia up to Riga, and accidentally strays to St. Petersburg; in East Russia its limits are about the same. Although apparently absent from West Siberia, it breeds in Russian and Chinese Turkestan as far east as Yarkand. It passes Cashmere on migration, and winters in North-west India. Returning westwards, it is chiefly known in Afghanistan, Persia, Asia Minor, Palestine, Greece, and Egypt south to Abyssinia as a winter visitor, but a few remain to breed in many localities. Resident in Central and Southern Europe, and also in Tripoli, Tunis, Algeria, and Morocco, but most abundant during winter in the south and east, and in summer in the north and west.

**Allied Forms.**—*Rallus indicus*, an inhabitant, in summer, of the Lake Baikal district in South-east Siberia, the valley of the Amoor, Japan, and Northern China; and of Southern China,

Burma, East and South India, and Ceylon, in winter. Differs from the Water Rail (from which it is probably only subspecifically distinct) in having the slate-gray of the underparts more or less suffused with brown, a brown streak below and behind the eye, and the under tail coverts more barred with black; it is also slightly larger than its Western representative.

**Time during which the Water Rail may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Water Rail is another of those shy and skulking birds which is apt to be looked upon as much rarer than it really is, owing to its disinclination to be observed. There are few marshes where the cover is dense that do not conceal Water Rails in summer, but in winter, when much of the aquatic vegetation dies down, its haunts are certainly more restricted. The Water Rail is *par excellence* a bird of the reed-beds, amongst which it spends most of the hours of daylight skulking from the view of man and other enemies. It becomes most active towards dusk, and may then be watched timidly straying from the reeds on to the more exposed ground, or swimming out from the aquatic cover into the open water. If surprised in these places it will always try to escape by running on land with marvellous adroitness through the tangled vegetation, or diving with an audible flop under the water, and thence swimming below the surface to a place of concealment. Its flight is heavy and laboured, and the legs are allowed to hang down as if broken. It is most unsociable and solitary in its habits, and save during the breeding season almost invariably keeps to itself. The Water Rail also indulges in the singular habit of flying about the air at night, often in circles, occasionally uttering its shrill harsh note, which Naumann describes as a melodious *kreek*. The call-note during the breeding season is a shrill *whit*, but likened by other observers to a groaning cry, locally known as “sharming,” most frequently uttered at night. The food of the Water Rail consists of insects and their larvæ, snails, worms, the buds and shoots of aquatic vegetation, and small seeds. Like the Corn Crake, this species has been known to alight in the branches of trees.

**Nidification.**—It is not improbable that the Water Rail

mates for life, and each pair of birds appear to keep to a certain spot from which they wander little during the entire breeding season. This begins early, eggs having been known in the first week of April; although the more usual period is about a month later. The nest is made amongst the aquatic vegetation on the bank of the pool or under the arching shelter of a tuft of rushes and reeds. It is a most difficult nest to find, and is far more often stumbled upon by accident than found by design. It is almost invariably well concealed, and is made of the stems and flat leaves of reeds, and lined with bits of dry rush, and perhaps a few dead leaves. The usual number of eggs is from five to seven, although clutches of nine and eleven have been found. They are pale buff or creamy white in ground colour, somewhat sparsely spotted and speckled with reddish brown and violet-gray. They measure on an average 1·4 inch in length by 1·0 inch in breadth. Incubation lasts about three weeks. The bird sits very closely, but notwithstanding she is rarely flushed from the eggs, slipping quietly off them as soon as danger threatens, gliding through the surrounding herbage, where she skulks until all is safe again. The young chicks, clothed in jet-black down, take to the water immediately, and are accompanied by both parents. They may sometimes be seen running over the broad floating leaves of the water-lily and the "candock." It is probable that this species rears two broods in the year, as fresh eggs are not unfrequently found in July, although, of course, these may be the produce of birds whose earlier clutch had come to grief.

**Diagnostic Characters.**—*Rallus*, with the upper parts olive-brown, streaked with darker brown, the underparts slate-gray, shading into black on the abdomen, flanks, and axillaries, all of which are barred with white. Length, 11 inches.

## Subfamily GALLINULINÆ.

### Genus GALLINULA or TRUE WATERHENS.

Type GALLINULA CHLOROPUS.

**Gallinula** of Brisson (1760).—The birds comprising the present genus are characterised by their long slender toes, which are free from lobes, but bordered by a very narrow membrane, and by their small frontal shield. The wings are short and rounded, armed with a small recumbent spine; the tail is short and composed of twelve feathers. The legs are long, and the lower part of the tibia devoid of feathers. The bill is short, stout, compressed, slightly swelling towards the tip; the culmen extended and expanding into an oblong frontal plate; nostrils longitudinal, lateral, situated in a groove, pierced in a membrane. Three toes in front, long and slender, cleft to the base; hind toe moderately long; claws sharp.

This genus is composed of about sixteen species, which are distributed in all parts of the world except the Arctic latitudes. One species is resident in the British Islands.

The True or typical Waterhens are dwellers on the banks of lakes and rivers, frequenting the reeds and coarse vegetation by the waterside. They are skulking birds, of slow and laboured flight, making bulky nests amongst the aquatic vegetation, and their eggs are numerous and spotted. Their notes are shrill and unmusical. They run and walk with a peculiar jerking movement of the tail. Their food consists of worms, insects, seeds, herbage, grain, and fruits. They are monogamous.

Family RALLIDÆ.  
Subfamily GALLINULINÆ.

Genus GALLINULA.

## WATERHEN.

GALLINULA CHLOROPUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Commonly distributed in all suitable localities throughout the British Islands, extending to the Outer Hebrides and the Orkneys, but only accidentally to the Shetlands. It visits the Channel Islands on migration, a few perhaps remaining to breed. *Foreign*: Including allied forms, almost cosmopolitan. It occurs accidentally on the Faroes, and breeds in suitable localities throughout Europe, in Scandinavia up to lat. 63°, in West Russia up to lat. 58°, and in East Russia up to lat. 56°, becoming more sparingly dispersed towards these northern limits. At present it remains unrecorded from West Siberia, but breeds in Turkestan and the Baikal district, and is also a summer visitor to Northern China and the north island of Japan, but a resident in the main island of Japan and in Southern China. It is also a resident in the Philippine Islands, Celebes, Borneo, Java, Sumatra, the Burmese peninsula, and throughout India, but only of accidental occurrence in Ceylon. It also inhabits all suitable parts of South-western Asia and Africa, including Madagascar, Bourbon, the Seychelles, the Atlantic Islands, and the Azores. In America it is found breeding from the Southern States in the north to South Brazil in the south.

**Allied Forms.**—*Gallinula tenebrosa*, an inhabitant of Australia, distinguished from the Waterhen by having no white stripes on the flanks, and being somewhat larger. The Waterhen varies considerably in length of wing and size of the frontal plate. Typical western Palæarctic examples range from 7 to 6½ inches in length of wing, and the frontal plate barely extends as

far back as the eye. In all the other forms this frontal shield frequently extends beyond the eye. Indian and western South African examples are smaller, ranging in length of wing from  $6\frac{1}{2}$  to  $5\frac{1}{2}$  inches; American examples (*G. galatea*) are larger, ranging in length of wing from  $7\frac{3}{4}$  to  $6\frac{1}{2}$  inches. It is said that the Waterhen of Madagascar (*G. pyrrhorhoa*) and that of Tristan d'Acunha (*G. nesiotis*) are fairly separable forms.

**Time during which the Waterhen may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—This common and well-known species is a resident on all lakes and slow-running streams where the banks or shallows are covered with sufficient vegetation to afford it concealment. In a great many localities this species lives in an almost domesticated state, so tame as to pay little attention to the presence of man, and coming to his threshold for food during severe weather when its haunts are sealed by frosts. I have known this species frequent a small stream by the wayside not four feet across, and repeatedly wander on to the highway in quest of food. The Waterhen is just as much at home on land as in water, and walks about the grass lands and the banks of the pool in a singularly graceful manner, flicking its tail up and down every few moments. It swims with equal grace, with a peculiar nodding motion of the head, and is equally expert at diving and progressing under water for considerable distances. Although by no means shy it is wary and alert enough, often diving at the flash of a gun and hurrying away under water to the shelter of the reeds or flags, where with its body submerged and only its bill protruding, it waits until all is safe again before allowing its body to be uncovered. It is equally at home in a tree or a hedge, and I have known it repeatedly roost amongst evergreens during long-continued frosts. Its flight is not very strong, being slow and laboured, and the long legs are allowed to dangle down as if broken and useless. Nevertheless it often mounts into the air at night and flies about for an hour or more, uttering its shrill cry at intervals. At all times this species seems pugnaciously inclined, and not only fights with its own kind but with other waterfowl that may chance to intrude too closely on its haunt. The note of the Waterhen is

a singularly shrill and piercing *kik-ik-ik* often modulated into *ker-r-r-r-k*, and is most frequently uttered at dusk or even during the night. The food of this species consists of worms, snails, insects and their larvæ, buds, shoots and seeds of water plants, grass, grain, and even berries, especially of the wild rose and the hawthorn, to obtain which the bird frequently alights in trees and thickets. When in a semi-domesticated state it will eat almost anything that may be thrown down for waterfowl; and it has been known to kill and eat ducklings and Pheasant chicks. I have known it try to eat dead mice and rats, and to pick a bone. Although at all times more or less sociably inclined it is never so gregarious as the Coot, and even in the severest weather seldom visits salt water. When hard pressed for food it will often wander considerable distances from the frozen lakes and ponds, even visiting farmyards and gardens.

**Nidification.**—The Waterhen, especially when living under semi-domestic conditions, is one of the earliest birds to breed. I have known it to commence nest-building in such cases by the beginning of March, long before the flags were high enough to conceal the nest. The nest, however, is not generally ready for eggs before the middle of April, and in cold, backward seasons it is often a fortnight later still. The nest is placed in a great variety of situations, and as I believe this bird pairs for life certain spots are chosen year after year. It is most frequently placed among the rushes, reeds, and flags growing near the side of the water, and is often a floating structure made many yards from shore. Sometimes it is built amongst the exposed roots of trees growing on the bank, or even on a flat drooping branch above the water. Fir-trees are frequently selected sometimes as much as twenty feet from the ground. In such situations the chicks must be carried down in the parents' claws. The nest is a large bulky structure of rotten aquatic vegetation, loosely put together but trampled down into a rather firm mass. The cavity containing the eggs is rather flat and shallow, and is lined with finer and drier material. Some nests are much higher than others, and many are increased in bulk as incubation progresses. I have known nests added to daily to repair damage caused by the incessant wash of the waves. The eggs are from six to ten in number,

sometimes as many as twelve. They are buffish white or pale reddish buff in ground colour, spotted and speckled with reddish brown and gray. Some eggs are much more handsomely marked than others. They measure on an average 1·7 inch in length by 1·2 inch in breadth. The hen sits closely, attended by the cock, who takes the smaller share of incubation, which lasts from about twenty to twenty-four days. When the sitting bird leaves the nest, it covers the eggs with bits of vegetation, and though it sometimes flies to and from the home, it usually slips quietly off into the water. Several broods are reared in the year; young chicks have been found as late as the end of August. The young, clothed in jet-black down, take to the water at once with their parents, who often lead them to running streams near by. They are well able to take care of themselves in the moment of danger, and hide in holes and corners directly harm threatens them.

**Diagnostic Characters.**—*Gallinula*, with the general colour above olive-brown, below slate-gray, shading into brown on the flanks, which are broadly striped with white. Frontal plate, scarlet; in young, greenish brown. Length, 13 inches.

## Genus **FULICA** or **COOTS**.

Type **FULICA** **ATRA**.

**Fulica** of Linnæus (1766).—The birds comprising the present genus are characterised by having the toes united at the base, and furnished with lateral extensions of the membranes which form lobes, or scolloped processes. The wings are moderately long; the tail is short, rounded, and composed of twelve feathers. The legs are long, and the lower portion of the tibia is devoid of feathers. The bill is short, stout, compressed, the culmen extending and expanding at the base into a broad frontal plate; nostrils longitudinal, situated in a groove. Three toes in front, one behind; claws sharp.

This genus is composed of about twelve species, which are distributed in all parts of the world except the Arctic latitudes. One species is a resident in the British Islands.

The Coots closely resemble the typical Waterhens in their habits and the localities they frequent. They are, however, more partial to salt water. They swim and dive with great ease, and walk and run with equal facility. Their flight is rather slow and laboured. They are more or less gregarious. They make bulky nests amongst the aquatic vegetation, and their eggs are numerous and spotted. Their notes are loud and discordant. Their food consists of insects, worms, mollusca, buds and shoots of plants, and seeds. They are monogamous. Their flesh is of indifferent quality.

Family RALLIDÆ.  
Subfamily GALLINULINÆ.

Genus FULICA.

## COMMON COOT.

FULICA ATRA—*Linnæus*.

**Geographical Distribution.**—*British*: Less common and more locally distributed than the Waterhen, but widely distributed in all suitable localities throughout the British Islands, extending to the Outer Hebrides and the Orkneys. To the Shetlands and the Channel Islands it is only an accidental visitor. Drainage and reclamation of waste marshy grounds have caused its numbers to decrease in some districts, especially in the eastern counties; although, on the other hand, there is considerable evidence of its increase in others. *Foreign*: Including allied forms, almost cosmopolitan. Generally distributed throughout Europe, breeding in the west as far north as lat. 60° in Scandinavia and West Russia, but in the Ural Mountains only up to lat. 57°; whilst in West Siberia it only reaches lat. 55°. It is a summer migrant to East Siberia, the Baikal country, the valley of the Amoor, East Mongolia, Northern China, and the north island of Japan; but is a resident in the main island of Japan, South China, Formosa, Java, and Australia. It is a resident throughout the Burmese peninsula, India, and Persia, but only a summer migrant to Russian Turkestan, and passes Afghanistan on migration. Tracing its distribution westwards we find it to be a resident in Asia Minor, Palestine, North Africa, and the Azores. It is known on the Canaries and Madeira on migration, and during winter is found on the African continent as far south as Senegambia in the west, and the Blue Nile in the east. It is also a bird of regular passage over the Faroes, occurs accidentally in Iceland, and has been known once to stray to Greenland. In the southern portions of its range it is more abundant in winter

than in summer, owing to the influx of birds from the northern limits. This is especially noticeable in the basin of the Mediterranean and in India.

**Allied Forms.**—*Fulica cristata*, an inhabitant of the whole of Africa and the southern portion of the Spanish peninsula. Differs from the Common Coot in having no white on the wing, and two crimson caruncles on the frontal shield. *F. americana*, an inhabitant of North America. Differs from the Common Coot in having a large amount of white on the under tail coverts. The Coots inhabiting Japan, Java, and Australia have been separated into distinct species, but the differences are not of sufficient importance to warrant their recognition.

**Time during which the Common Coot may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—In many of its habits the Coot somewhat closely resembles the Waterhen, although it is much more partial to salt water, and rarely frequents such small streams and pools as so often content that species. It shows a decided preference for broad open waters, and the slow-running reaches of the larger rivers. Like its ally the Waterhen, it lives in many places in a semi-domesticated condition, and is then nothing near so wary as in a wilder state. It is then one of the wariest of birds, and by its excessive watchfulness repeatedly gives the alarm to other wild fowl. As it feeds principally in the daytime, it is on the alert when such species as Geese and Ducks are often sleeping; consequently these birds often seek the company of the Coot during the day, as if conscious that they could rest in safety in its vicinity. Although the Coot is graceful enough on land, and can perch in trees with ease, even roosting in them at night, it is by far the most at home in the water. It swims well, and dives with wonderful skill, disappearing below the surface almost with the rapidity of thought. In swimming it has the same bobbing motion of the head as the Waterhen, and like that bird, frequently dives and progresses under water to a safe retreat when menaced by danger. Although it is flushed with difficulty it flies well and quickly, yet in an apparently somewhat laboured manner. Just as it rises the legs are allowed to hang down as if

broken, but if the flight be at all protracted they are drawn up and stretched out behind. At night-time it frequently rises into the air and flies round and round above its haunts, uttering its loud note at intervals. This note is a clear, far-sounding *kö*. At all seasons the Coot is a remarkably sociable bird, and in autumn and winter frequently gathers into enormous flocks. These congregations of Coots are by far the largest on salt water, and then consist of many birds that have been driven from inland waters by long-continued frosts. It is said that great numbers of Coots also visit our islands from more northern and eastern lands, and swell the ranks of the flocks gathered on our low-lying coasts, taking their departure in March. Coots afford considerable sport, and vast numbers are occasionally shot during some grand *battue*. I have known cartloads of Coots shot in such a manner on the renowned Slapton Ley, in South Devonshire—one of the greatest haunts of this species in our islands. The food of the Coot consists of meadow grass, buds, shoots, leaves, and seeds of various aquatic plants, grain, insects, snails, worms, and small fish. Much of this food is obtained whilst the bird is diving. During severe weather it sometimes wanders from the water to farmyards and shrubberies, and will then make a meal of hawthorn berries, and the hips of the wild rose. The flesh of this species is by no means unpalatable, if birds are obtained for the table from fresh water and during the time food is plentiful.

**Nidification.**—The Coot breeds much later than the Waterhen, its eggs seldom being laid before the beginning of May. The nest is a large bulky structure, sometimes placed among reeds, rushes, and flags some distance from shore, where it floats, moored to the vegetation; at others it is built amongst the aquatic herbage growing on the banks of the pool or stream. Most of the nest is little more than a heap of wet, rotten aquatic vegetation, which often rises some eight or ten inches above the level of the water. At the top of this a shallow cavity, lined with drier and finer materials, is formed for the eggs. These are from six to twelve in number—seven or eight being an average clutch—buffish white in ground colour, sprinkled, speckled, and dusted over most of the surface with blackish brown. They

measure on an average 2·1 inches in length by 1·3 inch in breadth. Incubation lasts from twenty-one to twenty-three days. Both parents assist in this duty, and the young are soon able to leave the nest and take to the water with the old birds. They dive well, and seek to elude enemies by hiding in any nook or cranny when pursued. According to Stevenson and other observers, odd eggs of the Waterhen are sometimes found in the nest of this species.

**Diagnostic Characters.**—*Fulica*, with the general colour slate-black, a white wing bar caused by pale tips to the secondaries, and with a broad white frontal shield. Length, 16 to 18 inches.

## Order GRUIFORMES.

Family GRUIDÆ or CRANES.

ALTHOUGH the Cranes comprise such a small and compact family, authorities are by no means agreed as to their affinities, some associating them with the Ibises and Plovers, others with the Bustards. Their sternum contains no notch on the posterior margin. In the modification of their cranial bones they are schizognathous; nasals schizorhinal. In their pterylosis, myology, and digestive organs they show great affinity with the Rails and Bustards.

The external characteristics of the Cranes are their long legs, neck, and bill (which is somewhat typical of the Plovers); long pointed wings, lengthened and plumed innermost secondaries; short tail. Hind toe short, and considerably elevated above the plane of the rest. Primaries ten in number; rectrices twelve. Moults double; young hatched covered with down, and able to run soon after they leave the shell.

Number about sixteen species; cosmopolitan continentally, with the exception of the Neotropical region.

## Genus **GRUS** or **CRANES**.

Type **GRUS CINEREA**.

**Grus** of Bechstein (1793).—The birds comprising the present genus—and the only one in the family—are separated by the same characteristics as those that define the **GRUIDÆ** from surrounding groups. It is true this small and compact family has been subdivided into several genera, but the characters on which they are based do not appear to me to be of sufficient importance and value.

By placing all the known species therefore in one genus, the number of species and their distribution are the same as those already given in the remarks on the family. Two species are accidental visitors to the British Islands.

The Cranes are dwellers on large plains and in swamps, and are remarkable for their extended migrations. Their flight is powerful and sustained. Their notes are loud and trumpet-like. They make huge nests on the ground in swamps, and their eggs are usually two, but sometimes three in number, and handsomely spotted. Their food consists of grain, seeds, shoots of herbage, lizards, snakes, and small animals. They are monogamous.

**COMMON CRANE.**GRUS COMMUNIS—*Bechstein.*

**Geographical Distribution.**—*British:* For more than three hundred years the Crane has ceased to breed in our islands, and for little less a period has ceased to visit them in winter with its wonted regularity. Its only stronghold in England appeared to be the swamps and fens of the eastern counties. It is now only a rare and accidental wanderer on migration to England, of less frequent appearance on the mainland of Scotland, and of still less in Ireland. It is of frequent occurrence in the Orkneys, and still more so in the Shetlands. The year 1869 is remarkable for the visits of this bird to our islands. As regards recent Irish appearances, a male was shot in County Down in May, 1882, and two were seen (one of which was shot) in County Mayo in January, 1884. During the twelfth and fourteenth centuries it is said to have bred commonly in the bogs of the Emerald Isle. *Foreign:* Palæarctic region; parts of Oriental region in winter. Breeds in localities suited to its requirements throughout Europe and Northern Asia. It is occasionally seen at the Faroes on passage. In Scandinavia and Russia it breeds locally up to lat. 68°; in West Siberia no higher than the Arctic Circle; whilst in the valley of the Yenesay it does not appear to have been met with beyond lat. 60°. Although not met with hitherto in Eastern Siberia, it is recorded from Kamtschatka by Pallas, and breeds in Russian Turkestan, the Baikal country, and the Amoor valley. On passage it occurs in Mongolia, North China, and Japan, and is a winter visitor to South China and Northern India. Once more returning to the west we find it wintering in Persia and Palestine, various parts of

South Europe, Abyssinia, Egypt, Nubia, and Algeria. South of the limits already traced in Europe it breeds in Russia, Turkey, the valley of the Danube, Austro-Hungary, Italy, Andalusia, North Germany, Poland, and the Baltic Provinces.

**Allied Forms.**—None with which it is likely to be confused.

**Time during which the Common Crane may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—It is the British ornithologist's misfortune that the habits of this magnificent bird can be studied no longer in these islands which were once its home. The haunts of the Crane are in extensive swamps, where lakes, and bogs, and rough ground clothed with scrub and heath and rushes abound. Some of these haunts are surrounded by forests, but the Crane shows no partiality for trees, and never appears to alight in them. In my opinion its affinity to the Bustards is manifested in this singular habit. At all times it is an excessively shy bird, detecting danger from afar as it stands in its treeless open wilderness, and unfolding its broad wings and soaring away long before harm can reach it. At all times of the year it is more or less gregarious, but becomes most so during winter. To Northern Europe the Crane is a bird of regular passage, and performs its migrations in companies which fly at an enormous height, usually in the shape of a V or W. These flocks appear to migrate by day. Cranes are birds of somewhat early passage, those that have wintered in Africa beginning to return in February and March, reaching their breeding grounds in Central Europe towards the end of that month or early in April, but not arriving in the Arctic regions before May. The return journey is undertaken during October. The flight of this species is powerful and rapid, with slow and regular beat of wing, the long neck extended and the legs held out behind. The bird walks about the ground in a very graceful manner, and wades in the stagnant waters in quest of its food. This consists of a great variety of substances, but mostly of a vegetable character; grain of all kinds, grass, the buds and shoots of aquatic plants, acorns, insects, lizards, frogs, and, according to Hume, small fish. The same authority states that in India its favourite food is the young pods and yellow

pea-like flowers of an arborescent pulse (*Cajanus indicus*), and that it is addicted to water-melons, boring into these fruits not only to obtain the pulp and seeds but also to quench its thirst. When feeding, Cranes are very wary birds, and usually post sentinels to give timely warning of the approach of danger. In India, where this bird is very common during the cold season, and swarms in the rice fields, Hume states that they feed principally in the early morning, but often pay other yet shorter visits to the grounds during the day and night. On returning from their meal they fly round and round above their usual resting-place as if surveying the ground before alighting, all the time calling loudly, and then generally descend in graceful sweeps, with their long legs hanging down some little time before they reach the earth. The Crane sleeps standing on one leg, with the head and neck buried amongst the dorsal plumes. Here, towards the afternoon, they often congregate in vast flocks. They usually spend the night on a sandbank surrounded by water where they are comparatively safe from harm. The note of the Crane is a loud trumpet-like cry, which may be heard for an immense distance under favourable conditions. This note is variously modulated during the breeding season. The flesh of the Crane is by no means unpalatable, when the bird is killed under favourable conditions for the table.

**Nidification.**—The Crane begins to breed rather early in the year, although the actual time varies a good deal with the latitude of the nesting grounds. Thus in Central Europe its eggs are laid about the end of April or the beginning of May, but in Lapland they are about a month later. The nest is usually built in the fastnesses of a swamp, and is a huge bulky structure often upwards of two feet across. It is most probable that the Crane pairs for life; indeed, there is direct evidence that the same nest is used annually in many cases. It is made of sedges, rushes, branches of heath and twigs, and lined with grass. The eggs are generally two in number, but instances are on record where three have been found. They vary from brownish buff to greenish buff in ground colour, blotched and spotted with rich reddish brown, pale brown, and violet-gray. The shell is rather rough and pitted. They measure on an

average 3·9 inches in length by 2·5 inches in breadth. Incubation is said to last a month, and appears to be performed by the female. She is very wary in leaving and returning to her nest, and the male keeps sentinel over the place ready to give the alarm at the approach of danger, and to defend his home against intruders weaker than himself. Only one brood is reared in the year, and the young, clothed in brown down, are soon able to follow their parents. They appear to keep together until the migration period arrives, when more gregarious instincts are developed, and for the remainder of the autumn and winter live in flocks of varying size.

**Diagnostic Characters.**—*Grus*, with the general colour of the plumage slate-gray; the sides of the neck white, and the tertials black, developed into elongated, curly, bushy plumes. Occipital region bare of feathers and covered with scarlet warty skin (adult). Length, 43 to 48 inches.

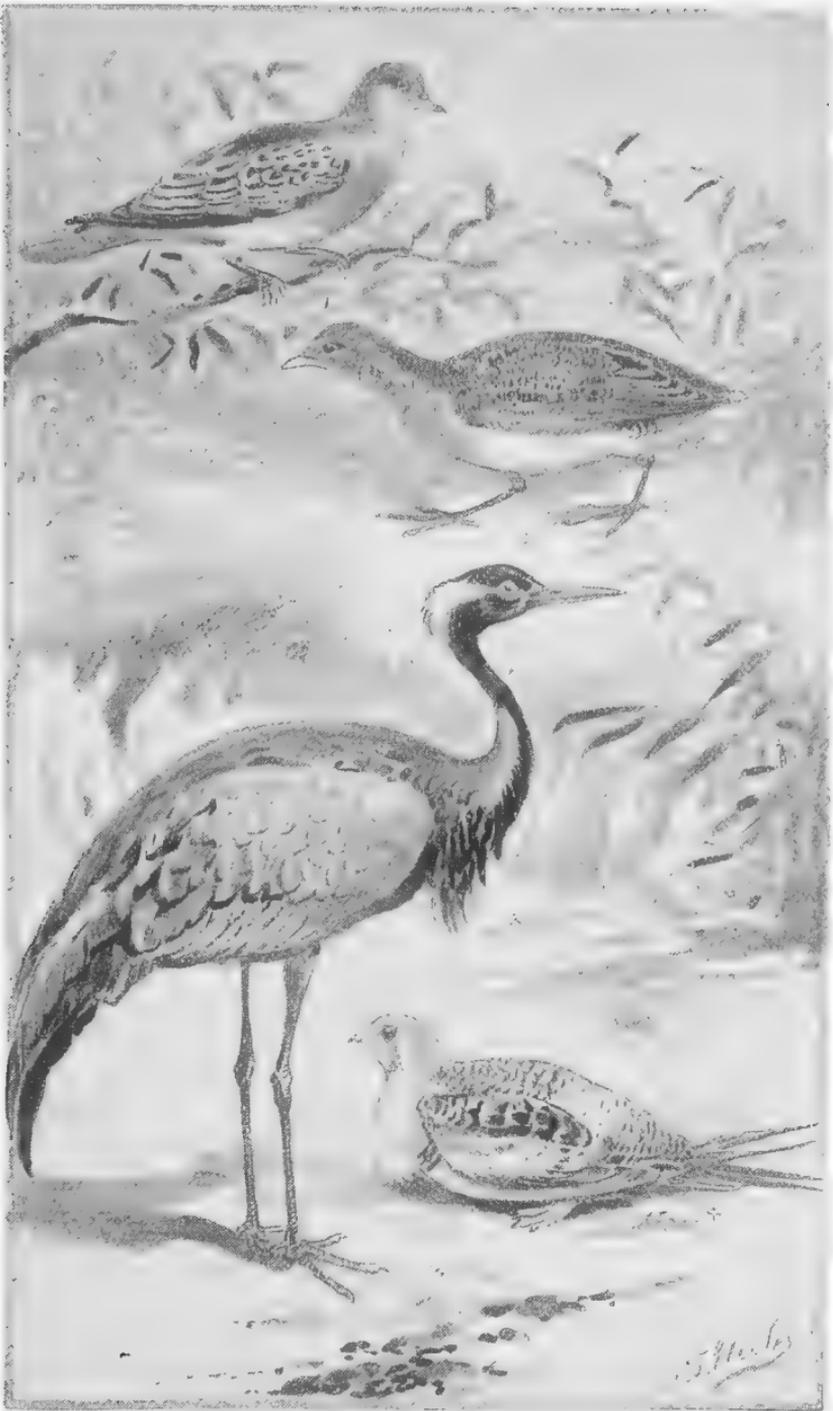
**DEMOISELLE CRANE.**GRUS VIRGO—(*Linnæus*).

**Geographical Distribution.**—*British*: Very rare visitor on migration to the British Islands. Its claim to this distinction rests on one solitary recorded occurrence. On the 14th of May, 1863, a pair were observed, one of which, a male, was shot at Deerness, East Mainland, Orkney. *Foreign*: Palæarctic region, summer; parts of Oriental and Ethiopian regions, winter. The only European breeding places are in Southern Spain, the western shores of the Black Sea, and the steppes of South Russia between lat. 50° and the Caucasus. In Asia it breeds in Turkestan and South-west Siberia as far north as lat. 53°, in Dauria, the Baikal country, Eastern Mongolia, and the north-west of China. Its winter quarters are on the plains of India; it also passes up the Nile valley to winter in Sennar south to lat. 12°. During its migrations it has accidentally wandered into Scandinavia, Germany (including Heligoland), Spain, Switzerland, Italy, Greece, and Asia Minor.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Demoiselle Crane may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Demoiselle Crane is just as regular in its migrations to and from its breeding grounds as the preceding species. Like that bird it journeys in large flocks which usually assume an angular formation like the letter V or W. They fly at enormous altitudes, sometimes beyond the range of human vision. In Europe the Demoiselle Crane arrives at its breeding grounds



1. EASTERN TURTLE DOVE.  
2. BAILLON'S CRAKE.

3. DEMOISELLE CRANE.  
4. PALLAS'S SAND GROUSE.



during March and April, whilst further east where the season is later, it appears at about the same time. It leaves its summer quarters during September and October. Its flight is very similar to that of the Common Crane, rapid, but performed with slow and regular beats of the mighty wings, and the neck and legs are outstretched. The note of this species is a harsh *kurr-kurr-kurr*, and is not at all trumpet-like. The Demoiselle Crane is a dweller on sandy districts, steppe country, and vast plains, but it does not appear to frequent swamps during the breeding season. It is always wary and watchful, seldom allowing any one to approach it closely unless by stratagem or under cover of some kind. It walks about the plains and round the edge of the pools in a very graceful manner, and often wades into the water and stands motionless with head to wind. The food of this species is composed principally of vegetable substances, grain and seeds, buds and shoots of herbage, insects, worms, lizards, and snakes, but not apparently any fish. In some parts of India its favourite food appears to be the safflower oil seed (*Carthamus tinctorius*). Whilst in its winter quarters in this country it is described as "by far the most suspicious and un-get-overable bird in existence." Their chief feeding time is in the morning and evening, and when satiated with food they repair to some large sandbank in a river, or the shallow margin of tanks and pools, where in a dense flock they rest and preen their plumage. They drink regularly, and usually sleep on a bare open plain ranged in a long single line, over which ever-watchful sentinels keep jealous guard. The flocks of this bird vary considerably in size, almost from day to day. Thus at the roosting places the numbers are often large, but at daybreak they separate into smaller parties to feed. Hume states that the flocks of Demoiselle Cranes are constantly splitting up into smaller ones and reuniting again, and that they are somewhat capricious in the choice of a haunt, and rarely remain in a district for many weeks together. When wounded this Crane will seek to escape by trying to swim, and when brought to bay will fight fiercely, although with nothing near the power of the Common Crane. They are very noisy birds, and the confused uproar that begins when an enormous flock of several thousands of birds has been surprised and fired at, is indescribable; the din of throbbing

wings and screaming birds being so loud that it may be heard a couple of miles away! In some parts of Southern India this Crane is held sacred by the Brahmins, and small patches of grain are left in the fields for it to feed on after its arrival in autumn. This bird is said by Loche to occur near Biskra in the Northern Sahara, but I failed to find it there.

**Nidification.**—Although so gregarious during the cold season, at the approach of spring the large flocks begin to disperse at the breeding grounds into pairs. The gregarious instincts, however, do not appear to be entirely suspended, for all the summer through it shows social tendencies, and small parties often feed in company. During the pairing season this species indulges in various grotesque antics, which have been described by some observers as “dancing.” These dances take place just before nest-building commences, and are thus aptly described by Nordmann. The Demoiselle Cranes “dance and jump towards each other, bowing themselves in a most burlesque manner, bending their necks forward, extending the plumes on the neck, and depressing their wings; others, again, in the meanwhile, run races, and on arrival at the goal, return striding along gravely and quietly, whilst the rest of the assembly greet them with reiterated cries, inclinations of the head, and other demonstrations.” Curious as these antics undoubtedly are, however, we may fairly presume that the worthy Professor has allowed his imagination to assist him not a little in penning the above notes. The nest of this Crane is always made on the ground, either amongst grain or grass, or, according to Dybowski, on the rocky banks of a river. It is only a slight affair, a mere hollow trodden in the ground, and lined with a few bits of herbage. The latter naturalist states that the nest is made of small stones fitting close to each other, the surface of the nest being flat, and deepening towards the centre. The two eggs are laid about the end of April or the first half of May, although Dybowski states that he has seen them in June and until the middle of July. They are pale buff or olive-brown in ground colour, spotted and blotched with umber-brown and gray. The shell is rather coarse, and full of small pores. They measure on an average 3·5 inches in length by 2·0 inches in breadth. Both male and female are said

to assist in the duty of incubation, which lasts about a month. The bird which chances to be off the eggs is usually placed sentinel-like close by the nest, ready to give the alarm, and to take part in driving off predaceous birds or animals. The Demoiselle Crane appears only to rear one brood in the year, and the young chicks are soon able to leave the nest and follow their parents.

**Diagnostic Characters.**—*Grus*, with the general colour of the plumage pale slate-gray, the feathers of the throat elongated, the tertials long and pointed, but not curled, and a tuft of long white feathers on each side of the head, which is neither crested nor bare of feathers. Length, 31 to 36 inches.

## Order CHARADRIIFORMES.

### Family OTIDIDÆ or BUSTARDS.

CONSIDERABLE diversity of opinion exists concerning the affinities of this small family of birds. By some authorities they are regarded as being somewhat closely allied to the Game Birds and the Cuckoos ; by others they are associated with the Plovers, the Cranes, and the Stone Curlews. The sternum contains two notches on each side of the posterior margin. In the modification of their cranial bones they are schizognathous, and most nearly allied to the Rails and Cranes, more remotely to the Plovers and Game Birds ; nasals holorrhinal. In their pterylosis, myology, and digestive organs they are also in close affinity with the Rails and Cranes.

The external characteristics of the Bustards are their moderately long, stout legs, and short, stout bill, long wings and short tail. The toes are short, and the hind toe is absent. Primaries ten in number ; rectrices twelve in number. Molt complete in autumn, partial in spring. Young hatched covered with down, and soon able to run and feed.

Number about twenty-six species ; confined to the Old World ; most abundant in the Ethiopian region.

## Genus OTIS or BUSTARDS.

Type OTIS TARDA.

**Otis** of Linnæus (1766).—The birds comprising the present genus—and the only one in the family—are separated by the same characters as those that define the OTIDIDÆ from surrounding groups. They have been subdivided into several genera, and the inclusion or omission of the Stone Curlews has been a matter on which systematists have been by no means agreed. At present it seems to me to be the wisest course to include the Bustards under the generic term of *Otis*, and to remove the closely allied *Edicnemus* (birds with a distinct basal web to the toes) to the CHARADRIIDÆ.

By placing all the known species of Bustard in one genus, the number of species and their distribution remains the same as those already given in the remarks on the family. Three species are accidental visitors to, but one formerly bred in, the British Islands.

The Bustards are dwellers on the open plains and steppes. They are birds of powerful and rapid flight, but are most addicted to the ground, where they walk and run with ease. Their notes are neither very loud nor very musical. They make slight nests on the ground, and their eggs are from two to four or five in number, and spotted. Their food consists of grain, seeds, buds and leaves of plants, and insects. The flesh of some is highly esteemed.

**GREAT BUSTARD.**OTIS TARDA—*Linnaeus.*

**Geographical Distribution.**—*British:* Was formerly a local resident in Great Britain, confined to the steppe or down districts: the Merse of Berwickshire, the wolds of Yorkshire and Lincolnshire, the warrens and heaths of Norfolk, Suffolk, and Cambridgeshire, and the downs of Dorset, Wilts, Hants, and Sussex. For half a century or more it has ceased to breed in this country, and can now only be classed as an irregular winter visitor. Not known to have visited Ireland. *Foreign:* South Palæ-arctic region from the Atlantic to the Pacific. Breeds in suitable districts in Denmark, Russia (south of lat. 55°), Germany, Italy, Spain, the steppes of the Danube, and Turkey. Now very rare in France, Greece, and North-west Africa, and completely exterminated in Scandinavia. It is also known as an accidental visitor to Asia Minor and North Persia, and as a straggler to North-west India. Eastwards it is found in Palestine, Turkestan, Siberia (south of Omsk and the Amoor), and Mantchooria, and is a winter visitor to China as far south as lat. 30°, and to Japan.

**Allied Forms.**—*Otis dybowskii* is the name given by some naturalists to the Bustards of East Siberia, which are said to be smaller, with a more slender bill, paler head, and gray lesser wing coverts; but these differences may probably be due to age.

**Time during which the Great Bustard may be taken.**—September 1st to March 1st (England and Wales); August 1st to March 1st (Scotland); September 1st to January 10th (Ireland);\* otherwise by authority of owner or occupier of land.

**Habits.**—The haunts of the Great Bustard are the vast plains and steppes which stretch across Europe and Asia; the

\* As this bird does not appear ever to have been an Irish species, it is difficult to account for this special season, during which it may be taken.

great grain lands which extend in some parts of Asia for thousands of miles, treeless and bare, where the noble bird can scan a wide horizon and note the approach of enemies. The Great Bustard is a thorough ground bird, and is rarely or never seen near trees. It is a shy and wary creature, ever careful not to allow a close approach, is capable of running quickly, and flies in a somewhat heavy, laboured manner with slow and regular beats of its ample wings. At all seasons the Great Bustard is a social bird, but in winter it becomes more or less gregarious, and joins into flocks which wander about the plains in quest of food. It is said that during winter the sexes separate, and that the males live in flocks by themselves. Even during the breeding season several pairs of birds will feed in company, and all the summer the immature and non-breeding birds remain gregarious. The food of the Great Bustard is almost entirely composed of vegetable substances, grain, seeds, and the leaves and shoots of herbage; the bird, however, also eats insects, mice, lizards, and frogs. The note of the male is likened by Mr. Seebohm to the syllable *prunt*; and he also states that, when alarmed, both sexes make a kind of hiss, although at other times the female appears to be a remarkably silent bird.

**Nidification.**—Although the Great Bustard has been said to be polygamous, there appears to be no direct evidence in confirmation of the statement; and Naumann, the great German ornithologist, who had ample opportunities of observing this species, avers that it pairs early in spring. The nesting season begins in May, and the eggs are laid towards the end of that month. The nest is sometimes made in a bare situation on the open steppe, or in a field of growing corn. It is little more than a slight hollow trampled by the female, which in some cases is lined with a few scraps of dry herbage, and is about eighteen inches across. The eggs are generally two in number, but sometimes three, and vary from olive-green to olive-brown and pale buff in ground colour, spotted and blotched with reddish brown and gray. On some specimens a few blackish brown streaks occur. Like the eggs of the Crane they are rather coarse in texture, and the shell is full of minute pores. They measure on an average 3·0 inches in length by 2·2 inches in breadth. The

female alone appears to incubate the eggs, the time taken ranging from three weeks to a month. At the approach of danger she slips very quietly off the nest, and hurries away for a little distance on foot, especially when the cover is dense, but sometimes she rises from it into the air and flies slowly away. During the breeding season, especially about the pairing period, the males are very pugnacious. Only one brood is reared in the year, and the young are soon able to quit the nest and follow their parents. The flesh of the Great Bustard is by no means unpalatable, especially that of the female and the young. An old male will often weigh over thirty pounds.

**Diagnostic Characters.**—*Otis*, with the head gray, and a tuft of white bristly feathers at the base of the bill, the upper parts chestnut-buff barred with black, the wings white, except the primaries, which are blackish brown, the breast banded with chestnut and gray, the belly white. Length, 45 inches (male). In the female the bristles and chest bands are absent. Length, 36 inches.

**LITTLE BUSTARD.**OTIS TETRAX—*Linnaeus*.

**Geographical Distribution.**—*British*: An accidental visitor to the British Islands, at no period known to have bred within them. Has most frequently been captured in the eastern and southern counties, especially in Yorkshire, Norfolk, and Cornwall. Four examples have been obtained on the east coast of Scotland, and three in Ireland. *Foreign*: West Palæarctic region. To Germany, Denmark, and South Scandinavia, and the country north of the valley of the Danube, the Little Bustard is only an accidental straggler. It breeds in suitable districts in Spain, Portugal, and France, and is common on the steppes of the Danube, Turkey, and Southern Russia. It passes through Italy and Greece on migration, but is resident in Sardinia and Sicily. It breeds in North-west Africa, and winters in the Sahara. It breeds in Russia, and West Siberia as far north as lat. 55°, and eastwards as far as Lake Saisan. It is a winter visitor to Egypt, occurs in Palestine and Asia Minor, and is a summer resident in North Persia and Russian Turkestan, wintering in the valley of the Indus.

**Allied Forms.**—None of sufficient propinquity to merit allusion.

**Time during which the Little Bustard may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—Many Little Bustards winter in the Mediterranean district, but the greater number retire to Africa for the cold season. Vast flocks of these birds return north to their breeding grounds in Europe during April, the southern flight being made

in October. In autumn the flocks are much larger than in spring, and in South-eastern Europe they are said to cross the steppes lying south of the Caucasus literally in millions. In its choice of a haunt the Little Bustard resembles its allies, being only found on wide treeless plains and steppes. It is perhaps more easy to approach than the Great Bustard, often remaining skulking in the cover until it is flushed within easy gunshot. Its flight is straightforward and rapid, and the wings are moved so quickly that a whirring sound is audible as the bird hurries away. In this respect it is very different from the Great Bustard, its flight being not so deliberate, and more like that of a Game Bird. Its movements on the ground partake more of those of that order, and it runs quickly, the females being the most difficult to flush. The presence of the Little Bustard is often betrayed by the utterance of its curious note, which resembles the syllable *spurtz* or *prut*. The food of this species is mostly of a vegetable nature, such as grain, seeds, and the tender buds and shoots of herbage, but the bird also devours insects, snails, frogs, and, it is said, even field mice. Although so gregarious just upon its arrival at its breeding grounds, the flocks soon disperse, and as soon as pairing is over there appears to be not even a social tendency until after the young are reared. As this species breeds in its first spring, no flocks of immature non-nesting birds are ever noticed in the summer haunts, as is almost always the case with the Great Bustard.

**Nidification.**—Although many of the actions of the Little Bustard during the pairing season would seem to prove that this species is polygamous, such is not the case. In the pairing season numbers of birds congregate at certain spots, and the males appear to go through a sort of "lek," like many Game Birds, showing off their charms in various ways to the admiring females, for which conflicts take place between the rivals. Once paired, however, these gatherings disperse, and each male goes off with his mate to assist in the cares of bringing up the brood. About the middle of May the female makes a rude nest on the ground amongst the herbage; it is little more than a hollow, lined with a few bits of dry grass and weed, and measures seven or eight inches across. The eggs are usually four, sometimes three, and, more rarely, five

in number, and vary in ground colour from olive-brown to olive-green, indistinctly mottled with pale reddish brown. The shell is glossy and smooth, the pores being very slightly defined. They measure on an average 2·0 inches in length by 1·5 inch in breadth. The female appears to incubate the eggs, but the male is in close and constant attendance upon his mate. In some cases it would appear that two broods are reared in the year, a second clutch being laid about the end of July; although there is no evidence to show that these late nests are not the produce of birds whose earlier efforts may have been unfortunate.

**Diagnostic Characters.**—*Otis*, with the general colour above buffish brown, *vermiculated* with black in the male in summer, *blotched* with black in the female at both seasons, and in the male in winter; with two black and two white gorgets in the male in summer. Length, 17 inches.

**MACQUEEN'S BUSTARD.**OTIS MACQUEENI—*Gray.*

**Geographical Distribution.**—*British:* A single example of this Eastern Bustard has been obtained in our islands. The fact of its visit being made in autumn, and that the northern range of this species in Asia is sufficient to bring the bird within the influence of the western stream of migration, which sets in at that time into Europe (where it has from time to time been captured, in Germany, Belgium, Denmark, Poland, the Baltic Provinces, Finland, and Italy), is strong presumptive evidence of its legitimate occurrence in a wild state in this country. The example in question was shot at Kirton-in-Lindsey, in Lincolnshire, on the 7th of October, 1847. It is now preserved in the museum of the Philosophical Society at York. *Foreign:* South-west Asia. Breeds in Turkestan, South-west Siberia, east to Lake Saisan, southwards into Afghanistan, Persia, and the eastern shores of the Caspian Sea. Winters in South Persia, Beloochistan, the Punjaub, and Scinde. Has occurred accidentally in Germany, Holland, Schleswig, Sweden (Oeland), Poland, Silesia, Finland, Livonia, and Italy.

**Allied Forms.**—*Otis houbara*, an inhabitant of Armenia, Palestine, and North Africa. Differs from Macqueen's Bustard in having the crest feathers and the elongated feathers of the throat pure white, the long feathers on the lower throat gray instead of white, the upper parts more rufous, and the vermiculations coarser.

**Time during which Macqueen's Bustard may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The present species is another bird of the wide vast plains, and resembles in its habits the preceding species. But little is known of the economy of Macqueen's Bustard during its residence in Turkestan and Siberia, whither it retires in summer to breed, but its habits have been carefully studied during its sojourn in India, where it is a common bird during the cold season, arriving in September, and leaving in March or April. Here it frequents by preference the slightly undulating sandy and semi-desert plains, which are studded with patches of scrub, amongst which *salsolas*, lemon-grass, and acacia bushes are conspicuous. On these vast plains this Bustard may be observed running about in the morning and evening, resting under the shelter of a bush during the hottest part of the day. It always prefers to run rather than to fly, and is capable of threading its way through the tangled scrub with great speed. Where the cover is short it runs with head and neck held low, but when it reaches the higher bushes it stops and stretches out its neck to look round at its pursuers. Sometimes the bird will then squat close to the ground and remain motionless, where its brown plumage so effectually conceals it from detection that it allows the observer to pass and repass within a very few paces without making a movement. Macqueen's Bustard is often stalked with the aid of a camel, that animal being so familiar to the bird that it takes but little notice of its approach. By riding round the Bustards in ever narrowing circles the hunter is enabled to get within shot. Sometimes the birds squat to the ground, and remain so until the camel walks almost over them, when they rise in a slow, heavy manner, and afford an easy shot. Sometimes a Bustard, instead of squatting, will hide behind a bush and walk round and round as the hunter does, always contriving to keep the bush between itself and the enemy. Macqueen's Bustard is said to be a very silent species; and Hume never heard it utter a sound under any circumstances whatever. The food of this species is almost entirely of a vegetable character, and Hume states that of hundreds he examined lizards or snakes were never found in its stomach. In India it feeds largely on the fruit of the ber, the berries of the *grewia*, and the tender shoots of the

lemon-grass and other herbs, varying this fare with insects and small snails.

**Nidification.**—Of the habits of Macqueen's Bustard during the breeding season little or nothing is known, and the nest has never been described. Eggs obtained by collectors employed by Herr Tancreé on the Altai Mountains are buffish or olive-brown in ground colour, blotched and spotted with rich dark brown, pale brown, and dull gray. They measure on an average 2.55 inches in length by 1.75 inch in breadth.

**Diagnostic Characters.**—*Otis*, with the upper parts buff, finely vermiculated with black, tail crossed with three dark bars, the head crested and the neck ruffed. Length, 28 inches.

## Order CHARADRIIFORMES.

Family CHARADRIIDÆ, or PLOVERS, SANDPIPERS,  
and SNIPES.

THE Plovers, Sandpipers, and Snipes comprise a well-defined, large, and important group of birds, most nearly allied to the Bustards through the Stone Curlews on one hand, and to the Cranes perhaps through the Rails on the other. Their sternum usually contains two notches on each side of the posterior margin, but in a few aberrant species only one notch. In the modification of their cranial bones they are schizognathous, most nearly approaching the Game Birds and the Gulls, nasals almost universally schizorhinal. In their pterylosis they also show much affinity with the latter group.

The chief external characteristics of the Plovers and their allied forms are the long pointed wings, adapted in most cases for prolonged migrations, comparatively short tail and long legs; their webbed, or semi-webbed, or lobed feet, and in some species, serrated middle claw; the hind toe is small, sometimes wanting, and elevated above the plane of the rest. Primaries ten in number; rectrices very variable in this respect. Moults double in most species. The autumn or winter plumage in a great many species is much less gaudy than that of summer, whilst differences in sexual colour are, as a rule, not very marked. The young in first plumage more or less closely resemble adults in summer plumage. These young birds, however, do not retain the bright colours of their first plumage long, but proceed to change at the beginning of autumn into a dress which closely resembles the winter plumage of their parents—not by a moult, but by an actual change in the hue of the feather, only the most worn, abraded, or “dead” feathers being replaced. During the

following spring these immature birds moult into summer plumage, resembling that of adults, only the wing coverts retain their rich summer hue all the winter until the next autumn moult, when they are changed for the grayer ones of winter. The wing coverts of adults only seem to be moulted once, in autumn, and this portion of their plumage is always the same colour after the bird reaches the adult stage of its existence. Young hatched covered with down, and able to run shortly after they leave the shell.

Number about 180 species; cosmopolitan in winter, but dispersal more restricted in summer.

## Family CHARADRIIDÆ.

### Subfamily CHARADRIINÆ or PLOVERS.

In my treatment of the Charadriidæ I have to a great extent adopted the arrangement of Mr. Seebohm, elaborated in his important work on the distribution of this family, which seems to me the most simple and the most natural system hitherto promulgated.

The birds included in the present subfamily are distinguished from their allies by having the middle and outermost toes joined together by a small web at the base, and by having the nasal aperture reaching beyond the basal fourth of the bill. This latter character, however, is wanting in the Coursers (*Cursorius*) and the Pratincoles (*Glareola*), an unfortunate circumstance which brings them into confusion with the Bustards (*Otis*); the scutellated tarsus of the former, and the hind toe of the latter, however, are sufficient to distinguish them.

This subfamily is composed of about one hundred species, which may be further subdivided into six fairly well-defined genera. Cosmopolitan.

## Genus **ÆDICNEMUS** or **STONE CURLEWS**.\*

Type **ÆDICNEMUS CREPITANS**.

**Ædicnemus** of Temminck (1815).—The birds comprising the present genus are characterised by having the tarsus reticulated anteriorly as well as posteriorly, and by having the outer rectrices an inch or more shorter than the central ones. The black tips to all but the central rectrices, and the white pattern on the webs of the first three primaries, are also characteristic of this group. The wings are moderately long, and the tail of twelve feathers is much graduated. The bill is strong and stout, the under mandible with an acute angle at the chin or gonys; nostrils in the middle of the beak, and not placed in a groove. Three toes only, directed forwards, and webbed at the base.

This genus is composed of about twelve species and races, which are distributed over various parts of temperate and Southern Europe, Southern Australia, and temperate and tropical Asia, and Africa, and tropical America. One species is a summer visitor to the British Islands.

The Stone Curlews are dwellers in similar country to that frequented by the Bustards, which birds they resemble in their habits. They are more or less nocturnal. Their flight is rapid and well sustained. Their notes are loud and harsh. They subsist chiefly on worms, frogs, small animals, and insects. They make no nest, laying their eggs (two or three in number, and spotted) on the bare ground. They are monogamous.

\* Future research may result in the removal of the Stone Curlews from the present family, and placing them with the Bustards: their nostrils, as in that group, are holorrhinal.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ŒDICNEMUS.

## COMMON STONE CURLEW.

ŒDICNEMUS CREPITANS—*Temminck.*

**Geographical Distribution.**—*British*: A summer visitor to the heaths and wolds of Yorkshire, Lincolnshire, Norfolk, Suffolk, and Cambridgeshire, southwards through Bedfordshire, Hertfordshire, Bucks, Oxfordshire, Berks, Wilts, Dorset, Hants, Sussex, and Kent. Elsewhere it can only be regarded as an accidental visitor chiefly on migration, although it has been known to breed in Worcestershire, Rutland, and Notts, and a few are known to winter in Somerset, Devon, and Cornwall. It has once occurred in Scotland, and once at the mouth of the Tyne, during winter, whilst six or eight examples have been detected in Ireland chiefly at that season. *Foreign*: Western Palæarctic region. Breeds south of the Baltic in the west of Europe, and of lat. 50° in the east. Resident throughout the basin of the Mediterranean, the Canary Islands, and Madeira, but is only a summer visitor to France, Holland, Belgium, Germany, and South Russia. Resident throughout North Africa, but much more numerous in winter than in summer. Summer migrant to Russian Turkestan and West Siberia as far north as lat. 48°, but resident in Palestine, Asia Minor, and Persia, and a winter visitor to the Red Sea basin and India.

**Allied Forms.**—*Œdicnemus crepitans indicus*, a resident race inhabiting Beloochistan, India, Ceylon, and Burma. Its specific distinctness is barred by the presence, according to Mr. Seebohm, of intermediate forms in Persia, Asia Minor, and throughout North Africa. Differs from the Common Stone Curlew in having a shorter wing (8 inches to 9 inches against 9 inches

to 10 inches in the European species), in having white patches almost invariably on the third primary, and in having the white on the outer web of the seventh much more developed. *Æ. senegalensis*, a species which ranges across Africa, south of the Great Desert from Senegambia in the west, across the Soudan to Nubia and Abyssinia in the east. Differs from the Common Stone Curlew in having the median wing coverts uniform gray with dark shaft lines, and in having only one bar (the lower) across the wing.

**Time during which the Stone Curlew may be taken.**—August 1st to March 1st.

**Habits.**—In many of its habits the Common Stone Curlew resembles the Bustards, although it is somewhat intermediate in this respect between those birds and the Plovers. It is a summer visitor, as previously remarked, to our islands, arriving in its old haunts about the middle of April, retiring south again in October. Its haunts in our islands are heaths and commons, rough untilled country, downs and warrens. Although in no sense an arboreal species, many of its favourite haunts are surrounded by trees. However, like the Bustards, it is a bird of the open, and never found on wooded ground. It runs with great speed, and flies quickly, often at some height in the air above its haunts, especially at night. The Stone Curlew is a decidedly nocturnal bird, and at the approach of dusk becomes particularly lively and noisy as it seeks its favourite feeding grounds. This may be especially remarked during bright moonlight nights. Its note is a loud, clear, but somewhat plaintive cry. The food of the Stone Curlew is chiefly of an animal nature, such as snails, worms, and insects, especially nocturnal beetles, frogs, lizards, and mice. This bird has been accused of devouring the chicks of Game Birds, but I am not aware that there is any positive evidence in favour of the statement. During the night the Stone Curlew frequently leaves its native heath and seeks the turnip-fields and pastures adjoining to search for food. During the summer it appears not to be even social, but towards autumn, when the broods are strong upon the wing, it becomes gregarious, and probably migrates in flocks. Much of its time is spent upon the ground, where, at the approach of danger, it often crouches low and motionless, trusting to the protective colour of its plumage to shield it from observation.

**Nidification.**—The breeding season of the Stone Curlew begins in May, and the eggs are laid from about the middle of that month onwards to the end, according to the state of the season. This species appears never to make any nest beyond a mere hollow in some part of the heath where the ground is bare of vegetation, and often strewn with stones. Hume, however, states that in India the hollow is sometimes lined with a few scraps of grass. The eggs are two in number in this country, although in India three are sometimes found. They are various shades of pale buffish brown in ground colour, blotched and spotted or streaked with light and dark brown, and violet-gray. Some eggs are finely blotched, others have the colouring matter displayed in nearly black streaks and scratches. They measure on an average 2·1 inches in length by 1·5 inch in breadth. The male assists the female in the duty of incubation, especially during the day. This, according to Naumann, lasts about seventeen days; but other writers state a month. When the nest is approached, the sitting bird quits the eggs at the first alarm, and leaves them to the safety their eminently protective colours ensure, generally running for several yards before taking wing. Only one brood is reared in the season, but if the first clutch of eggs comes to grief, another clutch is usually laid. The young chicks are able to run almost directly they are hatched, and soon follow their parents in quest of food.

**Diagnostic Characters.**—*Ædicnemus*, with the breast conspicuously streaked, a pale and a dark wing bar across the smaller wing coverts, and with the greater wing coverts tipped with white. Length, 16 to 17 inches.

## Genus **ÆGIALITIS** or **RINGED PLOVERS**.

Type **ÆGIALITIS HIATICULA**.

**Ægialitis** of F. Boie (1822). — The birds comprising the present genus are characterised by the absence of a hind toe, by their white axillaries and belly, and by the dark subterminal band across the rectrices. The wings are long and pointed, first primary the longest; the tail is somewhat rounded, and consists of twelve feathers. The tarsus is reticulated, the lower portion of the tibia devoid of feathers. The bill is much shorter than the head, slender, and nearly straight to the end of the nasal groove, then slightly raised and arched to the tip; nostrils small and linear. Toes three in number, pointed forward.

This genus is composed of about fifteen species and subspecies, which during winter are practically cosmopolitan. Absent from the Neotropical region, and rare in the Oriental region during the breeding season. Four species are included as British.

The Ringed Plovers are dwellers principally on the banks of rivers and lakes, although some species also affect the coast. They are birds of rapid and sustained flight, and progress on the ground by running and walking with great facility. Their notes are shrill and monotonous. They subsist on insects, crustaceans, worms, etc. They make no nest, but deposit their pyriform eggs in a cavity in the bare ground. These are four in number, and spotted. They are monogamous; and gregarious, especially in autumn and winter.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALITIS.

## LITTLE RINGED PLOVER.

ÆGIALITIS MINOR—(*Wolf and Meyer*).

**Geographical Distribution.**—*British*: Accidental wanderer to England; not known to have visited Scotland or Ireland. Obtained in Sussex (2), Middlesex (2), and Scilly Isles (1). *Foreign*: Palæarctic region from Atlantic to Pacific. Breeds throughout Europe and Palæarctic Asia south of lat. 60°. Resident throughout the basin of the Mediterranean, as far south as the Great Desert, but migratory north of that basin and throughout its breeding area in Asia, wintering south of the Sahara in Africa (to the equator on the west coast, and the Mauritius and Mozambique on the east coast), and in Asia in most parts of the Oriental region, *i.e.* Asia south of the Himalayas, and the Malay Archipelago as far east as Borneo, and has occurred in the Australian region in Celebes and New Guinea. North of lat. 60°, up to the Arctic Circle, it is only an accidental visitor.

**Allied Forms.**—*Ægialitis minor jerdoni*, an inhabitant of Ceylon, India, Burma, and Cochin-China. Differs from the Little Ringed Plover in having the basal half of the lower mandible yellow, and the orbits corrugated; it is also a smaller bird. *Æ. placidus*, breeding in Japan, and wintering in the valley of the Yangtse and Nepal. Differs from the Little Ringed Plover in being much larger (length of wing 5½ inches), and in having a more graduated tail (outer tail feather .5 instead of less than .25 shorter than middle ones).

**Time during which the Little Ringed Plover may be taken.**—August 1st to March 1st.

**Habits.**—The Little Ringed Plover is nothing nearly so much a marine species as the Ringed Plover, and its haunts are chiefly

the banks of rivers, and inland lakes and pools. It often wanders up rivers for great distances inland, and shows a special preference for those in which numerous sandbanks occur, and the shores are pebble-strewn. Water, however, does not always seem essential to this species, and it is sometimes met with on dry fallows and desert plains some distance from that element. It is a thorough ground bird, and spends most of its time running about the gravel and the sand in quest of food. From time to time it indulges in short flights, just above the ground or water, which are moderately quick, and performed by rapid and regular beats of the long and somewhat arched wings. It is said to be more shy than its larger congener, but certainly this is not my experience. I met with this charming little bird in the rapidly drying up Oued, at Biskra, on the confines of the Great Desert. It was in May, and all were in pairs, apparently for the breeding season. They frequented the pebble-strewn dry bed of the river, as well as the strips of sand in mid-stream, and I repeatedly saw them soaring above scrub-clothed ground at some little distance from the actual bed of the stream. The note of the Little Ringed Plover is a loud, clear, and somewhat plaintive *pee*, rendered by Naumann as *deä*, rapidly repeated when the bird is alarmed. In spring, during the pairing season, the male also utters a by no means unmusical trill as it soars up like a lark, and gradually descends again. The males I noticed at Biskra kept the air for some little time, careering about after they reached the zenith of their flight just as the Sky Lark so frequently does. The food of this species is composed largely of insects, especially beetles, grubs, and worms. Even during winter this bird is never so gregarious as the Ringed Plover, and as often as not is met with alone, although others are usually in the immediate neighbourhood.

**Nidification.**—The Little Ringed Plover arrives at its European breeding grounds in April, but the eggs are seldom laid before the middle or end of May, and sometimes not until the beginning of June. The eggs are laid in a little hollow in the sand or shingle, which the parent bird scratches out for their reception, and no lining ever appears to be inserted. They are four in number, very pyriform, buff in ground colour, speckled and streaked with various shades of brown and ink-gray, most

numerous on the larger end of the egg. They measure on an average 1·15 inch in length by ·85 inch in breadth. Owing to the watchful, wary habits of the parent bird, who is careful to leave them the moment danger approaches, the eggs are difficult to find, as they bear such a close resemblance to the ground on which they rest. The young after they are hatched soon follow their parents in quest of food. If menaced by danger the old birds often become very demonstrative, and keep up an incessant chorus of shrill notes as they fly about the air above the head of the intruder until he leaves them in peace. Only one brood is reared in the year, and the young and their parents keep together for some little time after the former can fly.

**Diagnostic Characters.**—*Ægialitis*, with the outer tail feather less than a quarter of an inch shorter than the central ones, the scapulars the same colour as the back, and only the shaft of the first primary white. Length, 6·5 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALITIS.

### GREATER RINGED PLOVER.

ÆGIALITIS HIATICULA MAJOR—(*Tristram fide Gray*).

**Geographical Distribution.**—*British*. Widely distributed and resident throughout the British Islands in many inland districts as well on the sandy portions of the coast. It extends to the Outer Hebrides, but not to St. Kilda, as no part of the coast there is suited to its needs, the Orkneys, Shetlands, and the Channel Islands. *Foreign*. The extra-British range of this form of the Ringed Plover appears to be very restricted, so far as can at present be determined the bird being confined to the adjoining coasts of France and Holland. Ultimate research may probably show it to be an inhabitant of all the coasts of the North Sea.

**Allied Forms.**—*Ægialitis hiaticula*, the small race which will be treated of in the following chapter. The Greater Ringed Plover is, in its typical form, a much more robust bird, and has the upper parts paler in colour. The wings on an average are longer (5·5 to 5·0 inches instead of 5·2 to 4·8 inches). As may be remarked from these figures, the two races completely intergrade. *Æ. semipalmata*, an inhabitant in summer of Arctic and subarctic America, from Greenland to Alaska, and the north-eastern coasts of Asia, and in winter of tropical America, southwards to Patagonia. Differs from both races of the Ringed Plover in having the web between the outer and middle toes extending to the second joint. The great resemblance in every other external aspect of this American species to its Old World allies should make examination of the feet imperative of all Ringed Plovers killed on our coasts, as it is more than probable

the Semipalmated Plover occasionally visits the British Islands, especially in autumn.

**Time during which the Greater Ringed Plover may be taken.**—August 1st to March 1st.

**Habits.**—The most usual haunts of the Greater Ringed Plover are the sandy coasts, although exceptionally it frequents, especially during the breeding season, the shores of some inland lakes, and warrens, and dunes at some considerable distance from the sea. It is, however, a bird of the sand and a bird of the coast. It is especially attached to the low coasts, not the mud-flats, but the long broad reaches of sand and shingle, and to these haunts it keeps throughout the year. It is an active little bird, incessantly in motion, and provided due care be exercised, will admit of a sufficiently close approach to observe its every action with ease. It runs with great speed across the wet sands just out of the reach of the waves, picking here and picking there, now pausing a moment, then darting forward to probe into the soft brown sand in quest of prey. It follows the retreating waves, and searches the wet foam-flecked sand, and then runs shorewards once more as each succeeding wave breaks upon the beach. It is most attached to its feeding grounds, and in autumn and winter, when a flock has taken up its residence on some particular stretch of sand, they may be fired at repeatedly, always flying out to sea for a little way, and then returning inshore to another part of the sand. As they fly in a more or less compact bunch a chorus of double notes is uttered, and the moment they alight they begin searching for food as if they had never been disturbed. Sometimes in inland localities this bird may be seen running along the tops of walls, or even on weirs and sluices. The flight of this Plover is rapid, and performed by quick and regular beats of the wings. It usually flies along at no great distance from the ground or water, but when seriously alarmed often mounts up to a good height. Sometimes a flock will perform various graceful evolutions in the air, turning and twisting with as much precision as though moved by a common impulse. When just about to alight the wings are frequently held stiff and arched, and the bird skims along for a little way, and usually the pinions are held open for a short time after it has alighted. I have often marked

the reluctance of this bird to take wing, running before me until absolutely compelled to rise. The alarm note of the Ringed Plover is a loud shrill *too-it* quickly repeated, but the call-note is a rather harsh *turr*. During the pairing season this double note is often repeated so quickly as the bird rises and falls in the air as to become a not unmusical trill. The food of this bird is composed principally of small sand-worms, shrimps, sand-hoppers, and the inhabitants of tiny shells. It also eats many insects, and I have taken the remains of vegetable substances from its stomach. Throughout the year the Ringed Plover is decidedly social, and in autumn and winter congregates into flocks of varying size. It also often associates during the latter periods with Sanderlings and Dunlins. I have also remarked that during high water the flock often visits the higher banks of shingle, where they remain almost stationary, until the tide begins to ebb. Young and old flock together during autumn and winter.

**Nidification.**—Early in April the flocks of Ringed Plovers begin to disband and disperse over the breeding grounds, although the eggs are not laid until May or early June. Many pairs may often be found breeding in one locality. The majority of the birds stick to the sandy stretches of coast during the summer, but others retire to the banks of inland waters, and sometimes the nest is made at a considerable distance from any water at all. The nest is nothing but a little hollow in the sand, and very often even that slight provision is dispensed with, and the eggs lie on the flat surface. They are always laid well above high-water mark, and, as a rule, on the fine sand rather than on the coarser shingle. Several nests may often be found quite close to each other. The eggs are four in number, pale buff in ground colour, spotted with blackish brown and ink-gray. The markings are generally very small and evenly distributed, although sometimes most numerous and largest on the big end of the egg. They measure on an average 1·4 inch in length by 1·0 inch in breadth, and are pyriform in shape, and smooth in texture. Only one brood is reared in the year, but if the first clutch be removed, others will be laid. I have taken the eggs of this species near the end of June, other naturalists have found them as late as the

beginning of August. The bird sits little during the day, especially if the sun is shining brightly; and when the breeding grounds are invaded by man, the parent Plovers manifest little concern, as if fully conscious that the highly protective colours of the eggs will shield them from harm. Incubation lasts from twenty-one to twenty-three or even twenty-four days. When the young are hatched, however, the old birds become much more solicitous, and strive by various artifices to lure an intruder away from their helpless offspring. The broods frequent the shingle more than the sand, and are most adept at hiding themselves when threatened by danger.

**Diagnostic Characters.**—*Ægialitis*, with the underparts white, except the lores, and a dark breast band (black in adult male, brown in female and young), with the central half of the outer webs of the innermost primaries white, and the web between the middle and outer toes only reaching to the first joint. Length of wing, 5·7 to 5·0 inches. Total length, 8 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALITIS.

## RINGED PLOVER.

ÆGIALITIS HIATICULA—*Linnæus*.

**Geographical Distribution.**—*British* : The small dark race of the Ringed Plover appears only to pass the British Islands on migration, although there is some confirmatory evidence that a few pairs remain to breed on the coasts of Kent and Sussex. During passage in spring (May and June) and autumn (August, September, and October) it frequents most parts of the British coasts suited to its requirements, and often follows the course of rivers considerable distances inland, and visits sheets of water far from the coast. *Foreign* : Western Palæarctic region and north-eastern portion of Nearctic region. Breeds in Cumberland Bay on the American coast of Davis Strait ; on the coasts of Greenland up to lat. 79° ; in Iceland, Spitzbergen, Nova Zembla, and probably Franz Josef Land. In summer it is found in suitable districts throughout Europe north of the Alps, and breeds in Madeira, the Canaries, and North Africa ; whilst in winter it is found almost everywhere in the latter continent. In Asia it is found in summer as far east as the Taimyr peninsula\* in the north and Lake Baikal in the south, and breeds in Turkestan and Western Siberia. The Asiatic birds pass south-west by routes hitherto undiscovered to the basin of the Mediterranean and Africa to winter. Von Heuglin is of opinion that the Ringed Plover breeds on the coasts of the Red Sea ; Gould says that he received an example from Australia ; and some writers have asserted that the bird occasionally visits Northern India. All these statements require confirmation.

\* By some authorities this species is said to range east to Behring Strait, but the evidence is not satisfactory, *Ægialitis semipalmata* probably being mistaken for it.

**Allied Forms.**—*Ægialitis hiaticula major*, and *Æ. semipalmata*. For particulars of which see preceding chapter.

**Time during which the Ringed Plover may be taken.**

—August 1st to March 1st

**Habits.**—The habits of the small race of the Ringed Plover are not known to differ in any important respect from those of its larger ally. It is rather a late migrant, probably because it spends the summer in the Arctic regions, where the season is much later than in more southern latitudes. It is said to leave its winter quarters in Africa during April and May, and passes along our coasts during May and the beginning of June. Many birds cross Continental Europe and Western Asia, following the great river valleys to and from the Arctic haunts. In the valley of the Petchora, Messrs. Seebohm and Harvie-Brown first noted the arrival of the Ringed Plover at Ust Zylma on the 26th of May, about a week after the ice on the great river began to break up, and midsummer had suddenly displaced midwinter. Further east in the valley of the Yenesay, the bird appears to be a little later, and Mr. Seebohm did not observe it until the 8th of June. Nearly ten degrees further north it is probably later still in its arrival. This race is said to migrate in flocks, which do not mix with the larger form. It frequents the banks of rivers, sandbanks, and the margins of lakes, as well as the flat, sandy coasts. It is not known to differ either in the manner of its flight, its food, or its notes, from the larger race. The southern migration commences at the end of August, and lasts until October.

**Nidification.**—The small race of Ringed Plover is not known to differ in any respect from its larger ally in the matter of its nesting arrangements. Of course, this may be owing to the neglect of observers, who, having the means of studying this portion of its economy, have confused the two races. It is rather a remarkable fact that Colonel Feilden found a nest of this race lined with the green fleshy leaves and stems of *Atriplex littoralis*, a fact which suggests, if it does not actually prove, a difference of habit. It may be that in the high north some sort of lining is added to the sandy nest for the purposes of warmth. The eggs of this race are four in number, and, although they do not differ in colour, they are constantly and very perceptibly smaller. Only one

brood appears to be reared in the year, and as soon as the young can fly the short hot Arctic summer is well-nigh waning, and the southern migration begins.

**Diagnostic Characters.**—*Aegialitis*, with the upper parts slightly darker than those of the preceding race, otherwise the characters (excepting the following) are the same. Length of wing, 5·2 to 4·8 inches. Total length, 7 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALITIS.

## KILLDEER PLOVER.

ÆGIALITIS VOCIFERA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Two instances, one of which appears to be surrounded by the gravest suspicion. This latter concerns an example which was said to have been killed in April, 1857, near Christchurch, in Hampshire (Sclater, *Ibis*, 1862, p. 275). A second example appears to be genuinely British. It was shot by a Mr. Jenkinson on the 15th of January, 1885, at Tresco, in the Scilly Islands, and was identified by Mr. Howard Saunders (*Zoologist*, 1885, p. 113). *Foreign*. Nearctic region, and parts of Neotropical region in winter. Breeds throughout the United States, North to South Canada, and the plains of the Saskatchewan. Resident in the Southern States, and California, but migratory in the north, passing the Bermudas on migration, and wintering in the West Indies, Mexico (where a few remain to breed), Central America, and South America as far south as Colombia and Peru.

**Allied Forms.**—None more nearly allied than *Ægialitis hiaticula*, its races and allies.

**Time during which the Killdeer Plover may be taken.**  
—August 1st to March 1st.

**Habits.**—In many parts of its range the Killdeer Plover is sedentary, but in the colder portions it is more or less migratory, although it often lingers even in them until late in the autumn, and appears again very early in the following spring. It differs very considerably, however, from the Ringed Plover in the choice of a haunt, almost shunning the sea coasts altogether, and, like the Dotterel, living in inland districts, on the banks of lakes, pools, and rivers, and in swamps. It may be sometimes met with near brackish back-waters and lagoons; but the open sandy coasts appear to have no attraction. The flight of this species is

rapid, performed by regular and quick beats of the wings, but sometimes the bird holds its pinions arched and stiff and skims for some distance. It also frequently keeps them elevated for a second or so after it has alighted, and sometimes unfolds them when in the act of running. It is said to frequent fallows and grass lands in search of food, and not unfrequently to wade into the water for a little distance when running quickly round the margin with bobbing head and flicking tail. The food of the Killdeer Plover consists of insects, worms, and crustaceans, and the bird may sometimes be noticed following the plough and searching the newly-turned earth for these creatures. Its note is a loud, clear, whistling *tüt-tüt-tüt*, which probably becomes a trill during the pairing season, and when the bird is alarmed is drawn out into *too-it*, something like that of our Ringed Plover. This latter has been likened to the syllables *kill-dee*, whence the English name of the bird has been derived by American sportsmen, who are apt to dislike the Killdeer because its shrill note often disturbs more important game. It is said to be a very noisy bird, especially if much disturbed or threatened by danger. In autumn the Killdeer Plover becomes more gregarious, migrates in companies, and spends the winter in flocks of varying size, just as our own Ringed Plovers do.

**Nidification.**—The breeding season of the Killdeer Plover varies a good deal according to the latitude of the nesting grounds. In its southern haunts the beginning of April appears to be the time, in the central portion of its distribution not until May, whilst at the northern limits of its summer range breeding does not commence until June. The nest is merely a hollow in the ground, lined with a few bits of dry grass or other herbage, but in many cases even this slight provision is omitted. The eggs are four in number, pale buff in ground colour, blotched and spotted with blackish brown, and underlying markings of brownish gray. They measure on an average 1·6 inch in length by 1·1 inch in breadth. Both parents assist in hatching the eggs, and become very demonstrative when disturbed from the nest, feigning lameness and trying to lure the intruder away by various artifices. Only one brood appears to be reared in the year.

**Diagnostic Characters.**—*Ægialitis*, with the lower back, rump, and upper tail coverts chestnut-buff. Length, 9 to 10 inches.

## Genus **ÆGIALOPHILUS** or **SAND PLOVERS**.

Type **ÆGIALOPHILUS CANTIANUS**.

**Ægialophilus** of Gould (1865).—The birds comprising the present genus are characterised by the absence of a hind toe, by their white axillaries and belly, white bases to the outer web of the innermost primaries, and the absence of a dark (nearly black) subterminal band across the rectrices. The wings are long and pointed, first primary the longest; the tail is somewhat rounded, and consists of twelve feathers. The other characters do not differ from those given for the Ringed Plovers.

This genus is composed of about twenty-one species and subspecies. Almost cosmopolitan, except in Arctic latitudes. Least abundant in the Palæarctic and Oriental regions. Two species are British, one of which breeds locally in, and the other is a rare straggler to, our islands.

The Sand Plovers are dwellers on sandy plains, the banks of rivers, salt lakes, and inland seas, and the coasts of oceans. They are birds of rapid and sustained flight, and run and walk with ease. Their notes are shrill and monotonous. They subsist on insects, crustaceans, sand-worms, etc. Their nests are slight, mere depressions in the ground, and the eggs, pyriform in shape, and three or four in number, are spotted. They are monogamous; and gregarious, especially during the non-breeding season.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALOPHILUS.

## KENTISH SAND PLOVER.

ÆGIALOPHILUS CANTIANUS—(*Latham*).

**Geographical Distribution.**—*British*: One of the most local of British birds, its only known breeding places being on the sandy portions of the coasts of Kent and Sussex. Even here the greed of collectors is rapidly exterminating it as a nesting species. It is a summer visitor to the British Islands, and has only occurred accidentally in all districts except the two above mentioned. It has been observed on the east coast of England as far north as Flamborough, and on the south coast as far west as Cornwall. Unknown in Scotland, and of very rare occurrence in Ireland. Breeds freely on the Channel Islands. *Foreign*: Breeds only on the coasts and salt lakes of the Palæarctic region; Ethiopian and parts of the Oriental regions in winter. Summer visitor to the coasts of Western Europe from the south of Sweden to France, but rare on the Baltic coasts. Resident on the coasts and lagoons of the Spanish peninsula, the Azores, Canaries, Madeira, and both the north and south coasts of the Mediterranean. Eastwards it visits in summer the salt marshes of South Russia, the shores of the Black, Caspian, and Aral Seas, the salt lakes of Turkestan, South Dauria, and Mongolia. The migratory individuals in Europe winter on the coasts of Africa, south to the Cape Colony, whilst the migratory Asiatic individuals winter on the Mekran coast, India, Ceylon, Burma, the Malay peninsula, China, and Japan.

**Allied Forms.**—*Ægialophilus cantianus minutus*, an inhabitant of the southern shores of the Red Sea and Ceylon. Differs from the Kentish Plover in being smaller, and in having paler legs. Length of wing 4·2 to 3·7 inches, instead of 4·5 to 4·1 inches.

*Æ. cantianus dealbatus*, a resident on the coasts of South China, Hainan, and Formosa. Differs from the Kentish Plover in being a little larger, and in having pale instead of black legs. *Æ. cantianus nivosus*, resident on the shores of Great Salt Lake and the adjoining coast of California (from about lat. 40°), southwards along the Pacific coasts to Chili. Differs from the Kentish Plover in having pale legs and white lores. It is also on an average a smaller bird (wing 4·4 to 4·0 inches). All these races more or less intergrade, and can only be regarded as subspecifically distinct from the Kentish Plover.

**Time during which the Kentish Sand Plover may be taken.**—August 1st to March 1st.

**Habits.**—The Kentish Sand Plover is even more attached to the sand than the Ringed Plover, and is rarely, if ever, found far from salt water, either the shores of the sea or estuaries, or the banks of salt lakes at some considerable distance inland. The few birds of this species that breed in our islands, arrive in their accustomed haunts towards the end of April or the beginning of May. Although odd birds have been picked up during winter, the main number begin to retire south again in August, and the migration lasts into the first half of September. Its haunts in our islands are certain favoured sandy beaches, where the fine sand is varied with patches of coarser shingle, and strewn with pebbles. In its habits it does not differ in any remarkable manner from the Ringed Plover, and searches for its food on the margin of the waves, running quickly about the wet sands, and sometimes wading for a little way into the receding waves in chase of a crustacean or sand-hopper. Even during the summer it is by no means unsocial, and gathers into small parties to feed. It is also by no means a shy bird during the breeding season, and permits a close approach, especially when its eggs are laid. Its flight is rapid, and very similar to that of the Ringed Plover, and it also possesses the same habit of gliding along before alighting with wings held arched and rigid, and like that species, frequently elevates its wings as it runs, both before and after flight. Its alarm note is a shrill, harsh *ptirr*, but the usual call-note is a sharp, clear *whit*, which, during the pairing season, is uttered by the male so quickly as to form a trill as the bird soars and flies

round and round above his mate. The food of the Kentish Plover consists of sand-worms, crustaceans, mollusks, and insects. Much of this is sought amongst the drift near high-water mark as well as near the ebbing or flowing tide.

**Nidification.**—Soon after its arrival at its breeding grounds the Kentish Plover begins nesting, and the eggs are laid by the end of May, or, at latest, the beginning of June. This species makes no more nest than merely scraping a little hollow in the sand or shingle, although it is said the eggs are sometimes laid on dry drifted seaweed above the usual high-water mark. Numbers of nests may be found quite close together, especially in places where the bird is common. The eggs are usually three, but frequently four, in number, various shades of buff in ground colour, spotted, scratched, and blotched with blackish brown and slate-grey. The scratchy character of the markings on the eggs of this species is very noteworthy. The eggs measure on an average 1·2 inch in length by '9 inch in breadth. The sitting bird usually receives timely notice of the advance of an enemy, and slips quietly off the nest, leaving the eggs to the protection their colours ensure, for they resemble most closely the ground on which they rest. When the young are hatched the parents become much more demonstrative, and seek by various antics to lure an intruder away. It is said that the eggs are sometimes nearly buried in the sand, but whether for warmth or concealment it is difficult to say. Only one brood is reared in the year, and young and old keep in company until the time of departure south.

**Diagnostic Characters.**—*Ægialophilus*, with the nuchal collar white, a dark patch on the sides of the breast, but not extending round the neck, and with a white patch on the central portion of the shaft of the third primary. Legs black. Length, 6 to 7 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus ÆGIALOPHILUS.

## CASPIAN SAND PLOVER.

ÆGIALOPHILUS ASIATICUS—(*Pallas*).

**Geographical Distribution.**—*British*: At a meeting of the Zoological Society on June 17th, 1890, the Secretary, Mr. P. L. Sclater, exhibited on behalf of Mr. T. Southwell a mounted specimen of the Caspian Sand Plover—the first and only example known to have been killed in the British Islands. The bird, “a handsome full-plumaged male,” had been shot on the evening of the 23rd of May in that year on the North Denes at Yarmouth. Another bird, probably a female, was in its company, but escaped. The example secured is now in the Norwich Museum. (Sclater, *Proc. Zool. Soc.* 1890, p. 461.) *Foreign*: South central Palæarctic region; Ethiopian region in winter. Range remarkably restricted, in the breeding season apparently confined to the basins of the Caspian and Aral Seas. It passes Arabia and the Upper Nile valley on migration, and winters in Africa south of the Equator, certainly from Angola in the west and the Transvaal in the east down to Natal and the Cape Colony.

**Allied Forms.**—None with which it is likely to be confused.

**Time during which the Asiatic Sand Plover may be taken.**—August 1st to March 1st.

**Habits.**—But little is known of the habits of this Plover; and from the few fragments recorded in the *Ibis* and elsewhere, I do not find anything of special interest.

**Nidification.**—An egg of this species taken on the Kirghiz steppes is described by Mr. Dresser (*B. of Europe*) as oval and tapering, warm buff with a faint tinge of green in ground colour, and the spots nearly black. It measures 1·25 inch in length by 1·07 inch in breadth.

**Diagnostic Characters.**—*Ægialophilus*, with no black markings on the head and neck, with the lores white, and the legs and feet pale brown. Length, 7·5 inches.

## Genus CHARADRIUS or TYPICAL PLOVERS and DOTTERELS.

Type CHARADRIUS PLUVIALIS.

**Charadrius** of Linnæus (1766).—It is with some hesitation that I have included the Dotterels in the present genus, but the more or less black underparts appear to show close affinity with *Charadrius* through such species as *pluvialis*, *fulvus*, *helveticus*. The mode of nidification and the colour of the eggs are also strong points in favour of their incorporation. The birds comprising the present genus are characterised by possessing any one or two of the following: coloured axillaries, a hind toe, barred rectrices, or a dark patch on the belly (*Seebohm*). The wings are long and pointed, first primary the longest; the tail is fan-shaped, and consists of twelve feathers. The bill (much as in *Ægialitis*) is shorter than the head, rather slender; nostrils sub-basal and linear. The tarsus is minutely reticulated, the lower portion of the tibia devoid of feathers. Hind toe sometimes present.

This genus is composed of about twelve species and subspecies, most abundant during the breeding season in the Arctic regions; others breed in the Palæarctic, Australian, and Neotropical regions; nearly cosmopolitan in winter. Five species are included as British.

The typical Plovers and Dotterels are dwellers on mountains, tundras, and plains, as well as the sea coast. They are birds of rapid and prolonged flight, and progress on the ground by walking and running. Their notes are loud and not unmusical. They subsist on insects, worms, mollusks, small seeds, mountain fruits, and shoots of herbage. They make slight nests on the ground, and their eggs, pyriform in shape, and generally four in number, are richly spotted. They are monogamous; social in summer, gregarious in winter.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus CHARADRIUS.

## DOTTEREL.

CHARADRIUS MORINELLUS—(*Linnaeus*).

**Geographical Distribution.**—*British*. England chiefly on spring and autumn passage, more frequent in the eastern counties than the western. A few may still possibly breed in the Lake District and on the Cheviot Hills. Formerly bred on many of the chalk ranges in the south, but has long ceased to do so. Wales, of very rare occurrence, but this may probably be owing in a great measure to insufficient observation. Ireland, much rarer than in England, and not known to have nested. Scotland is its headquarters in the British Islands. There it is said to breed on the hills of Dumfriesshire, on the Grampians in North Perthshire, and on the borders of Inverness-shire, and in Ross. It has been found nesting on the Orkneys, but only passes the Shetlands on migration. In the west of Scotland it is rare, and has not hitherto been noticed in any of the Outer Hebrides. *Foreign*: Palæarctic region during breeding season; western Palæarctic region only in winter. Breeds on the tundras above forest growth across Europe and Asia; passes Central Europe (where a few remain on the Alps, in Bohemia, in Transylvania, and further north, on the mountains of Scandinavia, to breed), West Siberia, Turkestan, and Persia on migration, and winters in Palestine, Egypt, and North Africa, although a few remain during that season on the northern shores of the Mediterranean.

**Allied Forms.**—*Charadrius veredus*, a somewhat distantly related species which breeds in Mongolia, and whose winter quarters extend from Java to Australia. Differs from the Dotterel in having a white belly in summer plumage, and in its small foot (middle toe without claw shorter than bill, and less than half the tarsus.—*Seebohm*).

**Time during which the Dotterel may be taken.**—August 1st to March 1st.

**Habits.**—The migrations of the Dotterel are by no means the least interesting portion of the bird's economy. The story of its journeying from North Africa to Arctic Europe in the space of a single night reads more like the wildest of Eastern romance than the faithful record of a little bird's spring passage to its breeding grounds. This extraordinary journey is strongly confirmed by the fact that during spring, of the tens of thousands of Dotterels that leave Africa for the Arctic tundras, scarcely a single bird is ever seen in the intervening country, in Central and Southern Europe. It is a late migrant, not reaching our islands until the end of April or beginning of May, and the Arctic regions a month or more later still. The passage south in autumn is undertaken much more slowly, beginning in September and lasting in the extreme south of Europe through October into November. The Dotterel is in no sense a coast bird, but loves to haunt the upland fallows, and the bare downs and mountains, and rough, barren pastures. In the Arctic regions it frequents the tundra—a district very similar to our own moorlands, treeless, but covered with a great variety of herbs and heaths, shrubs and flowers. All through the summer the Dotterel is more or less gregarious, and in autumn and winter becomes especially so. Upon its arrival it is one of the tamest of birds, and admits of a very close approach, but persecution soon teaches it to become more wary. Its remarkable trustfulness has gained for it the name of "foolish" Dotterel—the latter word in olden times being the equivalent for a "foolish, dull person." The Dotterel spends most of its time on the ground, running hither and thither about the rough, hummocky wastes, or over the newly ploughed fields and bare downs. Its rather short neck and plump body are apt to lend it the appearance of sluggishness, but when flushed it flies rapidly enough, in true Plover style, with quick, regular beats of the long wings. Its call-note is a prolonged and plaintive *düt*, varied sometimes into *drr*, the two occasionally being uttered together as *drr-düt*. This note in the pairing season becomes a trill, but whether uttered by the male or female, or by both, remains to be recorded. The food of the Dotterel consists of insects, worms,

and grubs, and the tender buds and shoots of plants. In Palestine, Canon Tristram observed this species feeding on small white snails of various species. During winter the Dotterel often congregates into enormous flocks, which frequent the various southern steppes and plains, and here they are described as being just as tame as in the breeding places.

**Nidification.**—From the nature of the country it frequents the Dotterel is a rather late breeder, and even in our islands the eggs are seldom laid before the end of May or the first week in June. In higher latitudes they are, of course, later still. There is much of interest attached to the nesting of the Dotterel. In the first place the hen is larger and more handsomely coloured than the cock, and, as is usual in such very exceptional cases, the male bird not only performs the greater part of the duty of incubation, but takes the largest share in the task of bringing up the young! The nest is merely a slight hollow amongst the moss and lichen or grass near the mountain-tops, or on the open tundra. The eggs are invariably three in number, and very handsome objects, varying from yellowish olive to pale buff in ground colour, richly blotched and spotted with dark brown, and much more sparingly with slate-gray. They measure on an average 1·6 inch in length by 1·1 inch in breadth. Incubation lasts from eighteen to twenty-one days. At the nest the old birds are very wary, if somewhat tame, and run about or fly from place to place, tiring all but the most patient watcher, and only returning to the eggs when the intruder is considered by the watchful owners to be at a sufficiently safe distance. When the nest is discovered the parent often feigns lameness, and seeks to lure an intruder away by various cunning artifices. Only one brood is reared in the year. Fresh eggs of this species have been found on the Cumberland hills as late as July, probably the produce of birds that had lost their first clutch, or were accustomed to breed in higher latitudes, but had remained behind in our islands.

**Diagnostic Characters.**—*Charadrius*, with the axillaries gray, and the bill shorter than the middle toe without the claw. In breeding plumage this species is easily recognised by its rich chestnut breast and flanks and black belly. Length, 9 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus CHARADRIUS.

## GOLDEN PLOVER.

CHARADRIUS PLUVIALIS—*Linnaeus*.

**Geographical Distribution.**—*British*: Breeds locally in England south of Derbyshire and in Wales, in fact follows the mountains. A few breed in Devon and Somerset, and on the heights of Breconshire amongst other localities in the Welsh area. From the moors of North Derbyshire and South Yorkshire it becomes more plentiful, and from thence is pretty generally distributed in all suitable localities northwards throughout Scotland, including the Hebrides, the Orkneys, and Shetlands. It occasionally visits St. Kilda. During the winter it is widely dispersed along most of our coast line and in many inland districts. Widely distributed in Ireland, breeding on the moors, and frequenting the coasts in winter. *Foreign*: Breeds on the Faroes and Iceland, and has occurred on Jan Mayen and Nova Zembla, but is erroneously recorded from Greenland. Its principal breeding grounds are the Norwegian Fells, and the tundras of Northern Russia and Siberia, as far east as the valley of the Lena. It breeds in smaller numbers on the moors of Holland, Belgium, and Germany, but to the rest of Central and Southern Europe it is only known on passage, a few remaining in these districts to winter. The birds that breed on the Siberian tundras pass through Turkestan and Beloochistan on migration, a few remaining to winter in the latter country, but the majority passing on to spend that season in Africa in the basin of the Mediterranean, the grand winter home of this species. It occasionally wanders in Africa as far south as Cape Colony and Natal, and westward to Madeira.





1. GOLDEN PLOVER.  
2. GRAY PLOVER.

3. CASPIAN SAND PLOVER.  
4. RINGED PLOVER.

**Allied Forms.**—None more closely allied than *Charadrius fulvus*, and its American representative, *C. fulvus americanus*, treated fully in the two following chapters.

**Time during which the Golden Plover may be taken.**

—August 1st to March 1st.

**Habits.**—The Golden Plover, like many other birds, is a species that changes its haunts according to season. In summer it is an inhabitant of the moors and mountain heaths, the rough upland pastures and the tundras; in winter it quits these places and takes up its residence on the lowland marshes, the pastures, and rough saltings near the sea, and the low flat coasts and mud-flats. For the greater part of the year it is a social bird, even in the breeding season I have seen parties of half-a-dozen or so, but towards autumn it becomes much more gregarious, and lives in flocks of varying size throughout the winter. The flight of this species is rapid and steady, especially during migration, or when the bird is passing from place to place, performed by regular and quick beats of the wings. This Plover also often indulges in various aerial evolutions, and flocks often assume the shape of a V or W during flight. Most of its food is obtained during winter on the mud-flats and saltings, and it very often retires to some inland spot between the tides to sleep, or to rest and wait until the muds are exposed again. Vast flights of Golden Plover—the Plover of the coast—make their appearance on our low-lying coasts in autumn, many of which continue along our shores and cross the sea again to winter further south, but many others remain with us for that season. In no part of the British Islands can the migration of this species be better remarked than in the neighbourhood of the Wash. For days and nights, about the end of October and early in November, I have known this Plover fly over from Continental Europe in almost one incessant stream, the flocks succeeding each other so quickly as to form a nearly unbroken throng. This Plover may frequently be noticed in company with Dunlins, Lapwings, and Curlews, and occasionally a few Gray Plovers mix with them. As its flesh is very palatable, great numbers are shot in the autumn and winter. I have repeatedly noticed that just before stormy weather the Golden Plover becomes restless and unsettled, and often leaves a district entirely before the

change arrives. Much of its food is obtained during the night, especially if there be a moon, but I do not think it moves much on very dark nights. The food of the Golden Plover varies a good deal according to season. In winter it consists of beetles, small mollusks, sand-worms, hoppers, and occasionally small seeds, but in summer insects and grubs are principally eaten, as well as earth-worms, and towards autumn various kinds of ground fruits. I have known this species in summer feed upon the maggots (presumably the larvæ of the common blue-bottle) infesting a dead sheep. Various vegetable fragments and gravel are also found in its stomach. The alarm note of the Golden Plover is a plaintive *kü*, but the call-note is double, and sounds something like *klee-wee*, sometimes prolonged into three syllables, *klee-ee-wee*. These notes are uttered both on the ground and whilst the bird is in the air. During the pairing season the male utters a rather musical trill, a variation of the double or treble call-note. The whistle of this Plover is one of the most characteristic sounds of the mud-flats or the moors, and on a calm, still day may be heard for a very long distance.

**Nidification.**—The Golden Plovers begin to retire to their inland breeding grounds early in April, and by the end of that month or early in May the eggs are deposited. Although the vast flocks soon break up, either before the moors are reached or shortly after arrival, the bird continues more or less social, and many nests may be found within a comparatively small area on suitable ground. This species is very conspicuous on the bare moors, and is remarkably fond of proclaiming its presence either by standing perched on the top of a little hillock, or rising into the air uttering its piping note the moment its solitudes are invaded by man. It is now much more tame than in winter, and often flies up to the observer and wheels above his head, or stands quietly watching his approach. Before the flocks finally disperse, however, this bird is almost as wary as when on the coast. The well-known note sounds near and far, as it is uttered by answering birds from all parts of the wilderness, and here, there, and everywhere the showy Plovers in their brazen spotted upper plumage and black underparts rise and fall in airy grace. The Golden Plover appears to pair annually, and the

nest is very slight, a mere hollow, scantily lined with a few bits of withered herbage peculiar to the moor. It is generally made on a tuft of herbage, or beneath the shelter of a clump of cotton-grass, more rarely in barer situations, amongst short, wiry grass and heath. The eggs are four in number, pyriform, buff of various shades in ground colour, boldly and richly spotted and blotched with purplish brown and brownish black, and more sparingly with gray. Most of the colouring is generally distributed on the larger end of the egg. They measure on an average 2·0 inches in length by 1·4 inch in breadth. Both parents assist in the duty of incubation, which lasts sixteen to twenty days. The birds are remarkably watchful at the breeding grounds, and the sentinel bird quickly conveys the signal of alarm to its mate, who slips quietly off the eggs, and often both rise into the air and wheel round and round above them. Sometimes they run anxiously to and fro about the moor, occasionally uttering a mournful note ; and as soon as the nest is discovered they commence a series of antics to draw all attention upon themselves. When the young are hatched these actions are even more demonstrative. The young chicks, clothed in yellow down, spotted and blotched with black, are quick enough to conceal themselves at the approach of danger, and remain crouching to the ground which so closely resembles their own protective dress until all is still and safe again. Only one brood is reared in the year.

**Diagnostic Characters.**—*Charadrius*, with all the rectrices barred and the axillaries white. Length, 10 to 11 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus CHARADRIUS.

### ASIATIC GOLDEN PLOVER.

CHARADRIUS FULVUS—*Gmelin.*

**Geographical Distribution.**—*British:* At least two examples of the typical Asiatic Golden Plover have been known to occur in the British Islands, but one of these is tainted with the fact of having been obtained in Leadenhall Market—a centre to which many Continental examples of Waders find their way during the season. This—the first reputed British example—was said to have been sent with a number of Golden Plovers from Norfolk in December, 1874 (*Dresser, Ibis, 1875, p. 513*). However probable this may be, it was always open to the doubt of having been sent from the Continent, and accidentally mixed with the Norfolk batch of Plovers. It sufficed, however, to put British naturalists on the lookout, and thirteen years later (November 26th, 1887) an example was obtained at Stennis, in Orkney, round which no doubt of any kind appears to dwell (*J. G. Millais, Field, 1887*). *Foreign:* Eastern Palæarctic region in summer; Oriental and Australian regions in winter. Of only accidental occurrence in Europe and South-west Asia: Heligoland, Malta, Malaga, Poland, Mekran coast. Breeds on the tundras of East Siberia from the valley of the Yenesei to the Pacific coast; passes through South Siberia, Mongolia, and Japan on migration, to winter in India, the Burma peninsula, China, the Malay Archipelago, Australia, New Zealand, and Polynesia.

**Allied Forms.**—*Charadrius pluvialis* and *C. fulvus americanus*, treated in the preceding and following chapters.

**Time during which the Asiatic Golden Plover may be taken.**—August 1st to March 1st.

**Habits.**—The habits of the Asiatic Golden Plover are not known to differ much from those of its European ally. During summer it is a bird of the tundras—the vast expanses of Arctic moors above the limits of forest growth; but in winter it migrates for thousands of miles to the south, and spends that season principally on the flat, mud-bound coasts and rough lands near the sea. In China, however, Swinhoe observed it frequenting the dry rice-fields and sweet potato gardens as well as the sea shore; whilst at its winter quarters in Borneo it is said to haunt the places where buffaloes wallow, probably for the purpose of catching insects and worms. It is equally gregarious and sociable, especially during winter, and then consorts with other wading birds; and in Ceylon is said to be generally in the company of the Mongolian Sand Plover. Many of its gatherings during winter are of enormous dimensions, which frequent the muds, whilst smaller parties are said to haunt the bare fields. Captain Legge states that in Ceylon, where it is very common during winter, it has a habit of running a little distance when approached, then pausing for a moment with its body turned away from the observer, and its head twisted on one side. If it be still pursued, it spreads its wings and runs for a little way, then takes flight. A flock when disturbed will frequently fly swiftly towards the ground, then rise again. It walks and runs about the ground, and flies in a very similar manner to the Golden Plover. The note of the Asiatic Golden Plover is described by Mr. Seebohm as a plaintive *kö*; the double note is a whistling *kl-ēē*, which is sometimes prolonged into three syllables, *kl-ēē-kö*. The food of this species consists of various small marine animals, such as mollusks, crustaceans, and the like, worms, snails, and insects, and probably various ground fruits of the tundra.

**Nidification.**—By far the best account of the breeding habits of the Asiatic Golden Plover is that given by Mr. Seebohm, who met with this species, and obtained its eggs and downy young on the Siberian tundras in the valley of the Yenesay. So far as I am aware, these eggs and nestlings are the only authentic ones known to science. The earliest examples of this species arrived in the Arctic regions during the first week in June, in lat.  $66\frac{1}{2}^{\circ}$ , and it was observed on the Koorayika during its passage north to the tundras. It was

not further observed until the open tundra was reached in lat.  $69\frac{1}{2}^{\circ}$ , just beyond the limits of the growth of trees. Here the pine-trees had disappeared, and the birch-trees had become nothing more than stunted bushes about a foot high; but the alders and the willows still grew luxuriantly on the banks of the great river. The tundra here was hilly, full of lakes and swamps, covered with mosses and lichens, here and there varied with bare patches of pebble-strewn ground, and little plains where gay flowers and the various fruits of the tundra flourished. A pair of Plovers soon made their appearance, during an excursion on the 14th of July, and after much fruitless watching one of them, the male, was shot. The nest was found shortly afterwards amongst the moss and lichen, containing the full complement of eggs. At Golcheeka this Plover is very common, but unfortunately Mr. Seebohm was too late for eggs (20th of July), and here only obtained a nestling. The nest was merely a slight depression lined with broken stalks of reindeer moss. The eggs are precisely similar to those of the European Golden Plover, but are slightly smaller. Those obtained varied from 1.92 to 1.85 inch in length by 1.32 to 1.27 inch in breadth. Only one brood is reared in the year, and both parents appear to assist in domestic duties.

**Diagnostic Characters.**—*Charadrius*, with the rectrices barred, and the axillaries smoke-gray. Length of wing, 6.0 to 6.7 inches. Total length, 9 inches.

### AMERICAN GOLDEN PLOVER.

CHARADRIUS FULVUS AMERICANUS—(*Schlegel*).

**Geographical Distribution.**—*British*: Two examples of this race of the Asiatic Golden Plover have been obtained in the British Islands, although, unfortunately, the same remarks apply to one of them as to one of the examples of the Asiatic form—viz., that it was obtained in Leadenhall Market (10th of November, 1882); whence actually obtained a mystery (Gurney, *Ibis*, 1883, p. 198). Fortunately a second example is much more satisfactory, Mr. J. G. Millais recording (*Zoologist*, 1886, p. 26) a specimen obtained in Perthshire on the 3rd of August, 1883. There can be little doubt that others will eventually be obtained, now that the attention of naturalists and sportsmen is specially drawn to the subject. *Foreign*: Northern Nearctic region in summer; Neotropical region in winter. Of only accidental occurrence in Europe; Heligoland (Seebohm, *Ibis*, 1877, p. 165). Breeds in the Arctic regions of North America, above the limits of forest growth on the tundras from Alaska to Greenland; passes Canada, the States, Bermudas, West Indies, and, in smaller numbers, California, on migration; and winters in South America, south of the tropics, as far as Chili on the west and Buenos Ayres on the east.

**Allied Forms.**—*Charadrius plumbeus*, and *C. fulvus*, already treated of in the two preceding chapters.

**Time during which the American Golden Plover may be taken.**—August 1st to March 1st.

**Habits.**—The habits, food, flight, notes, nest, and eggs of the American Golden Plover so closely resemble those of its Old

World allies that it is simply unnecessary to restate or describe them.

**Diagnostic Characters.**—*Charadrius*, with the rectrices barred and the axillaries smoke-gray. Length of wing, 6·8 to 7·5 inches. Total length, 9 to 10 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus CHARADRIUS.

## GRAY PLOVER.

CHARADRIUS HELVETICUS—(*Brisson*).

**Geographical Distribution.**—*British*: Most abundant on autumn passage on the coasts of the British Islands, but numbers remain to winter, and in spring a considerable stream of migrants, returning north to breed, pass along our shores. Most abundant on our eastern coasts, but small numbers regularly visit the west of Scotland. Less numerous in Ireland than in England, and becomes rare on the Outer Hebrides. *Foreign*: Circumpolar region in summer; Palæarctic, Nearctic (?), Neotropical, Oriental, and Australian regions in winter. The only known breeding grounds of the Gray Plover are situated in the lower valley of the Petchora, on the Taimyr peninsula, and the delta of the Lena, in Alaska, on the banks of the Anderson River, and on Melville peninsula, all districts of the tundra above the limits of forest growth. Passes Central and Southern Europe, the Canaries, South Siberia, Turkestan, Mongolia, and Japan on migration, and winters in the basin of the Mediterranean, in South Africa, India, South China, the Malay Archipelago, Australia, New Guinea, and the Solomon group and adjacent isles. In the New World it passes the Bermudas on abnormal migration, and winters in the West Indies and in South America as far south as Peru and Brazil.

**Allied Forms.**—None more nearly related than *Charadrius pluvialis*, and *C. fulvus*, with allied races, all of which have been treated with in the preceding chapters.

**Time during which the Gray Plover may be taken.**—August 1st to March 1st.

**Habits.**—The Gray Plover is a well-known bird on the British coasts between the months of October and May, and although many of the individuals that arrive in autumn pass on to more

southern lands, a great number remain with us for the winter. The young birds are the first to make their appearance, sometimes arriving on our coasts with bits of down still adhering to their plumage. They begin to arrive in August, and continue to do so into September, only a few old birds in their company. During October and November the great bulk of the old birds arrives. The return migration begins in May, and by the end of that month the majority have passed north, although a few linger into June, and odd immature non-breeding birds are sometimes met with in July. During its sojourn in our islands the Gray Plover is almost exclusively confined to the low-lying coasts and salt marshes. It is especially fond of the wide expanses of mud at the mouths of rivers. During winter it does not appear to gather into such large flocks as the Golden Plover, and may often be met with in odd pairs, or in small parties, whilst now and then stray individuals attach themselves to flocks of Dunlins, Knots, or other Waders. In its actions and flight it very closely resembles its congeners. It feeds much at night, especially during moonlight. This food varies according to season, and consists of various marine animals on the shore, and worms, insects, and grubs, and probably ground fruits during summer on the tundras. Mr. Seebohm describes the usual alarm note of the Gray Plover as a long-drawn, plaintive, whistling *köp*; the call-note, common to both sexes, is a *kl-ee* or *kleep*. It has also a treble note which appears to be a combination of the call and alarm note, sounding like *kl-ee-köp*.

**Nidification.**—Previous to 1875 the breeding habits of the Gray Plover were but little known, and its eggs were very rare in collections. The first authentic eggs of this species were obtained by the Russian naturalist and traveller, Von Middendorff, in 1843, on the Taimyr peninsula. In 1864 MacFarlane obtained eggs on the tundras near the Arctic Ocean in North America; whilst in 1875 Messrs. Seebohm and Harvie-Brown discovered the breeding grounds of this bird in Europe on the tundras above the limit of forest growth, in the valley of the Petchora in North-east Russia. So far as I can learn no eggs have been taken in Europe since that date. Between June the 22nd and July the 12th these two naturalists took no less than ten nests of the

Gray Plover, and carefully identified the parents of each. The nest of the Gray Plover is merely a slight hollow in the moss or lichen-covered ground, into which is placed by way of lining a few twigs, scraps of reindeer moss, and other vegetable refuse. The hollow of the nest is described as perfectly round and rather deep. The eggs are four in number, and intermediate in colour between those of the Golden Plover and the Lapwing, being neither quite so olive as the latter, nor so buff as the former, in ground colour, but the markings are similar in every respect. They measure on an average 2·0 inches in length by 1·4 inch in breadth. The part of the tundra most favoured by the Gray Plover for nesting duties is the flat bog, intersected with tussocky ridges. The birds were observed to indulge in rather curious flights as they rose from their nests, tossing their wings in the air something like a Tumbler Pigeon. After being driven from their home the female was generally the first to return, but she invariably came less conspicuously than the male. She generally made her appearance on a distant ridge of the tundra, then, after looking round her for a short time, she would run quickly to the next ridge, and again look round, calling at intervals to her mate with a single note. To this, however, the male was observed seldom to reply, but when he did so it was with a double note. After the female had run about thus for some time, the male began to move, but he generally joined his mate by boldly flying up to her. On the other hand the female rarely took to her wings. She was very cautious, and passed and repassed her nest several times, until she finally settled upon it. All the time that the nest was being watched the female was very restless, and ran about a good deal, but the male generally remained stationary on a hillock or a ridge, apparently watching the movements of his mate. When the young are hatched the old birds perform various alluring antics to try and draw an intruder away; and Mr. Seeborn gives a very remarkable instance of a female Gray Plover dropping as if dead after being fired at, but when he was about to pick her up she flew away, apparently uninjured! Only one brood is reared in the season.

**Diagnostic Characters.** — *Charadrius*, with the axillaries black, and a small hind toe. Length, 11 to 12 inches.

## Genus **VANELLUS** or **LAPWINGS**.

Type **VANELLUS CRISTATUS**.

**Vanellus** of Brisson (1760).—The birds comprising the present genus are characterised by having at least (in most cases half) the basal third of the central rectrices white, and in having no lobes on the side of the head. The wings are usually broad and blunt, sometimes armed with a spur; the tail is moderately long and nearly square. The bill is typical in shape; nostrils placed in a deep groove. Three toes in front, eight of the species with no hind toe, six with a small hind toe.

This genus is composed of fourteen species and subspecies confined to the temperate and tropical portions of the Palæarctic, Oriental, Ethiopian, and Neotropical regions. Two species are British, one a common resident in, and the other a very rare straggler to, our islands.

The Lapwings are dwellers on the open plains, birds of the moors and commons, fields and downs; some species are more maritime during winter. They are birds of somewhat slow and irregular flight, and progress on the ground by running or walking. They are somewhat nocturnal in their habits. Their notes are shrill and plaintive. They subsist on worms, mollusks, insects, larvæ, etc. They make scanty nests on the ground, and their eggs, pyriform in shape and four in number, are richly spotted. They are monogamous; and more or less gregarious, and social always.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus VANELLUS.

## LAPWING.

VANELLUS CRISTATUS—*Wolf and Meyer.*

**Geographical Distribution.**—*British:* Widely and generally distributed throughout the British Islands, in all suitable districts, including the Hebrides, the Orkneys, and the Shetlands. Commonest in Scotland and Ireland, and more widely spread in winter than in summer, during the former season visiting the Channel Islands. *Foreign:* Palæarctic region, encroaching on the Nearctic region in the extreme west and east; parts of the Oriental region in winter. Accidental in Greenland and Jan Mayen; summer visitor to Iceland and the Faroes. Breeds in localities suited to its requirements throughout Europe, south of the Arctic Circle, and in small numbers in North Africa as far south as Egypt. Resident in Europe south of the Baltic, but the birds that breed further north are migratory and winter in Asia Minor, the basin of the Mediterranean (including Africa north of the Great Desert), the Canaries, Madeira, and the Azores, and has been known to stray as far as Barbadoes (*vide* Col. Feilden). In Asia it does not appear to range further north than lat.  $55^{\circ}$  (although, according to Bogdanow, it reaches ten degrees further north, a circumstance which seems probable, as it is an occasional wanderer to Alaska), but is a common summer migrant to South Siberia, Turkestan, Mongolia (including the Thian-Shan range up to 11,000 feet), and the north island of Japan. The Asiatic birds winter in Persia, North India (south to  $25^{\circ}$  N. lat.), China, and the south island of Japan.

**Allied Forms.**—None of sufficient propinquity to require notice.

**Time during which the Lapwing may be taken.—**

August 1st to March 1st.

**Habits.**—The Lapwing is by far the best known and most widely distributed of the Plovers frequenting the British Islands. It is a resident, but changes its ground a good deal with the season, and in autumn its numbers are largely increased by the arrival of migrants from continental Europe. The haunts of the Lapwing are rough, unenclosed lands, moors, pastures and fallows, commons and heaths, marshes, broads, and saltings. At all seasons it is a shy, wary species, but becomes much tamer than usual during the nesting season, when its great solicitude for its eggs and young causes it to suspend its habitual caution. The most characteristic feature of the Lapwing is its singularly erratic and prolonged flight. The wings are broad and rounded, and moved in a slow, deliberate, and regular manner. I cannot express this bird's movements more aptly now than I did a dozen years ago in my *Rural Bird Life*. The moment an intruder appears in their haunts, the watchful Lapwings rise one by one, and with ever-flapping pinions commence to sail about high overhead. Now the birds soar seemingly without effort, then on flapping wings they wheel round and round. Anon they dart rapidly down, as if hurling themselves to the ground, and then, mounting the air again with easy grace, they fly in ever-changing course, darting, wheeling, tumbling, and reeling, as though beating time with their pinions to their wailing and expressive cries. As the cause of their alarm retreats, the birds soon settle again, each bird generally keeping its long wings expanded and elevated for a moment before gracefully folding them. The Lapwing both runs and walks well, but it rarely wades. All through the year the Lapwing is to a certain extent gregarious, and usually breeds in more or less scattered colonies. In winter, however, its gatherings are the largest, and during this season immense flocks may often be seen retreating before a coming storm, or shifting their ground from one district to another for a variety of causes. This bird is also very nocturnal, even in summer, and all night long its very peculiar notes may be heard in its haunts. It often becomes particularly noisy and active just after dusk. Flocks of flying Lapwings usually pass through the air in a scattered throng, but

as a rule the advance guard present a very even line. The note of this Plover is a peculiar mewling or nasal *pee-weet*, variously modulated into *weet-a-weet pee-weet-weet*; whilst during the pairing season the male still further modulates this note into several distinct cries. In autumn the Lapwing becomes more gregarious, and most of the summer stations on high exposed ground are deserted for the winter. The bird then often becomes remarkably numerous in littoral districts, in the wild saltings and rough marshes where an abundant supply of food can be obtained in almost all weathers. Great numbers of these Plovers are killed at this season for the table, but they do not command either the high price or the ready sale of the Golden Plover, and their flesh is not only dark but often accompanied by an unpleasant taste. Shot during early autumn, however, they are often by no means unpalatable. The food of the Lapwing consists of worms, snails, grubs, insects, seeds, and tender shoots and various ground fruits growing in the bird's more upland haunts.

**Nidification.**—The Lapwing is an early breeder. As a rule, if the season be fairly forward the first eggs are laid at the end of March, but fresh eggs may be found in greatest abundance throughout April, less frequently in May, and occasionally even in the beginning of June. Birds breeding in warm, sheltered southern localities are of course much earlier than those living in more exposed and northern districts. The nest is either made on the moors, near the shelter or even in the centre of a tuft of rushes, on the top of a mole-hill, or on the bare ploughed land, or on the grass. It is merely a hollow, into which a few scraps of dry herbage are collected, and in many cases no provision whatever is made. The eggs are normally four in number, but I have been informed of a reliable clutch of five. They vary from buff to olive in ground colour (in rare instances very pale greenish blue), blotched and spotted with blackish brown and gray. They measure on an average 1·9 inch in length by 1·3 inch in breadth. Both parents assist in the task of incubation, which lasts from twenty-five to twenty-six days. The hens will continue laying from time to time after their eggs are taken, but only one brood is reared in the year. The eggs of this Plover are a highly-prized table delicacy, and are much sought after for the markets, the

earliest of the season often commanding as much as twelve shillings a dozen retail. Numbers are sent to this country from the Continent, and the eggs of other species are not unfrequently passed off for them by unscrupulous dealers. The Lapwing as a rule does not manifest much concern for the safety of its eggs, apparently well aware that their protective colour will shield them from discovery ; but when the young are hatched the old birds often become very demonstrative, and will reel and tumble along the ground, or sweep round an intruder's head, all the time uttering wailing notes of alarm.

**Diagnostic Characters.**—*Vanellus*, with the upper plumage loricated with metallic tints, with no white on the wing coverts, and with the upper and under tail coverts chestnut. Length, 13 inches.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus VANELLUS.

### SOCIABLE LAPWING.

VANELLUS GREGARIUS—(*Pallas*).

**Geographical Distribution.**—*British*: Only one example hitherto recorded as British, which, through an error of identification, has been overlooked for nearly thirty years. It appears to have been shot from a flock of Lapwings near St. Michael's-on-Wyre in Lancashire in the autumn of 1860, where it remained in a case with other birds as a Cream-coloured Courser, even being recorded as such (*Yarr. Brit. B.*, ed. 4, iii. p. 241). It subsequently changed owners, and was eventually correctly identified, and exhibited at a meeting of the Zoological Society by Mr. Seebohm on November 20th, 1888. *Foreign*: South-central Palæarctic region. Only of accidental occurrence in Western Europe; Italy (4 examples), Spain (1, probably), Poland (2, seen and identified by Professor Taczanowski). Breeds on the steppes of South-eastern Russia, from the Crimea, north to Sarepta (Seebohm), and to lat. 53° (Bogdanow), and south to Astrakhan and the Caucasus; on the plains of South-west Siberia, and Turkestan, as far east as the Lake Saisan basin in the province of Semipolatinsk, and Western Mongolia. Winters in Arabia, Egypt, Nubia, and Abyssinia, and on the plains of India, accidentally wandering south to Ceylon.

**Allied Forms.**—*Vanellus leucurus*, an inhabitant in summer of the steppes of Western Turkestan, and in winter of North-east Africa and North India. Accidental in Europe: South-east Russia, Malta, south of France. Differs from the Sociable Lapwing, amongst other important characters, in having a white tail.

**Time during which the Sociable Lapwing may be taken.**—August 1st to March 1st.

**Habits.**—The habits of the Sociable Lapwing during its summer sojourn on the steppes of Central Asia are most imperfectly known; but of its life history during its winter residence in India we are fortunately much better acquainted, thanks to the observations of Hume, Irby, and others. It is said to be a dweller on the sand plains, especially common in Oudh and Kumaon, and is always observed either in parties or large flocks. Hume states that in Scinde its favourite haunts are waste uplands near to cultivation. It is by no means a shy bird, being very fearless until repeatedly fired at. On the ground, Irby remarks that it looks very similar to a Golden Plover, but on the wing it resembles more closely allied birds, and flies close to the ground unlike the typical species of *Charadrius*. Its food is said to be of an insectivorous nature—grasshoppers, locusts, spiders, beetles, and larvæ. Its note is described as a peculiar cry which is not uttered very frequently.

**Nidification.**—Nothing apparently is known of the habits of the Sociable Lapwing during the breeding season. Mr. Dresser writes (*B. of Europe*, vii. p. 527): “A single egg sent to me by Mr. Möscher, who informs me that it was obtained by his Sarepta collector, with the birds, closely resembles eggs of the Common Lapwing (*Vanellus cristatus*), but is, if anything, rather paler in ground colour, and a trifle more sparingly marked with spots and blotches.”

**Diagnostic Characters.**—*Vanellus*, with the shortest primaries black, except the inner web, which is white or margined with white. Length, 13 to 14 inches.

## Genus **CURSORIUS** or **COURSERS**.

Type **CURSORIUS GALLICUS**.

**Cursorius** of Latham (1790).—The birds comprising the present genus are characterised by having no nasal groove, the nostrils being situated in a depression no more elongated than the opening. They are further characterised by having the tail unforked, the tarsus scutellated, and no hind toe. The wings are rather long and pointed; the tail is rounded. The tarsus is long, the lower portion of the tibia devoid of feathers; the claw on the middle toe of many species pectinated. The bill is a little shorter than the head, nearly straight to the nasal orifice, then arched to the tip.

This genus is composed of twelve species and subspecies, confined to the Eastern Hemisphere, being inhabitants of the Ethiopian, southern Palæarctic, and Oriental regions. One species is a rare straggler to the British Islands.

The Coursers are dwellers on sandy plains and deserts. Their flight is rapid and well-sustained, but they are birds of skulking habit, and live principally on the ground, where they walk and run with ease. Their notes are harsh. They subsist principally on insects and their larvæ. They make no nest, but deposit their two or three rotund eggs in a depression in the ground; these are spotted. They are monogamous, and more or less social all through the year.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus CURSORIUS.

## CREAM-COLOURED COURSER.

CURSORIUS GALLICUS—(*Gmelin*).

**Geographical Distribution.**—*British*: Rare straggler on autumn migration to England and Wales; only one instance of its occurrence in Scotland (in Lanarkshire); none in Ireland. Has been met with up to the present time in the following counties: Northumberland, Cumberland, Yorkshire, Lincolnshire, Leicestershire, Norfolk, Suffolk, Middlesex, Kent, Hants, Wilts, Dorset, Somerset, Devon, Cornwall, Cardigan, and "North Wales." *Foreign*: Southern and western Palæarctic, and the extreme north-eastern portion of the Ethiopian regions. Only of accidental occurrence in Europe: Holland, Germany, France, Spain, Italy, and South-east Russia. Breeds from the Canary Islands in the west, right across the sand plains and plateaux of Northern Africa, southwards on to the Sahara, and in Kordofan, and possibly Abyssinia, in the east. Thence northwards it probably breeds throughout Arabia, the Trans-Caucasian steppes, Persia, Afghanistan, Beloochistan, the Punjab, Scinde, and Rajputana.

**Allied Forms.**—*Cursorius gallicus*, var. *bogolubovi*, an inhabitant of the Murgab district on the Persian frontiers of Russian Turkestan. Of doubtful distinctness, but said to be larger than the ordinary form, and to have the under wing coverts of a different colour. *C. somalensis*, only known from a single specimen obtained in Somali Land, the eastern horn of Africa. Differs from the Cream-coloured Courser in being much smaller (length of wing 5·3 inches instead of 6·0 to 6·3 inches). Other important characters are the axillaries and innermost under wing

coverts, which are grayish buff instead of nearly black, and the subterminal black bands on the tail are nearly twice as broad. *C. rufus*, an inhabitant of South Africa, below the tropic of Capricorn. May be readily distinguished from the Cream-coloured Courser when adult by the black on the belly, and at all ages by the colour of the middle secondary, which is white, except the basal two-thirds of the outer, and the basal third of the inner webs, which are brown.

**Time during which the Cream-coloured Courser may be taken.**—August 1st to March 1st.

**Habits.**—Although I have spent some time amongst country where Canon Tristram informed me he had met with this species, I never had the good fortune to catch even a glimpse of the Cream-coloured Courser. It is one of the thoroughly characteristic birds of the desert, frequenting the sand-hills and ridges where scarcely a blade of vegetation struggles for life in the bitter, ungenerous soil. I was informed that its favourite haunts were amongst the sand-dunes, and on the wide, sun-scorched, arid plains, and that it rarely or never frequented scrub, but dwelt in the open. It is said to be usually met with in pairs; but after the breeding season is over, broods and their parents keep company, and in winter they become more gregarious, roaming about the desert in flocks of varying size. It is a thorough ground bird, apparently with a great disinclination to take wing, always seeking to evade pursuit by running with great speed, and squatting close to the ground, or concealing itself by seeking the shelter of a bush or a stone. Here its buff-coloured plumage harmonises so closely with the colour of the ground, and it remains so still, that discovery is almost impossible. No one who has not witnessed the truly marvellous way in which desert birds can conceal themselves on sand almost as level as a billiard-table, can have an idea how closely these creatures assimilate with surrounding objects. The Cream-coloured Courser is said usually to run for a little way before taking wing, and seldom to fly very high above the ground. When in flocks the birds cover a wide area of ground, scattering themselves over the desert in their quest for food. The note of this bird, at least when in confinement, is said by Favier to resemble the syllables

*rererer*; and the same authority states that its alarm note is similar to that of a Plover, which, all things considered, is a very safe if a very unsatisfactory remark. The food of this species, so far as is known, consists of insects and snails; in confinement birds have been fed, and apparently thrive, on grasshoppers and the larvæ of beetles.

**Nidification.**—Very little reliable information is as yet forthcoming concerning the breeding habits of the Cream-coloured Courser. The date of laying varies considerably. In the Canary Islands young birds are said to have been obtained towards the end of March; in Algeria the breeding season is given by authorities as May and June; in Egypt Von Heuglin says that it is in March and April; and Hume informs us that in the Punjaub district the bird lays principally in July, but according to the state of the rains eggs may be obtained from March to August. The first authentic eggs of this bird were obtained by Canon Tristram on the Sahara. In Africa the nest is said to be merely a hollow in the sand, which is either selected ready made or scratched out by the parent bird; but in India it is sometimes made amongst stubble, under a bush, or amongst jungle, and is a small hollow, about five inches across and two inches deep, sometimes lined with a little dry grass. The eggs are two or three in number, according to Hume the former number being the regular clutch. They are pale buff in ground colour, spotted, blotched, and freckled with buffish brown, and marbled with underlying markings of gray. Those from the Punjaub are decidedly smaller and darker than those from the deserts of North Africa. They measure on an average 1·2 inch in length by 1·0 inch in breadth. The period of incubation and the number of broods are unknown. At the nest this bird is said to be very tame.

**Diagnostic Characters.**—*Cursorius*, with the axillaries and under wing coverts nearly black, and the outer web of the secondaries buff. Length, 9 to 10 inches.

## Genus **GLAREOLA** or **PRATINCOLES**.

Type **GLAREOLA PRATINCOLA**.

**Glareola** of Brisson (1760).—The birds comprising the present genus are characterised by having no nasal groove, the nostril being situated in a depression no more elongated than the opening. They are further characterised by having a more or less forked tail, and a hind toe. The wings are long and pointed. The tail in some cases is deeply forked, but in others nearly even, and is composed of twelve feathers. The legs are rather long and slender, the lower part of the tibia devoid of feathers; the claw on the middle toe of many species is pectinated. The bill is short and curved, compressed towards the point.

This genus is composed of ten species confined to the Eastern Hemisphere, being inhabitants of the Ethiopian, southern Palæ-arctic, Oriental, and eastern Australian regions. One species is an accidental visitor to the British Islands.

The Pratincoles are dwellers on sandy plains, marshes, the banks of rivers, and the shores of lakes and lagoons. They are birds of remarkable flight, powerful and long-sustained, and on the ground they progress by running and walking. Their notes are shrill and unmusical. They subsist chiefly on insects, which they capture whilst flying up and down in a Swallow-like manner. They make no nest, and lay their two or three rotund eggs in a slight depression; these are richly spotted. They are monogamous; and gregarious throughout the year.

Family CHARADRIIDÆ.  
Subfamily CHARADRIINÆ.

Genus GLAREOLA.

### COMMON PRATINCOLE.

GLAREOLA PRATINCOLA—(*Linnaeus*).

**Geographical Distribution.** — *British*: Rare visitor in spring and autumn; individuals, doubtless, that have overshot the mark in spring whilst on their way to their breeding grounds in Spain or the Balearic Islands, or in autumn have wandered westwards with the tide of migrants from the east. First noticed by ornithologists in 1807, when examples were obtained almost simultaneously in Lancashire and Cumberland. Since this date it has been captured in the following counties: Yorkshire (3 examples), Lincolnshire, Cambridgeshire, Norfolk (4 examples), Wilts, Hants, Surrey, Dorset, Somerset, Devon, and Cornwall. A Pratincole was observed, but not obtained, in Breconshire; another was shot, but not preserved, half a century ago, in Co. Cork, so that it is impossible to say whether the bird was rightly identified. A solitary example hails from Scotland, killed on Unst, one of the Shetland group. *Foreign*: Southern and western Palæarctic region in summer; Ethiopian region, and accidentally in parts of Oriental region, in winter. Breeds in the basin of the Mediterranean, and in Spain and France, as also in the lower valley of the Danube. North of these limits, in the extreme north of France, Belgium, Holland, Denmark, and Germany, it is as accidental as in the British Islands. Eastwards it is a summer visitor to the basins of the Black, Caspian, and Aral Seas, the salt lakes of Russian Turkestan as far as Ala-Kul, on the frontiers of Mongolia, and southwards to Persia and Palestine. The birds that breed in Europe and North Africa winter in that continent south of the Great Desert in Senegal,

the Gambia region, the Gold Coast, Angola, and Damara Land. Those breeding further east winter in Nubia and Abyssinia, south to Natal and Cape Colony, whilst abnormal migrants even penetrate (probably stragglers from the birds breeding in the Thian-Shan range) to Scinde and Northern India.

**Allied Forms.**—*Glareola melanoptera*, an inhabitant in summer of the Kirghiz steppes, from the Don north to lat. 55° in West Siberia, and east to Ala-Kul. Passes through Persia, Armenia, and Asia Minor, and Turkey, Egypt, and Nubia on migration, and winters throughout South Africa. It is easily distinguished from the Common Pratincole by its black axillaries and deeply forked tail. *G. orientalis*, an inhabitant of India and Ceylon, the Burmese peninsula, East Mongolia, Dauria, China, Sumatra, Java, the Malay Archipelago, the Philippines, and North Australia. Resident in the south, migratory in the north. Distinguished from the Common Pratincole by its combining the three following characters: chestnut axillaries, white basal half of outer web of tail feathers, and only slightly forked tail.

**Time during which the Common Pratincole may be taken.**—August 1st to March 1st.

**Habits.**—The Pratincole is a bird of somewhat early passage, arriving at its breeding grounds in North Africa and South Europe in April. Its haunts are in marshes, on bare plateaux and sandy plains, sometimes in cultivated districts, lagoons, and low, flat islands. Unlike other Plovers, it is much more of an aerial bird than a ground one, although it is capable of running with great speed, and not unfrequently wades in the shallow waters of its haunts. The most characteristic feature of the Pratincole's economy is the bird's curious and prolonged flight. It spends much of its time in the air, flying to and fro in quest of food, skimming along just above the ground or water, turning and twisting here and there in its busy quest. This singular habit probably had great influence with Linnæus, when he placed the Pratincole in his genus *Hirundo*, and may well serve as an excuse for the great naturalist's curious error. The food of the Pratincole, which is principally secured whilst the bird is on the wing, consists of insects, especially beetles, grasshoppers, and locusts; and the bird is said to be most assiduous in obtaining it towards

evening—a time when such creatures are abroad in greatest abundance. The note of this species is described as a rattling *kr* or *kia* rapidly and persistently repeated. When on the ground, the Pratincole often elevates its wings and runs a little distance both before and after flight. It returns to its African winter haunts in autumn, when the young are all safely reared, and then becomes more gregarious, although at all times it is more or less sociable, and usually breeds in scattered colonies.

**Nidification.**—The breeding season of the Pratincole commences in May, and fresh eggs may be found almost throughout that month. An island seems to be preferred, where choice is possible, to the mainland, and the bare, dry mud is selected rather than ground covered with herbage. Colonies of these birds, visited by Mr. Seebohm in Greece and Asia Minor, were established on low islets in the lagoons, and the eggs were deposited on the dry mud, amongst no other herbage but straggling plants of *Salsola*. Nest there is none, the eggs being laid generally on the bare ground, without even a hollow to hold them. They are two or three in number, in rare instances as many as four, very fragile, and oval in shape. They vary from buff to gray in ground colour, spotted, blotched, and streaked over most of the surface with blackish brown, and marbled with underlying markings of grayish brown. They measure on an average 1·2 inch in length by ·9 inch in breadth. The period of incubation is unknown, but only one brood is reared in the year. When their breeding grounds are invaded by man, the Pratincoles become very restless and noisy, and often indulge in various antics, even shamming death, or broken limbs, to lure intruders away. Even before the eggs are laid the Pratincole is very prone to these strange actions. Many nests may be found within a comparatively small area, although the birds can scarcely be regarded as gregarious at the breeding grounds.

**Diagnostic Characters.**—*Glareola*, with the axillaries chestnut, and the tail deeply forked. Length, 9 to 10 inches.

**Family CHARADRIIDÆ.**

**Subfamily TOTANINÆ or SEMI-WEB-FOOTED  
SANDPIPERS and their ALLIES.**

The birds included in the present subfamily are distinguished from their allies by having the nasal aperture located within the basal fourth of the bill, and by having the middle and outermost toes joined together by a web of varying size at the base.

This subfamily is composed of about sixty-four species, which may be subdivided into eight genera, although the characters of some are not very important. Arctic and Temperate regions principally; cosmopolitan in winter.

## Genus **HIMANTOPUS** or **STILTS**.

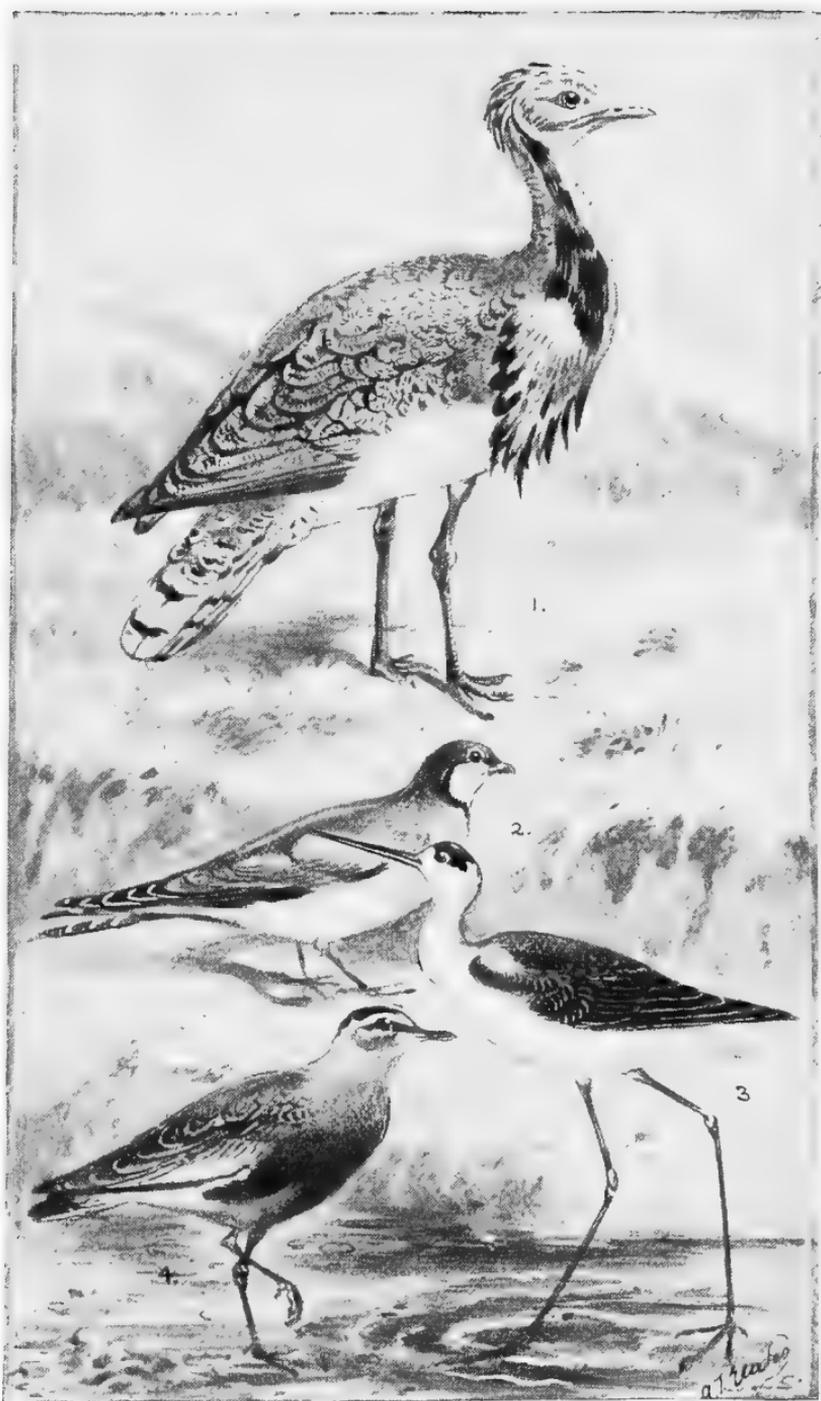
Type **HIMANTOPUS MELANOPTERUS**.

**Himantopus** of Brisson (1760).—The birds comprising the present genus are characterised by having a long, slender, nearly straight bill, only slightly webbed feet, no hind toe, and a black mantle. The wings are long and pointed, the first primary being the longest; the tail is rounded. The tarsus is long, and finely reticulated; a great portion of the tibia devoid of feathers. The bill is long, slightly recurved at the point; nostrils lateral, linear, and elongated.

This genus is composed of seven species and subspecies, locally distributed in the Australian, Neotropical, Ethiopian, southern Palæarctic and Nearctic, and Oriental regions. One species is an accidental visitor to the British Islands.

The Stilts are dwellers in salt marshes, on low-lying coasts, and on the banks of lakes. Their flight is rapid, graceful, and sustained, and on the ground they walk and run with elegant ease. Their notes are clear and loud. They subsist principally on insects and small univalves. They make scanty nests near the water on the ground, and their eggs are usually four in number, and spotted. They are monogamous, and at all times of the year are more or less gregarious, usually breeding in colonies.





1. MACQUEEN'S BUSTARD.  
2. COMMON PRATINCOLE.

3. BLACK-WINGED STILT.  
4. SOCIABLE LAPWING.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus HIMANTOPUS.

### COMMON STILT.

HIMANTOPUS MELANOPTERUS—*Meyer.*

**Geographical Distribution.**—*British:* Occasional straggler on migration; chiefly individuals that have overshot the mark on their way to their European breeding grounds in spring, but occasionally stray birds that have joined the western stream of migration in autumn. Has been known as an abnormal visitor to our shores for upwards of two hundred years. Most frequently observed on the south and east coasts of England, especially in Norfolk (12 examples). Occasionally met with inland, in Notts, Oxford, etc. Very rare in Scotland, where, however, it has been met with as far north as the Orkney and Shetland Islands; in Ireland about half-a-dozen examples are on record. *Foreign.* Southern and western Palæarctic region, Oriental and Ethiopian regions. Summer visitor to the marshes of Southern Spain and Portugal, the delta of the Rhone, Sicily, the Danube valley (Neuseidler See, near Vienna), and the lagoons of the Black Sea. Elsewhere in Europe it is only an accidental straggler on migration, as such visiting Northern France, Holland, Denmark, and Germany. Resident in many parts of Africa, where it has been found breeding as far south as the Berg river, and is said to do so on the coasts of Madagascar. Most abundant in the Ethiopian region during winter, its numbers being then increased by migrants from the northern shores of the Mediterranean; but it is said to be a resident in Algeria, and is met with in the Canaries. Eastwards it is a summer visitor to the Kirghiz and Kalmuk steppes, Asia Minor, Palestine, North Persia, Turkestan, and Afghanistan, the birds breeding in this area wintering in

Africa, India, and Burma; whilst stragglers at that season have been known to wander into North China, Cochin-China, Timor, the Philippines, Borneo, and New Zealand. The most extensive breeding grounds appear to be in India and Ceylon where the bird is a resident, although, as previously stated, its numbers are increased during the cold season.

**Allied Forms.**—*Himantopus leucocephalus*, breeding in Australia and wintering in the Malay Archipelago, Borneo, New Guinea, etc. Differs from the Common Stilt in having the entire head white and the back of the neck black, separated from the black of the back by a white collar. The New Zealand Pied Stilt has been separated from the foregoing under the name of *H. leucocephalus picatus*, and is apparently an intermediate form, the result of interbreeding between *H. leucocephalus* and *H. melas*, the Black Stilt, of New Zealand. Representative species in the Nearctic and Neotropical regions: *H. mexicanus*, breeds in southern half of South America, winters in northern half of that continent; resident in central districts. Distinguished by having the black on the back of the neck extending over the crown and joining the black on the mantle. *H. brasiliensis*, breeds in the Chilian subregion, many wintering in Southern Brazil. Distinguished by having the black on the back of the neck separated from that of the mantle by a white collar, and extending underneath the eye, but not on to the crown.

**Time during which the Common Stilt may be taken.**

—August 1st to March 1st.

**Habits.**—The passage of the Common Stilt into Europe begins at the end of March and lasts till the middle of April. It migrates in small flocks, probably the birds of a breeding colony journeying in company. Its stay in Europe is seldom prolonged after the middle of November. The colonies of these birds which breed in India are much more extensive than those in Europe. Its principal haunts are salt marshes, especially lagoons and low, muddy islands. There are few such graceful birds as the Common Stilt, and its every movement, either on land or in air, is easy and elegant in the extreme. It may often be watched walking about the mud-banks or standing in the shallow water, tripping lightly over the slimy, treacherous ooze, or sitting with

long legs folded beneath it on some dry spot, as if basking in the hot sunshine. They are by no means shy birds, yet if too closely pursued they soon take to the air, often running a little way with wings open before rising. Their flight is slow and straight, the neck outstretched and the long legs pressed close to the body under the tail, beyond which they project for some distance. The wings are beaten with slow and regular motion, and during flight the bird from time to time droops its legs as if about to alight, although high above the ground. They are said to be rather quiet birds, but when their breeding places are invaded they soon become noisy enough in their anxiety for their eggs and young. The usual call-note is a clear *kee-kee-kee*, and the alarm notes may be syllabled as *kit-kit-kit* and a rattling *peur-r-ree*. The food of the Common Stilt consists of mollusks, and such aquatic insects as beetles, gnats, dragon-flies, etc.

**Nidification.**—The date of the breeding season of the Common Stilt varies a good deal according to locality. In Spain they commence laying by the end of April or first few days of May; in the valley of the Danube, near the Black Sea, they are more than a month later; whilst in India the greater number are laid in June, but the birds *begin* to lay about the same time as those that breed in Spain. This bird breeds in colonies of varying size, some consisting of only a few pairs, others of several hundreds. The nest is made in a great variety of situations, and varies considerably in size and materials. If the ground is wet the nest is more bulky than when made in drier situations. Some nests are absolutely in the water, heaps of dead reeds and other aquatic vegetation, rising from two to three inches above the water-level; others are made on the mud, and are smaller. A great breeding station of this bird is situated at some salt works near Delhi, in Upper India. These works consist of acres upon acres of shallow pools lined with lime, and divided from each other by strips of ground from one to six feet in breadth. On these narrow strips, and in the shallowest of the pools, the birds make their nests. These are remarkably curious structures—little platforms made of pieces of lime, raised about three inches high and from seven to twelve inches across, on which is strewn a small quantity of dry grass as a bed for the eggs. Many nests are made close

together, and the birds are remarkably tame, allowing the workmen to pass them closely as they sit on their eggs. The eggs are four in number, pyriform, and pale buffish brown in ground colour, streaked, spotted, and blotched with blackish brown, and underlying markings of gray. They measure on an average 1.7 inch in length by 1.2 inch in breadth. But one brood is reared in the year.

**Diagnostic Characters.**—*Himantopus*, with the head and neck white (adult). Immature birds have the back of the neck and the crown black. In first plumage the dark parts are brown, mottled with buff. Length, 13 to 14 inches.

## Genus **RECURVIROSTRA** or **AVOCETS**.

Type **RECURVIROSTRA AVOCETTA**.

**Recurvirostra** of Linnæus (1766).—The birds comprising the present genus are characterised by combining a long, slender, deeply recurved bill with webbed feet, a hind toe, and a white mantle. In one aberrant species the mantle is black, and in another the bill is nearly straight, and the hind toe is absent. The wings are long and pointed, the first primary being the longest; the tail is rounded. The tarsus is long and finely reticulated; a great portion of the tibia devoid of feathers. The bill is long, weak, and flexible, and recurved for its entire length; nostrils linear and elongated.

This genus is composed of five species, which are locally distributed in the Australian, southern Nearctic, Palæarctic, Ethiopian, and Neotropical regions; Oriental region in winter. One species formerly bred in, but is now a rare straggler to, the British Islands.

The Avocets are dwellers on flat, sandy coasts, marshes, lagoons, and mud-banks. Their flight is airy, graceful, and well-sustained, and on the ground they walk and run with graceful ease. They swim and wade. Their notes are shrill and monotonous. They subsist principally on worms, crustaceans, and aquatic insects. They make scanty nests on the ground, and their eggs, three or four in number, are spotted. They are monogamous, social, and gregarious.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus RECURVIROSTRA.

## COMMON AVOCET.

RECURVIROSTRA AVOCETTA—*Linnaeus*.

**Geographical Distribution.**—*British*: Irregular straggler on migration to England, still more accidental elsewhere. A melancholy interest attaches to the Avocet, inasmuch that this curious bird once bred regularly in the British Islands, but has long been exterminated as a nesting species by the destruction of its favourite haunts and the persecution of man. For nearly seventy years the Avocet has ceased to breed in this country. Formerly bred in the marshes and on those parts of the coast suited to its requirements, in Lincolnshire, Norfolk, Suffolk, Kent, and Sussex, and it is to these old haunts the occasional visitors seem most attracted, usually making their appearance in spring, as was once their regular practice, less frequently in autumn. Still more abnormal in appearance elsewhere, especially northwards and westwards. Only about half-a-dozen examples recorded from Scotland, where it has been met with, however, as far north as the Orkneys and Shetlands, and even in the Outer Hebrides. Very accidental in Ireland, chiefly in the south, though once recorded from the estuary of the Moy in the north-west. *Foreign*: Southern Palearctic and Ethiopian regions; Oriental region in winter. Breeds in Europe on some of the islands off the Dutch and Danish coasts, on the marshes at the delta of the Rhone, the marismas of Southern Spain, the valley of the Danube, notably, it is said, the Neuseidler See, near Vienna, and the lagoons of the Black Sea. To the remainder of the Continent, as far north as Southern Scandinavia, it is only an abnormal visitor on migration. South of the Mediterranean it is said to breed in suitable

localities throughout the African continent, and probably in Madagascar. Eastwards it is a bird of passage across Asia Minor, a few remaining to winter, and is a resident in Palestine and Persia, but only a summer visitor to Northern Turkestan, South-west Siberia, South-east Mongolia, and South Dauria, wintering in India (sometimes in Ceylon) and China, including the islands of Formosa and Hainan. Blakiston and Pryer include the Avocet in their list of the birds of Japan, whilst Temminck and Schegel had long previously included it in their list in the *Fauna Japonica*, but until an example has been obtained and identified by competent authorities, it seems probable that the American Avocet may be the species that occasionally visits these islands.

**Allied Forms.**—*Recurvirostra americana*, an inhabitant of North America, from Great Slave Lake in the north to Texas in the south, the more northern birds wintering in the West Indies and Central America. Differs from the Common Avocet in having the secondaries white, the major part of the outer web brown; and in breeding plumage in having the head and neck dull chestnut. *R. rubricollis*, an inhabitant of Australia, occasionally occurring in Tasmania, Norfolk Island, and New Guinea. Differs from the Common Avocet in having a chestnut head and neck during the breeding season, and in having the combination of the secondaries white on both webs, much white on the scapulars, but none on the tertials.

**Time during which the Common Avocet may be taken.**

—August 1st to March 1st.

**Habits.**—The habits of the Avocet resemble very closely those of the Common Stilt. Like that species it is a migratory bird, arriving at its European breeding places in April and May, and leaving them again in September. Its haunts are low, sandy coasts, salt marshes, lagoons, and muddy islands. In these places it frequents the waterside, and not only wades in the shallows but swims well and lightly whenever it has occasion to do so. It runs quickly over the treacherous muds, and walks with graceful steps hither and thither in quest of food. Although conspicuous enough on the bare muds and sands, or on the short turf of the salt marshes, it is said not to be very shy, but it is careful to keep

well out of harm's way notwithstanding. Its flight is very similar to that of the Stilt, the neck and legs being outstretched, and in the air its strongly contrasted black and white plumage gives it a very singular appearance. Like the Stilt it is also more or less gregarious, especially in winter, when the flocks are sometimes very large; and it also possesses the habit of running for a little way either just before or after flight. This species frequently alights on the sea, but although it swims well it is not known to dive. The food of the Avocet is composed of small worms, crustaceans, and various kinds of aquatic insects and their larvæ. Much of this food is obtained as the bird scoops or draws its long, slender, up-turned bill from side to side across the surface of the soft mud or sand. The bill is never probed into the surface. Occasionally an insect is caught as it sits on the water or flits slowly by. The Avocet often feeds whilst wading in the shallows, and sometimes its head is actually pushed under the surface. When food is captured the bird generally swallows it by tossing up the head. The note of this bird is a somewhat low yet clear *tü-it, tü-it*, most persistently uttered when its breeding grounds are invaded.

**Nidification.**—The breeding season of the Avocet commences early in May in Jutland; but in the valley of the Danube, where all birds for some unknown reason nest later, the eggs are not laid until the beginning of June. This bird breeds in colonies of varying size, and all through the nesting season is most sociable. The nests are either placed on the bare sand or mud or on the short herbage of the marshes, and are little more than hollows into which a few scraps of withered herbage are collected. The eggs are generally three or four in number, but in rare cases five are said to have been found. They are pyriform in shape, and pale buff in ground colour, spotted and blotched with blackish brown, and with underlying markings of gray. They measure on an average 1·95 inch in length by 1·4 inch in breadth. Both parents assist in the duty of incubation, which according to Naumann lasts from seventeen to eighteen days. Only one brood is reared in the year, after which event the birds become even more gregarious. The exact manner in which the old birds, with their long, recurved beak, convey food to the young is still

unrecorded. Even in the nestling stage of its existence the bill of the Avocet is distinctly recurved.

**Diagnostic Characters.**—*Recurvirostra*, with the forehead, crown, and hind neck black, and the innermost secondaries white (adult); brown in young in first plumage, the secondaries barred with white. Length, 18 inches.

## Genus **HÆMATOPUS** or **OYSTERCATCHERS**.

Type **HÆMATOPUS OSTRALEGUS**.

**Hæmatopus** of Linnæus (1766).—The birds comprising the present genus are characterised by their combining a finely reticulated tarsus with a nearly straight bill, which is longer than it. The wings are long and pointed, the tail is nearly square. The tarsus is rather short, and the lower portion of the tibia is devoid of feathers. Three toes in front, all directed forward; hind toe absent. The bill is straight, strong, and compressed at the point, forming a wedge; truncate at the tip, clumsy, and very variable in outline; nostrils basal, linear, and situated in a groove.

This genus is composed of ten species and subspecies, which are distributed throughout the world. One species is a common resident in the British Islands.

The Oystercatchers are dwellers on the coasts of seas, and the banks of rivers and lakes. Their flight is rapid and well-sustained; they are able to swim; and run and walk with ease. Their notes are loud and piercing. They subsist on mollusks, marine worms, and insects, small fish, and littoral plants. Their nests are mere hollows in the sand or shingle, and their eggs, three or four in number, are spotted. They are monogamous, and more or less social throughout the year, but always excessively wary and shy.

Family CHARADRIIDÆ.  
Subfamily TOTTANINÆ.

Genus HÆMATOPUS.

## COMMON OYSTERCATCHER.

HÆMATOPUS OSTRALEGUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Breeds in all suitable localities north of Yorkshire and Lancashire, round the entire coast line of Scotland and the adjacent islands, even extending to St. Kilda, where I have taken its eggs. Equally widely dispersed round the Irish coasts. Breeds also on shores of inland lochs and banks of large rivers in Scotland. During winter it is widely dispersed on all our coasts, except in extreme northern districts, where it is only a bird of summer. *Foreign*: West Palæarctic region. Chiefly a coast bird in the west, but east of E. long. 40° it only breeds on the shores of lakes and the banks of rivers. Breeds on the coasts of North-western Europe, round to the White Sea; thence it becomes an inland species, frequenting the rivers Volga, Kama, Petchora, and Obb. Summer visitor only to the shores of the Baltic, but resident on the coasts of Germany and France. Passes the Mediterranean basin on migration, but a few remain to breed, and a few remain to winter in the Rhone delta and along the Adriatic coast. Resident in the Caucasus, but only a summer visitor to the Don, the Volga, the waters of West Siberia and Turkestan. Winters on the Mekran coast, west coast of India, south to Ceylon, and on both coasts of Africa, to Senegambia on the west, and to Mozambique on the east.

**Allied Forms.**—*Hæmatopus osculans*, an inhabitant of the coasts of North China, Japan, the mouth of the Amoor, and thence round the shores of the Sea of Okhotsk to Kamtschatka in summer; in winter of the coasts of South China, abnormally wandering across country to Burma. Of doubtful specific rank;

but appears constantly to differ from the Common Oystercatcher in having much less white on the quills, the white on the outer web of the primaries beginning on the sixth feather instead of on the third, and on the inner web commencing on the second feather instead of on the first ; more variable characters are (in adults) the upper tail coverts tipped with black, and the slightly longer bill (young of the Common Oystercatcher have the longest upper tail coverts tipped with black and buff). Should be looked for, especially in autumn, on the British coasts.

**Time during which the Common Oystercatcher may be taken.**—August 1st to March 1st.

**Habits.**—Although the Oystercatcher is sometimes met with on the banks of inland waters, and even breeds in such localities, its true home is the sea-shore. Here it prefers a rocky coast, which is varied here and there with long reaches of sand and shingle, and broken with quiet bays, and creeks, and lochs, where a considerable amount of beach is uncovered at low water. It is also very partial to low, rocky islands and headlands where there is a beach. It is one of the wariest birds of the shore, seldom allowing a near approach, unless stalked with scrupulous care and patience. As it is very regular in its flights to certain feeding grounds, which are visited as soon as the rocks and beach begin to be exposed by the receding tide, it may be waited for with advantage by the gunner stationed in a suitable spot. During high water, especially in localities where there is little beach, it spends the time between the tides on small islands, and even on rocks surrounded by the sea. Even during summer the Oystercatcher is somewhat sociably inclined, but in winter, when many of the birds draw southwards, it often forms into flocks which roam the coasts for miles in quest of food. In autumn its numbers are increased by migrants from Continental Europe, and it is often caught in the flight nets on the Wash during October. The Oystercatcher may be watched running and walking very daintily about the sands and over the seaweed-covered rocks, sometimes wading through the shallows, but it never appears to swim unless wounded. The long, chisel-shaped beak is thrust into the crevices of the rocks, or probed into the sand in quest of prey, and the limpets, tightly as they cling to

the rocks, are wrenched off with ease. The Oystercatcher is much attached to its mate, and I have seen it fly round and round above a fallen comrade in a very touching manner. The flight of this bird is rapid and powerful, full of impetuous dash, performed by quick and regular strokes of the long wings, but sometimes before alighting the bird skims along for a few yards on stiff and motionless pinions. Its actions in the air are often very erratic, the flight being full of sudden turns and twists. The note of the Oystercatcher is very characteristic, and cannot readily be confused with that of any other species on the coast. It is a loud, shrill *heep-heep-heep*, usually uttered by the bird during flight, often as it rises in haste from the beach, and alarming all other fowl within hearing. I have often had a long, patient stalk after Curlew spoiled, just when success seemed certain, by the warning pipe of the Oystercatcher. The food of this bird is principally composed of mussels, whelks, limpets, annelids, crustaceans, and small fish, but the tender buds and shoots of various marine plants are also eaten. Its flesh, as I myself can testify, is not at all unpalatable, especially to a hungry sportsman amidst the wilds of the Outer Hebrides.

**Nidification.**—The flocks of Oystercatchers begin to disband in March, early in April the birds are paired, and by the beginning of May eggs may be found, although laying does not become general until towards the end of that month or early in June. Its breeding places are the shingly beaches, low islands, and rock-stacks. The nest, when on the beach, is just above high-water mark, often in the line of drifted rubbish cast up by unusually high tides. Several nests are often made by the bird before it is satisfied, and I have seen as many as half-a-dozen of these mock nests within a few yards of the one that contained the eggs. The nest scarcely deserves the name, as it is only a little hollow in the shingle, in which the small pebbles and bits of broken shells are smoothed into a bed for the eggs. Sometimes these are deposited on a heap of drifted, dry seaweed. Various curious sites have been recorded; the eggs have been found in a deserted nest of a Herring Gull, in a meadow far from the sea, and in a cavity at the top of a felled pine-tree. I have seen them on the top of rock-stacks

fifty feet above the water, and also amongst boulders in a little bay in the cliffs, which could only be reached with a boat. The eggs are usually three in number, sometimes four, and frequently only two. They are pale buff in ground colour, blotched, spotted, and streaked with blackish brown, and with underlying markings of gray. They measure on an average 2'2 inches in length by 1'5 inch in breadth. Both parents attend the young, but the female incubates the eggs, the period being from twenty-three to twenty-four days. Only one brood is reared in the season, but if the first eggs are taken another clutch will be laid. The male gives warning to the female of the approach of danger, and she leaves her eggs at once to the safety ensured by their protective colour. The old birds become very noisy when their breeding grounds are invaded, especially if the young are hatched, and no one who has not heard a dozen or more Oystercatchers screaming together overhead can have even a faint conception of the din these birds can make. The broods and their parents seem to keep much together through the autumn and winter.

**Diagnostic Characters.**—*Hæmatopus*, with the lower back, rump, and upper tail coverts white, and the white pattern on the primaries well developed on the outer webs of the fourth and fifth. Length, 16 to 17 inches.

## Genus **NUMENIUS** or **CURLEWS**.

Type **NUMENIUS ARQUATUS**.

**Numenius** of Brisson (1760).—The birds comprising the present genus are characterised by having the lower half of the tarsus scutellated in front, and the bill sufficiently arched that the point is considerably lower than the plane of the gape.\* The wings are long and pointed; tail nearly square. The tarsus is rather long and slender, the lower portion of the tibia devoid of feathers. The bill is long, slender, and decurved; nostrils lateral, linear, and situated within the basal fourth part of the bill.

This genus is composed of eleven species and subspecies confined to the Palæarctic and Nearctic regions during summer, but cosmopolitan during winter. Three species are included as British, one a very rare straggler, one a common resident, and one best known on passage and in winter.

The Curlews are dwellers on moors, marshes, and upland wastes in summer, of sea coasts during winter. They are birds of rapid and well-sustained flight, and walk and run with ease. Their notes are clear, loud, and not unmusical. They subsist on worms, mollusks, insects, and fruit. They make slight nests on the ground, and their pyriform eggs are four in number and spotted. They are monogamous; during winter they are gregarious, and even in summer somewhat social. They are shy and wary, and their flesh is not unpalatable.

\* Not having had access to a very large series of specimens of *Numenius*, I cannot speak with absolute certainty, but probably the plane of the gape does not extend beyond the basal half of the upper mandible.

Family CHARADRIIDÆ.  
Subfamily *TOTANINÆ*.

Genus NUMENIUS.

### COMMON CURLEW.

NUMENIUS ARQUATUS—(*Linnaeus*).

**Geographical Distribution.**—*British*: Breeds on most of the moors and mountains of the British Islands, and on some of the heaths and wild lands in less romantic districts, as for instance, in Wilts, Hants, Lincolnshire, and the Isle of Man. Its breeding grounds extend from the highlands of Cornwall to the “moors” of Devon, and the hills of Somerset and Dorset. Thence northwards through the Welsh mountains and adjoining uplands, through the Peak and the entire Pennine chain to the Cheviots. North of the Border suitable districts increase and it becomes even more widely distributed, extending to the Outer Hebrides, the Orkneys, and the Shetlands. The same remarks apply to Ireland, where it is equally generally dispersed. In winter it seeks the coasts, and is then widely distributed on all parts of the sea-board suited to its needs, including the Channel Islands. *Foreign*: Western Palæarctic region; Ethiopian region in winter. Accidental visitor to Iceland and the Faroes. Summer resident in Scandinavia, and breeds in Russia as far north as Riga in the west, and the Volga basin in the east. Southwards it breeds in Poland, North Germany, Denmark, and Holland, and is said to do so in Flanders and Brittany; in the east on the Kirghiz and Caucasian steppes. Passes Europe south of these limits, Asia Minor, and Persia on migration, and winters throughout Africa, a few remaining (immature birds) in the extreme south after the adult birds have left for their northern haunts. It is an occasional wanderer to the Azores.



1. REDSHANK.

2. COMMON CURLEW.

3. BAR-TAILED GODWIT.



**Allied Forms.**—*Numenius arquatus lineatus*, an inhabitant in summer of Siberia, in the west as far north as the Arctic Circle ; but in the east only as far as Dauria and the southern valleys of the Amoor, passing through Turkestan on passage and wintering in India, Ceylon, Burma, and the Malay Archipelago, occasionally straying to the eastern coast of Africa. The Eastern form of the Common Curlew, only subspecifically distinct ; none of the diagnostic characters constant, and intermediate forms very frequent. Typical examples differ from the Common Curlew in having the lower back uniform white without spots, the axillaries uniform white, the margins of the scapulars white, and the bill seven to eight inches in length. *N. cyanopus*, an inhabitant in summer of East Siberia, passing the Amoor valley and the coasts of China and Japan on migration, and wintering in Australia and Tasmania. *N. longirostris*, an inhabitant in summer of temperate North America ; and of Mexico, Central America, and the West Indies in winter, though resident in some of the central districts. Both these Curlews differ from the Common Curlew in the important fact of having the rump uniform in colour with the rest of the upper parts. The former bird in addition is characterised by its nearly white axillaries, barred and streaked with brown. The latter in addition is characterised by its uniform rich buff axillaries, and nearly uniform buff underparts.

**Time during which the Curlew may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—The haunts of the Curlew vary considerably with the change of season. This species is a resident in our islands, although its numbers are increased during the colder periods of the year by migrants from more northern latitudes. In summer, however, it frequents inland moors and wild rough uplands ; in winter it descends to the coast, and is then widely distributed on all parts of the shore where sand, muds, and broken rocks are to be found at low water. During high water in many localities the birds retire inland to moors and pastures, returning with remarkable punctuality as soon as the tide begins to ebb. In other districts they visit shingle-banks and low islands to pass the time between the tides. All the year round many parts of the coast are never deserted altogether by Curlews, the young non-breeding

birds not visiting the breeding grounds, but remaining behind in the usual winter haunts. Curlews are the very essence of wariness—the shyest and the easiest alarmed birds upon the coast, and perhaps the most difficult to stalk. On bare ground it is simply impossible to get near them, and the only way to make a successful shot is to station oneself on their usual line of flight, and take one's chance as they fly over on their way to and from their feeding grounds. Sometimes odd birds may be successfully stalked whilst feeding amongst the rocks at low water, but the process is a rough and tedious one, and the gunner may well be proud of his bird *if* he be fortunate or skilful enough to creep up and make a lucky shot. When feeding the birds are seldom still, but run and walk about searching the sand and rocks close to the waves for their food, and all the time sentinels seem ever on the watch to sound the warning note which sends the big speckled birds hurrying away to safer haunts. If fired at, the flock often rises to a good height and flies about in a restless manner, the birds calling to each other all the time. When on regular flight a flock of these birds usually assumes the shape of the letter V, and as they pass along at great speed the leading bird from time to time drops out of position, and its place is taken by another in turn. During moonlight nights when the state of the tide admits, the Curlew is as active as by day, and feeds on the flats and saltings; and even during summer on the inland moors their wild, mournful notes may be heard through every hour of darkness. The flight of this bird is rapid and strong, the neck is outstretched, and the long legs are pressed close to the body and extend beyond the tail. The long wings are beaten with great speed and regularity, but very often just before the bird alights they are held stiff and expanded. I have often noticed that this species runs a little way with wings half open before rising into the air. It is frequently seen to wade in the shallows, but never, I think, swims unless wounded, and it has been known to perch in trees. The usual note of the Curlew is very characteristic, a shrill, far-sounding *curlew*, *cur-lee*; and during the breeding season it also utters a very peculiar rippling note, almost like bubbling water, which may be expressed as *wiw-i-wiw-i-wiw*, rapidly repeated. For the greater part of the year the Curlew is more or less gregarious, and also associates with many

other shore birds ; but during the breeding season, although many pairs often nest on the same moor or upland waste, they are not very social. The food of the Curlew varies a good deal according to season. In summer, worms, insects and their larvæ, and various ground fruits and berries are eaten; in winter, sand-worms, crustaceans, and mollusks are its principal fare, and various vegetable fragments have been found in its stomach during the latter period. Although a resident with us the Curlew is a regular bird of passage in many Continental districts, coming to its summer quarters in April and May, and returning during September and October.

**Nidification.**—In March the Curlew begins to return to its inland breeding places, and the eggs are laid during April and May. Its great breeding grounds are the wild, swampy moors at a considerable elevation above sea-level, but many birds nest on the rough fallows near the moors, and I have known their eggs to be broken during spring tilling. The nest is generally made on some dry patch of the moor, often under the shelter of a little bush or tuft of cotton-grass or rush, or yet again on the bare earth of the fallows, sometimes in a footprint of a horse or cow. This nest is very slight, merely a hollow about ten inches in diameter and two inches in depth, sparingly lined with a few scraps of dead herbage or dry leaves. In some cases no nest whatever is made. The eggs are four in number, pyriform in shape, and various shades of olive-green or buff in ground colour, spotted and blotched with olive-brown and pale gray. Sometimes a few streaky scratches of blackish brown occur. They measure on an average 2·7 inches in length by 1·85 inch in breadth. Both parents assist in the task of incubation, which lasts about a month. When its breeding grounds are invaded by man, the Curlew becomes very noisy, usually flying into the air long before the spot where the nest is situated is reached. One bird is usually on the look-out and conveys the warning to its mate; the cry is taken up by other birds, and soon the whole moor is in a state of commotion. Only one brood is reared in the year.

**Diagnostic Characters.**—*Numenius*, with the lower back and rump white, and the tarsus more than three inches in length. Length, 21 to 26 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus NUMENIUS.

### COMMON WHIMBREL.

NUMENIUS PHÆOPUS—(*Linnæus*).

**Geographical Distribution.**—*British*: Only known to breed on the Orkneys and Shetlands, most numerous on the latter, and on North Ronay in the Hebrides. Elsewhere in the British Islands it is known on migration, and during the spring and autumn flights is pretty generally distributed along the coasts. Comparatively few remain with us through the winter, whilst immature and non-breeding birds may be seen in still smaller numbers during the summer. I have met with them on St. Kilda during June. *Foreign*: Northern and western Palæarctic region in summer; Ethiopian region in winter. Breeds in the Faroes and Iceland, and occurs accidentally in Greenland. Is a summer visitor to Scandinavia, breeding on the fells and moors above forest growth; thence it appears to be locally distributed at this season through Lapland and the remainder of North Russia, and is said by Sabanaeff to be common on the Ural steppes. It passes along the entire coast line of Europe during migration, as well as some of the inland routes, and also occurs on passage in Northern Africa, wintering in the Azores, Canaries, Madeira, and on the coasts of tropical Africa, as well as in some few interior districts. A few young non-breeding birds are said to be found in their African winter quarters during the northern summer.

**Allied Forms.**—*Numenius phæopus variegatus*: Eastern Palæarctic region in summer; Oriental and Australian regions in winter. Breeding range not very definitely known; but probably breeds locally from the valleys of the Obb and the

Yenesay in Western Siberia, eastwards to Kamtschatka, whilst it has been known to occur on Behring Island, east of the latter country. This bird probably passes through Turkestan on migration, although it appears not to have yet been observed there, for it is known to winter in India and Ceylon. Birds breeding further east pass through Dauria, China, and Japan on migration, and winter in Burma, the Malay Archipelago, and Australia. The Eastern form of the Common Whimbrel, only subspecifically distinct, a complete intergradation existing between Eastern and Western examples of each race. Typical examples differ from the Common Whimbrel in having the rump streaked with dark brown, a peculiarity only observed, and even then not to such a marked extent, in the young of the latter. *N. hudsonicus*, the American representative, breeding in the Arctic portion of the Nearctic region, wintering south of the equator as far as Patagonia. Differs from the Common Whimbrel in having the axillaries and under wing coverts pale chestnut, and the rump uniform in colour with the back. *N. tahitiensis* (most closely allied to the preceding), an inhabitant of Alaska during the breeding season, wintering in the Pacific Islands. Differs from the Common Whimbrel in having the rump uniform in colour with the back, the axillaries and under wing coverts pale chestnut, and in having hair-like plumes extending beyond the feathers on the thighs.

**Time during which the Common Whimbrel may be taken.**—August 1st to March 1st.

**Habits.**—Although the Whimbrel is a much more northern bird, and is best known in our islands on passage, its habits very closely resemble those of the Curlew. Owing to the remarkable regularity of appearance of this species in spring, it is known in many districts of England as the “May bird,” usually arriving on our coasts during the last days of April and the beginning of May. It is observed crossing the Mediterranean from its winter quarters in Africa during April. The return migration begins at the end of July in our islands with the appearance of the young birds, and the flight is continued through August and September, the Mediterranean again being crossed during September and October. In autumn, however, the birds

fly much higher past our coasts, and do not alight in such numbers as in spring. They are also much less numerous, which is a remarkable fact, and one which confirms the statements of some observers that this species passes south in autumn by different routes from those it follows in spring. A few birds, it should be stated, remain on our coasts all the summer, non-breeding individuals that stop short of the breeding grounds, whilst others lag behind the rest in autumn and spend the winter with us. The Whimbrel migrates in flocks, and these generally pass our coasts at night, often at an immense altitude, only their faintly-sounding call-notes informing us of their presence overhead. During their stay with us they frequent much the same localities as the Curlew, mud-banks, salt marshes, and flat, low-lying coasts. At first they are by no means shy, as is usual with birds breeding in the Arctic regions, where they are seldom or never molested by man, but the gunners of the coast soon teach them wariness. Their actions on the coast are very similar to those of their larger congener. Their flight is equally rapid and well-sustained, and they possess the same habit of flying about the air, uttering repeated cries when alarmed. Perhaps they do not feed so much on the actual beach as the Curlew, being more partial to the swampy salt marshes, full of streams and pools left by the tide. They wade repeatedly, and are said even to swim occasionally; and they have been observed to be very fond of bathing, throwing the water over themselves as they stood breast-deep in the sea. In autumn and winter it appears to be just as gregarious as the Curlew, but does not associate with other wild fowl to the same extent. The notes of the Whimbrel are very similar to those of the Curlew, and the bird also possesses the same rippling or bubbling cry—a shrill *tet-ty tet-ty tet-ty tet*, which is heard repeatedly in the air, and has gained for this species the local name of “Titteral.” During summer the Whimbrel occasionally perches in trees. The food of this species consists of insects, worms, snails, various ground fruits, and berries, in summer, and of crustaceans, sand-worms, and other small marine animals during winter.

**Nidification.**—The breeding season of the Whimbrel begins about the middle of May, and the eggs are laid from the end of

that month until the end of June. Its breeding grounds are the elevated moorlands in the vicinity of the sea. The nest is merely a hollow in the ground amongst heath or other rough herbage, usually in a dry part of the moor, lined with a few bits of dead grass and dry leaves. The eggs are four in number, olive-green of various shades or pale buff in ground colour, spotted and blotched with olive-brown and reddish brown, and with underlying markings of pale gray. They measure on an average 2·3 inches in length by 1·6 inch in breadth. At its breeding grounds the Whimbrel is both courageous and pugnacious, and drives off such intruding birds as Gulls and Skuas with a chorus of angry cries. Only one brood is reared in the year.

**Diagnostic Characters.**—*Numenius*, with a pale stripe down the centre of the dark crown, and with the lower back much paler than the mantle (white in adult birds, streaked with brown in immature examples). Length, 16 to 18 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus NUMENIUS.

### ESKIMO WHIMBREL.

NUMENIUS BOREALIS.—(*J. R. Forster*).

**Geographical Distribution.**—*British*: Very rare straggler to the British Islands, on autumn migration. The following occurrences are on record. England: Suffolk (2 examples), November, 1852; Scilly Isles (1 example), September, 1887. Scotland: Kincardineshire (2 examples), September, 1855 and 1880; Aberdeenshire (1 example), September, 1879. Ireland: Sligo (1 example), October, 1870. *Foreign*: Northern Nearctic region; Neotropical region in winter. Breeds on the tundras above the limits of forest growth from Alaska to the shores of Hudson Bay and Davis Strait. On the west it is said occasionally to wander across Behring's Strait to the north-eastern coast of Asia, whilst in the east it appears accidentally to stray to Greenland. Crosses the United States, east of the Rockies, on migration, and the Bermudas, and winters in South America, south of the Amazon valley, to Patagonia and the Falkland Islands.

**Allied Forms.**—*Numenius minutus*, an inhabitant during summer of Eastern Siberia, passing through Dauria, Japan, and China on migration, and wintering in the Malay Archipelago and Australia. Closely resembles the Eskimo Whimbrel in general appearance, but is smaller and with a longer tarsus. It may always be distinguished by having the back of the tarsus scutellated like the front—covered before and behind with narrow transverse plates instead of hexagonal scales.

**Time during which the Eskimo Whimbrel may be taken.**—August 1st to March 1st.

**Habits.**—Like its congener, the Common Whimbrel, the present species is a migratory bird and a northern one. Its migrations are also performed about the same time. It passes across the United States in flocks with great regularity during May, appearing at the beginning of that month sometimes before the snow has all melted, and frequenting the inland plains as well as the salt marshes and mud-flats on the coast. A few birds begin to return about the end of July, and the autumn migration extends from that date to the end of October. It has been remarked by observers that this Whimbrel shows more preference for the sea coasts than inland districts, in autumn and winter, probably because the supply of food is more regular and constant. Like its allies it is a shy, wary bird, and seldom admits of a close approach unless carefully stalked. In autumn and winter up to the arrival on the breeding grounds in the following spring the Eskimo Whimbrel is gregarious, but there is no evidence to show that it is any more social than its allies during the nesting season. The flight of this bird is rapid, and during migration especially is made at a considerable altitude. The bird also possesses the characteristic habit of gliding on motionless pinions before alighting, and elevating them for a moment before they are folded close to the body. Its note is described by Dr. Coues as a soft, mellow whistle, oft repeated; as a chattering cry when on flight; and when wounded as a harsh scream. The Eskimo Whimbrel is much attached to certain haunts where its favourite food chances to be abundant, often continuing to frequent the place after being repeatedly shot at. Its food in summer consists of insects, worms, and various kinds of berries and ground fruits, whilst on the coast it is chiefly composed of small mollusks, crustaceans, and other marine creatures.

**Nidification.**—The breeding grounds of the Eskimo Whimbrel are situated on the barren grounds or tundras of the Arctic regions beyond the limits of forest growth. Like all other Arctic Waders it breeds late, not being able to do so until the ground is free from snow towards the end of June. The nest is placed on the ground of the tundra, and is a mere hollow lined with a few scraps of dry herbage and withered leaves. The eggs are normally four in number. They range from brownish or grayish buff to greenish

olive in ground colour, blotched and spotted with brown of various shades, and with pale underlying markings of grayish brown. They are pyriform, and measure on an average 2.0 inches in length by 1.4 inch in breadth. Although MacFarlane, Richardson, and others have had ample opportunity of observing the breeding habits of the Eskimo Whimbrel, there are many points still unknown. How long the period of incubation lasts, whether both sexes sit, or male or female alone, whether more than one brood is reared, all remains to be determined.

**Diagnostic Characters.**—*Numenius*, with a pale mesial stripe, the primaries unbarred, and the back of the tarsus reticulated. Length, 14 inches.

## Genus PHALAROPUS or PHALAROPES.

Type PHALAROPUS FULICARIUS.

**Phalaropus** of Brisson (1760).—The birds comprising the present genus are characterised by having lateral lobes to the toes, and laterally compressed tarsi. The wings are long and pointed, the first quill the longest; the tail is short and somewhat rounded. The tarsus is scutellated posteriorly and anteriorly; the tibia just above the tarsal joint devoid of feathers. The bill is moderately long and straight, depressed and weak. Nostrils basal, oval with an elevated border. Toes three in front, one behind articulated; united by a web at the base.

This genus is composed of three species confined to the northern and temperate portions of the Palæarctic and Nearctic regions. Two species are British, one of which is a local summer visitor, and the other a nomadic migrant to the British Islands.

The Phalaropes are dwellers on the sea coasts and more inland lakes and tarns. They are the most aquatic of all the CHARADRIIDÆ, and swim well and lightly, often going hundreds of miles out to sea. They are birds of powerful and well-sustained flight, and walk and run with equal facility. Their notes are shrill and piercing. They subsist principally on insects, crustaceans, and worms. They make scanty nests on the ground, and their pyriform eggs are four in number and spotted. They are monogamous; but the males perform the duties of incubation. They are more or less gregarious and social, and often build in scattered colonies.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus PHALAROPUS.

### GRAY PHALAROPE.

PHALAROPUS FULICARIUS—(*Linnaeus*).

**Geographical Distribution.**—*British*: Rare and irregular visitor, chiefly in autumn and winter, and generally met with sparingly almost every year, occasionally appearing in great “rushes,” or “visitations,” after the manner of the nomadic migrants, in which class it must be placed. Has been most frequently observed on the southern coasts of England; on the eastern coasts least frequently north of the Wash. In Scotland it appears to have been met with from Berwick to the Orkneys, and has recently been obtained in the Outer Hebrides. It has occurred in Wales, but is altogether rarer on our western coast line; whilst in Ireland it is of very infrequent appearance, although several were captured in the south during the last unusual visitation (1886). By far the most extensive visitation took place in the autumn of 1866, when it has been estimated that upwards of five hundred birds were taken, nearly half of this vast amount in Sussex! Twenty years previously, in the autumn of 1846, another irruption took place, which curiously enough again favoured Sussex in a remarkable degree. By a noteworthy coincidence, twenty years later than the great visitation, namely in the autumn of 1886, another and a smaller one occurred, whilst in 1869 it is said an irruption took place of some importance, both of which were almost confined to the south. Many of these visitors wandered from the coast to inland districts. *Foreign*: Circumpolar region; but not known to breed on any part of Continental Europe. Like the Knot, the Curlew, Sand-

piper, and some few other Arctic birds, it appears to be very local during the breeding season, and may possibly, like the Waxwing and the Rose-coloured Pastor, change its breeding places periodically. There are certain spots favoured by this species on the islands as well as on the mainland of the coasts of Arctic Asia and America, extending to at least as far north as lat.  $82\frac{1}{2}^{\circ}$ , and probably to all existing land suited to its requirements in the Polar Basin. Among these may be instanced Greenland, Iceland, Spitzbergen, the Taimyr peninsula, the delta of the Lena, the Tchuski Land north of Kamtschatka, Alaska, the Parry Islands, and Grinnell Land. To the mainland of Europe it is only an accidental straggler, and is of still less frequent occurrence in North Africa. Although its "fly-lines" across Asia are yet untraced, it appears to cross that continent on migration, many, perhaps, by way of the Pamir, where Severtzow, the Russian ornithologist, says it is a rare visitor, and to winter on the Mekran coast, and Scinde. A straggler has even been met with as far to the south-east as Calcutta. In the far east, Kamtschatka and the Kurile Islands appear to be winter resorts of this species; whilst it has been known to wander as far as New Zealand. In the New World its wanderings are much the same as in the Old, and it has been met with on both the eastern and western coasts as far south as lat.  $40^{\circ}$ ; and inland, Audubon speaks of a flock of about a hundred birds on the banks of the Ohio, in lat.  $38^{\circ}$ ; whilst in later years Mr. Salvin records it from Chili!

**Allied Forms.**—*Phalaropus hyperboreus*, also a British species, and fully treated of in the following chapter. *P. wilsoni*, an inhabitant of America, breeding on the shores of the lakes as far north as Winnipeg, and south to Great Salt Lake, and Lake Michigan; wintering in the Neotropical region, from Mexico in the north to Patagonia in the south. Readily identified from the only two other Phalaropes known by the long, slender bill, which is more than an inch in length. This latter species has been recorded as British from Leicestershire, but the evidence is not sufficiently conclusive to merit its inclusion in the British avifauna. See *Proc. Zool. Soc.* 1886, p. 297.

**Time during which the Gray Phalarope may be taken.**—August 1st to March 1st.

**Habits.**—The nomadic migrations of the Gray Phalarope are, as a rule, neither very extended nor very regular. When its northern haunts are disturbed by unusually severe tempests, or long-continued frosts, it draws southwards, often in considerable numbers, but such movements are not made every year, and the Gray Phalarope must be classed as a bird that winters as far north as it possibly can with safety. Except during the breeding season, this species is not much on land, but spends the greater part of its time on the sea, where it is frequently met with hundreds of miles from shore, even following in the wake of whales for the sake of catching the various marine animals that are disturbed each time those mighty creatures “blow.” This singular habit has acquired for the Gray Phalarope the name of “Whale Bird.” Sabine states that he has seen this species swimming about amongst icebergs, miles from shore. It is most expert at swimming, floating very lightly on the water, with a peculiar bobbing motion of the head, but it is not known to dive. At all times it appears to prefer to swim out of danger rather than to fly. It is also remarkably social, and during winter gathers into flocks, sometimes of very large size. The call-note of the Gray Phalarope is a shrill *weet*, and the alarm note, uttered chiefly during flight, has been described as a rapidly repeated *bick-a bick-a*. The Gray Phalaropes that have from time to time visited our islands were very tame and confiding, doubtless because they had had little experience of man; but Hume states that in Scinde they were wary enough, and the flocks rose simultaneously as soon as a boat approached them. The food of this species consists principally of insects, but crustaceans, small worms, and scraps of vegetable substances are also eaten.

**Nidification.**—The Gray Phalarope is a late breeder. It resorts to the breeding grounds in May, pairs towards the end of that month, and the eggs are usually laid during the first half of June. They make their nests on the swampy margins of the Arctic pools and lakes, in much the same sort of places as those selected by the Red-necked Phalarope. The nest is merely a hollow in the moss, or lichen-covered ground, but sometimes a few dry leaves are added as a lining. The eggs are four in number, pale buff with an olive tinge in ground colour, heavily

blotched and spotted with rich dark brown, and a few underlying markings of pale brown. They measure on an average 1·25 inch in length by ·87 inch in breadth. In this species the female bird is the most brilliant in colour, and she not only conducts the courtship, but leaves the male to incubate the eggs. The young are hatched early in July, and about a month or six weeks after this event the breeding places are deserted, and the birds repair to the open sea, forming into flocks for the winter.

**Diagnostic Characters.**—*Phalaropus*, with the bill short and wide, and the central rectrices more than half an inch longer than the outermost ones. In breeding plumage the entire underparts are rich chestnut. Length, 8 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus PHALAROPUS.

## RED-NECKED PHALAROPE.

PHALAROPUS HYPERBOREUS—(*Linnæus*).

**Geographical Distribution.**—*British*: Now only known to breed in a few favoured spots in the Shetlands, the Orkneys, and the Outer Hebrides (North and South Uist and Benbecula). Formerly bred in Sutherlandshire, Inverness-shire, and Perthshire. To the mainland of Scotland and England, and other island localities, it is now only known as a rare visitor on migration, chiefly in autumn. Rare on eastern coast of Scotland, and perhaps most frequent in Norfolk. Has not hitherto been observed in Ireland. *Foreign*: Circumpolar region above the limits of forest growth; Oriental and southern Palæarctic and Nearctic regions in winter. Summer visitor to Southern Greenland, the Faroes, Iceland, Northern Scandinavia, and to the tundras of the Dovrefjeld in lat.  $62^{\circ}$ , Nova Zembla, and eastwards across Siberia as far north as land extends, but rarely south of the Arctic Circle, except in the far east, where Middendorff observed it breeding on the west coast of the Sea of Okhotsk as far south as lat.  $55^{\circ}$ . South of these limits in the Old World it is a winter visitor to the coasts of Europe, becoming rare in the Mediterranean basin, being absent altogether apparently from North-east Africa, Asia Minor, and Palestine. It passes across Asia on most of the known internal routes of migration, and winters in Persia, and less frequently in Northern India. It is also known on the Japanese coasts on migration, and winters in China and the Malay Archipelago south to New Guinea. The New World individuals pass southwards to winter in the United States, Mexico, and Central America, occasionally wandering on their way southwards as far to the east as the Bermudas.

**Allied Forms.**—*Phalaropus fulicarius*, already treated of in the preceding chapter, and *P. wilsoni* also mentioned in the allies of that species (see p. 195).

**Time during which the Red-necked Phalarope may be taken.**—August 1st to March 1st.

**Habits.**—Although the migrations of the Red-necked Phalarope are not very extended in the western Palæarctic region they are much more so in other parts of the world, as may be gathered from the remarks on the geographical distribution of this bird. It is a bird of the sea, and though it does not appear to wander so far from shore as the Gray Phalarope, it does not visit the land much except during the breeding season. It is a tame and confiding little bird, as I have often remarked, especially when on the pools and lakes where it nests; and at all times it is extremely social. Parties of Red-necked Phalaropes may be seen all the summer through swimming in company. This bird swims remarkably well and buoyantly, nodding its head as it progresses, usually in a zigzag direction, across the pool, and picking insects from the water, or snapping at them as they flit by as it goes. It also runs daintily about the swampy margins of the water, and I have seen it walk lightly over floating masses of weed. The Red-necked Phalarope spends most of its time on the water, rarely taking wing, although it can fly both rapidly and well. The note of this species is a rather low but shrill *weet*. Its food consists largely of insects and their larvæ, but worms, crustaceans, and other small marine animals are also eaten.

**Nidification.**—The breeding season of this species commences in May in Scotland, but in more Arctic latitudes it is several weeks later. Its breeding grounds are returned to each season. These are usually situated on marshy moors, generally in the neighbourhood of pools and not far from the sea. In the valley of the Petchora Messrs. Seebohm and Harvie-Brown found the nest amongst long grass in the centre of a thick tuft a foot or more from the ground, but in Scotland it is usually made on the ground. This nest is very slight, merely a hollow lined with a few bits of dry grass and rush. The eggs are four in number, buff of various shades or pale olive in ground colour, blotched and spotted with umber-brown, blackish brown, and pale brown,

and underlying markings of gray. They measure on an average 1.1 inch in length by .82 inch in breadth. The male, as in the preceding species, performs the duties of incubation, and takes the greatest share in bringing up the brood. When the breeding place is invaded the birds leave their nests and settle on the adjoining pools, displaying little concern for their safety. As soon as the young are reared the birds of a colony (for many nests are often made within a small area) betake themselves to the sea, and as autumn advances the southern movements are commenced. Only one brood is reared in the season.

**Diagnostic Characters.**—*Phalaropus*, with the bill tapering from the base to the tip and less than one inch in length. Length, 7 inches.

## Genus **TOTANUS** or **HARD-BILLED SANDPIPERS.**

Type **TOTANUS CALIDRIS.**

**Totanus** of Bechstein (1803).—The birds comprising the present genus are characterised by having the frontal feathers extending beyond the line of the gape, and the bill so nearly straight that it is practically on the same plane as the gape. The wings are long and pointed, the first quill the longest; tail variable in shape and in number of rectrices, even in closely allied species. The tarsus is (with the exception of one species, *T. incanus*) scutellated anteriorly and posteriorly; the tibia above the tarsal joint devoid of feathers. The bill is moderately long and nearly straight, hard at the point; nostrils lateral, linear. Toes three in front, one behind small and elevated.

This genus is composed of nineteen species and subspecies distributed over the Arctic, Palæarctic, and Nearctic regions; cosmopolitan in winter. Eleven species are British; some accidental wanderers, some residents, some winter visitors.

The Hard-billed Sandpipers are dwellers on moors, tundras, and marshes in summer, sea coasts in winter. They are birds of powerful, well-sustained flight and perform enormous migrations. On the ground they run and walk with ease, and frequently wade. Their notes are shrill and some not unmusical. They subsist on insects, mollusks, fruit, etc. They make scanty nests, generally placed on the ground, and their pyriform eggs are four in number and spotted. They are with one exception monogamous. More or less gregarious and social, especially during winter.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

### BARTRAM'S SANDPIPER.

TOTANUS BARTRAMI—(*Wilson*).

**Geographical Distribution.**—*British*: Very rare straggler to the British Islands on autumn migration. The following occurrences are on record. England: Warwickshire (1 example), October, 1851; Cambridgeshire (1 example), December, 1855; Somerset (1 example), no date recorded, some forty years ago; Cornwall (2 examples), November, 1865, October, 1883; Northumberland (1 example), November, 1879; Lincolnshire (1 example), October, 1880. Ireland (1 doubtful occurrence), autumn, 1855. *Foreign*: Central Nearctic region; Neotropical region in winter. Breeds in Alaska, Rupert's Land, and the northern United States from Pennsylvania westwards to the foot of the Rockies, but appears to be very rare on the Pacific coast. Passes along the inland routes of migration as well as down the Atlantic coasts, and in less numbers over the Bermudas, and winters in the Southern States, Mexico, the West Indies, and throughout South America to at least Buenos Ayres. It has been known to wander to Australia, and there are several instances on record of its occurrence in Europe outside of the British Islands: Italy, Malta, Holland, Germany.

**Allied Forms.**—None of sufficient propinquity to need mention.

**Time during which Bartram's Sandpiper may be taken.**  
—August 1st to March 1st.

**Habits.**—Bartram's Sandpiper is a well-known and very regular bird of passage across the eastern United States. The "Prairie Pigeon," as this species is locally named, crosses the

boundless prairies which extend from the Mississippi to the Rocky Mountains, in countless hosts, on its way north to breed, returning in greater numbers to its winter quarters when the duties of reproduction are over. Great numbers also pass along the coast. The migration north commences in April and lasts into May, by the end of the latter month all the birds breeding in higher latitudes having sped away, only those remaining that breed on the more northern prairies of the States. The return migration commences in August, and by the end of September the most northerly breeding grounds are deserted. When on actual passage this species is said to migrate by night. It is a bird of rapid, powerful flight, and during the breeding season alights on trees and posts, where with the wings elevated it utters a prolonged note, like the whistling or sighing of the wind. The usual note of Bartram's Sandpiper is described as a mellow whistle, and when disturbed from the nest it utters an oft-repeated harsh scream. The prolonged whistling note is said to be often heard at night. Bartram's Sandpiper for the greater part of the year is a very gregarious bird, and even in the breeding season numbers of pairs nest close together. The food of this species consists principally of insects, such as grasshoppers and beetles, but worms and snails are also eaten. In summer and autumn the bird also eats various kinds of ground fruits and berries, seeds, and the buds and shoots of certain plants growing on the prairies. Its flesh is highly esteemed for the table, especially in early autumn, when it is very fat and in good condition.

**Nidification.**—The breeding season of Bartram's Sandpiper begins towards the end of May or early in June, and even in northern localities the eggs are usually laid by the middle of that month. The nest is made upon the ground, amongst the grass of the prairies and uplands, sometimes near the margin of a small pool or in an open swampy spot near a wood. It is merely a hollow into which a few bits of dry grass or dead leaves are collected as a lining. The eggs are four in number, varying from pale grayish buff to pale buffish brown in ground colour, spotted and blotched with reddish brown, paler brown, and underlying markings of gray. They measure on an average 1·8 inch in length by 1·3 inch in breadth. Several nests may often be found quite

close to each other, so that as soon as the birds belonging to one are disturbed the others breeding in the vicinity become alarmed, and general confusion prevails. The female incubates the eggs, but the period taken up by this is still unrecorded by American naturalists. She sits closely, and is said to indulge in various alluring antics when scared from the nest. As soon as the broods are grown, Bartram's Sandpiper again begins to join into large flocks which roam about the uplands in quest of suitable feeding places, until the period of their departure for the south. But one brood is reared in the season.

**Diagnostic Characters.**—*Totanus*, with the inner webs of the primaries conspicuously barred and the tail wedge-shaped. Length, 12 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

## RUFF.

TOTANUS PUGNAX—(*Linnæus*).

**Geographical Distribution.**—*British*: Formerly bred in many of the English marshes; a few pairs still continue to do so in Norfolk and Lincolnshire. Most abundant on spring and autumn passage, but of less frequent occurrence on the west coasts than on the east. Occurs on the Orkneys, and Shetlands, and the Outer Hebrides. Of regular appearance in Ireland on migration. *Foreign*: Northern Palæarctic region; Ethiopian and Oriental regions in winter. Breeds from the highest known land across Europe, and Asia as far east as the Taimyr peninsula, south to Belgium, Germany, and the valley of the Danube; in Europe and in Asia south to the Kirghiz steppes, Western Dauria, and perhaps the valley of the Amoor. Passes through the basins of the Mediterranean, Black, Caspian, and Aral Seas on migration, and winters throughout Africa south to Cape Colony, in Northern India, and in Burma. Wanderers on migration have occurred in Ceylon, Borneo, Japan, Kamtschatka, Behring Island, Canada, the eastern United States, Spanish Guiana, the Faroes, and Iceland.

**Allied Forms.**—None of sufficient propinquity to need mention.

**Time during which the Ruff may be taken.**—August 1st to March 1st.

**Habits.**—The Ruff is rather a late bird of passage. According to Irby the migration of this species at Gibraltar commences in January, and continues until the end of May; but as the bird does not arrive in Germany or Holland until the beginning

of May it must progress very slowly. It does not reach its breeding grounds in the Arctic regions before the end of May, or the first week or ten days of June. The return migration begins in August, and continues through September into October. A few linger on the British coasts throughout the winter. Both on migration and in its winter quarters the Ruff is decidedly gregarious, and not only frequents the mud-flats and salt marshes on and near the coast, but many inland haunts. The flight of this bird is rapid and well-sustained, and it both runs and walks during its search for food, occasionally wading in the shallows. During its short sojourn on the British coasts it seems to prefer mud-flats, and is especially numerous in many of the marshy districts of East Anglia—once a favourite breeding place of this species. The Ruff is a remarkably silent bird, even at the breeding grounds, but it is said to utter a low *whit* whilst on migration. This I have never heard, although I have had many Ruffs under my observation in autumn, both on the south coast and the low-lying eastern counties. The food of the Ruff consists of insects and their larvæ, worms, snails, small seeds, rice, and various vegetable substances.

**Nidification.**—By far the most interesting portion of the Ruff's economy is that relating to its reproduction. It is a polygamous bird, probably because for some unknown reason the females are greatly in excess of the males, estimated by several competent authorities to preponderate in the ratio of three to one. Like most polygamous birds the male Ruffs are very pugnacious, and during the "hilling" or mating season congregate at certain chosen spots to engage in combat for the favours of the females. The "hills," or fighting places, are generally small patches of open elevated land, where the herbage is short, and five or six feet across. These "hills" are resorted to yearly, and have been known to continue in use for fifty years! Here the rival males engage in what seem to be furious and deadly conflicts, although little harm seldom happens to the combatants. The excitement is intense enough, and the weaker birds are driven from the "hills," the birds rushing at each other with their ruffs expanded, and giving thrust after thrust with their bills. Several duels often take place at the same time on one "hill," and the meets

generally take place in the early morning. These combats are of more or less frequent occurrence until the females begin to sit, a period of nearly six weeks' incessant warfare, and which lasts until the ruffs or collars (assumed about April) are either worn away or begin to fall off. Each male pairs with several females, but takes no share in the duties of incubation, or in bringing up the brood. The breeding grounds are the swampy moors and fens covered with long grass, either close to the sea or some distance inland. Here the birds are by no means gregarious as soon as the "hilling" season is over, although they are conspicuous enough in their gay, varied plumage. The Reeve makes a slight nest on the ground in the swamps, usually in the centre of a tuft of sedge or coarse grass, where its discovery is very difficult. It is a slight affair, a hollow lined with a few bits of dry withered herbage. The eggs are four in number, greenish gray in ground colour, spotted and blotched with reddish brown, and with underlying markings of grayish brown. They measure on an average 1·7 inch in length by 1·2 inch in breadth. Only one brood is reared in the year. Incubation, according to Tiedemann, lasts sixteen days. The Reeve is a close sitter; perhaps because she has no watchful mate near by to warn her of coming danger.

**Diagnostic Characters.**—*Totanus*, with the axillaries white, but with no white on the quills or central upper tail coverts. Adult males subject to considerable amount of variation, especially in the colour of the ruff or collar. Length, 12 inches (male); 10 inches (female).

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

### COMMON SANDPIPER.

TOTANUS HYPOLEUCUS—(*Linnaeus*).

**Geographical Distribution.**—*British*: Passes the Channel Islands on spring and autumn migration. Breeds in the moorland districts of Cornwall, Devon, and Somerset, and northwards through Wales to the Peak. Thence it becomes widely distributed in the upland districts, throughout the north of England, and Scotland up to the Orkneys and Shetlands, and west to the Outer Hebrides. From the wild nature of the country and its suitability to the requirements of this species, the bird is widely distributed in Ireland. Elsewhere in England it is chiefly known on spring and autumn passage, but a few occasionally remain on our southern coasts all the winter, as I have recently proved. *Foreign*: Palæarctic region. Breeds throughout Scandinavia, and across Europe and Asia as far north as the Arctic Circle. In Europe it breeds as far south as the Pyrenees, the Alps, the Carpathians, the Balkans, the hills of Greece, and the Caucasus; whilst in Asia its summer range extends to Turkestan, Cashmere, China, and Japan. The European birds winter throughout Africa, and a few are said to be found all the year round in the basin of the Mediterranean; whilst others, probably immature, have been noticed to remain during summer in Teneriffe and North-east Africa. The Asiatic birds winter in India, Ceylon, Burma, the Malay Archipelago, New Guinea, the Solomon Islands, and Australia.

**Allied Forms.**—*Totanus macularius*, the American representative of the Common Sandpiper, an abnormal visitor to the British Islands, and dealt with fully in the following chapter.

**Time during which the Common Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—During summer the Common Sandpiper is the best known and most widely distributed species in the present genus. It is a common bird on the banks of inland lakes and pools, rivers and lochs, especially those where the banks are at all muddy and stretches of gravel are frequent. It is, however, a bird of the wilder districts, and does not haunt the waters of the low-lying counties. It arrives at its breeding grounds in England about the middle of April, passing Gibraltar in its northern flight during March and April, but it seldom arrives in Scotland before the end of April or the beginning of May. In the high north it does not arrive until June. The return migration commences in England as early as the end of July, and continues through August to the end of September. At Gibraltar the autumn flight commences in August and lasts to October. The Common Sandpiper is an active little bird, fond of tripping round the waterside over the mud and sand, and occasionally wading into the shallows. It is not a shy bird, and may be closely approached and watched as it runs about the shore. It often runs with surprising quickness, and whenever it stops for a moment the tail is beaten rapidly up and down several times. It flies well and quickly, usually close to the water, its wings often striking the surface; and during flight it often glides for a little distance, and elevates its wings for a moment just after it drops on to the ground. Yearly it returns to the same haunts, and will make its nest in one particular spot in spite of continual disturbance. Like many other Waders it may often be seen running on walls or palings during the season of courtship, and has been known to perch in trees. The male bird also soars at this period, and utters a short but not unmusical trill. The usual note is a shrill but not very loud *weet*, rapidly repeated when the bird is excited or alarmed, and almost invariably uttered as it rises from the ground. The food of this species is composed of insects and their larvæ, worms, various ground fruits, and in autumn and winter of crustaceans and other small marine animals. Parties of Common Sandpipers may be met with on the sea coast at the end of July, and during the period of the autumn passage they are fairly numerous on the

rocks at low water, but never occur in very large flocks. Here they are just as active and lively as at their inland mountain haunts, and are by no means shy or difficult to approach. They prefer the rocky beach either to mud-flats, sands, or shingle, and are very fond of frequenting patches of seaweed as soon as the tide has ebbed. It is said that the Common Sandpiper swims well, but I am of opinion that it only does so when wounded. I have known a bird of this species when winged take to the sea, and dive with remarkable skill, flying under water and remaining below the surface for more than a minute at a time.

**Nidification.**—In our islands the breeding season of the Common Sandpiper begins in the middle of May, and fresh eggs may be obtained from that date in southern localities to the middle of June in the most northerly ones. I am of opinion this bird pairs for life. It arrives in pairs in spring, and may be seen in pairs with the brood on the sea coast in autumn just previous to its departure for the south. For many years in succession I have also taken its eggs from one of two strips of ground which were used alternately. The nest is generally not far from the waterside, on a strip of scrubby ground where tufts of wiry grass and little heather bushes occur; but sometimes it is on the banks of one of the streams which fall into the lake; whilst more rarely it is some considerable distance from any water at all. The nest is merely a little hollow, usually under the shelter of a bush or tuft of grass, lined with scraps of dead heath, withered bents, leaves, and sometimes pine needles. The eggs are always four in number, laid with their pointed ends together, and very pyriform in shape. They are pale creamy buff or yellowish white in ground colour, richly marked with blotches and spots of pale and dark reddish brown and underlying markings of violet-gray. They measure on an average 1·5 inch in length by 1·1 inch in breadth. Both parents assist in the task of incubation, but the female sits most frequently. The period of incubation is about three weeks. The parent bird is a rather close sitter, and often remains brooding on the nest until almost trodden upon. It then rises in a hurried manner, and commences to reel and tumble along the ground as if wounded, seeking to decoy the intruder from its home. The eggs are very difficult to see, being coloured so much like sur-

rounding objects. Very often I have noticed the sitting bird run for several yards after leaving the nest and then commence its antics. The young are said to remain in the nest for several hours after they are hatched. Only one brood is reared in the year.

**Diagnostic Characters.**—*Totanus*, with the axillaries white, patches of white on most of the primaries and all of the secondaries, but with no white on the rump or upper tail coverts. Eighth and ninth secondaries mottled with brown, not barred; lower throat and upper breast streaked. Length,  $7\frac{1}{2}$  to 8 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

### SPOTTED SANDPIPER.

TOTANUS MACULARIUS—(*Linnaeus*).

**Geographical Distribution.**—*British.* In working out the geographical distribution of this species for *A History of British Birds*, Mr. Seebohm and myself came to the conclusion that of some twenty recorded occurrences in the British Islands seven were apparently genuine. They are as follows: Yorkshire (1 example), March, 1849; Lancashire (2 examples), May, 1863; Sussex (2 examples), October, 1866; Aberdeenshire (2 examples), August, 1867. It is most important to point out the fact that all these wanderers appear to be adult, and in breeding plumage, with the underparts spotted. Without wishing to call in question the *bona fides* of these seven examples, I desire to point out the extreme improbability of so many adult Spotted Sandpipers reaching this country in autumn, at any rate in breeding dress. Not only so, but because the Spotted Sandpiper is so different in appearance from the Common Sandpiper, its Old World ally, in breeding plumage, and so very similar in winter plumage, it is perfectly obvious that in the case of attempted fraud on the part of unscrupulous dealers to palm off American examples as British-killed, the greatest chance of success would be to select adult birds in spotted breeding plumage for the purpose. It is the young and inexperienced birds, the birds that have never migrated before, that are the most likely to lose their way, and wander from their usual habitat. Old birds, comparatively speaking, know the route too well to wander from it; and of the great number of birds that stray every spring and autumn, during the latter season especially, the great majority (probably





1. BUFF-BREASTED SANDPIPER.  
2. SPOTTED SANDPIPER (SUMMER), 3. DO. (WINTER).  
4. RED-BREASTED SNIPE.

ninety per cent.) are birds of the year, and new to the road. That the Spotted Sandpiper has visited the British Islands there can be no doubt. I will go further, and say that it is probable the bird comes here much more frequently than is supposed; but it reaches us in first winter plumage, with white unspotted underparts, when it bears so close a resemblance to the Common Sandpiper of the Old World that ninety-nine men out of a hundred upon shooting one would declare it to be of the British species, and not worth preserving. Until the present autumn (1891), I was under the impression that the Spotted Sandpiper could be readily distinguished from its Old World ally by having all the secondaries uniformly barred. During the month of August I shot an example of a Sandpiper in Tor Bay, which appeared to comply with these conditions, and I thought we had got a genuine Spotted Sandpiper at last. I sent the bird to Mr. Seebohm, and he very kindly compared it with a large series of both species, but he has informed me after careful examination that he feels convinced this example is only a Common Sandpiper. The character of the barred secondaries appears therefore to be unreliable; and failing this, I know of no other by which Spotted Sandpipers can be distinguished from Common Sandpipers in winter plumage, or in that of birds of the year. The character of pale legs and feet (in the flesh), I think, is common to both, and I do not attach much importance to the streaked or unstreaked lower throat and breast, although I have given it as a diagnostic character—drowning men will clutch at straws! and bewildered ornithologists are often very glad to seize even the most shady character, rather than be left with none. I am, however, still disposed to regard my example as belonging to the American species. It appears that Mr. Seebohm succeeded in finding out of a large series, only *one* other specimen similar to mine, shot at Brighton, and which I am inclined to refer also to *T. macularius*, which will then avert the difficulty of the secondaries not being a constant character. This seems to me the most logical treatment of the case, at least until more information is obtained on the subject of specific distinction (Conf. *Ibis*, 1892, p. 97). *Foreign*: Nearctic region; northern Neotropical region in winter. Breeds throughout the United

States and British North America up to about lat. 60° ; passes the Bermudas on migration ; winters in Mexico, the West Indies, Central America, and the northern portions of South America.

**Allied Forms.**—*Totanus hypoleucus*, the Old World representative, a British species, and treated fully in the preceding chapter.

**Time during which the Spotted Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—It is not known that the habits of the Spotted Sandpiper differ in any important respect from those of its Old World ally. It frequents similar haunts, the banks of rivers, and the margins of lakes. In autumn it gathers into little parties, probably the broods and their parents, and these appear to migrate in company. Its call-note is very similar, and most persistently uttered as it rises alarmed from the ground ; it possesses the same habit of beating the tail up and down and nodding the head. It feeds on similar substances, and like the Common Sandpiper appears never to be very gregarious, and often seen solitary.

**Nidification.**—In its habits during the breeding season, and in the choice of a locality for its nest, it also resembles the Common Sandpiper. Audubon, however, states that in Labrador it made a somewhat elaborate nest of moss, grasses, and feathers, built under the ledges of the rocks ; but like a good many more of this naturalist's statements, it is open to the gravest doubt. The eggs of the Spotted Sandpiper are four in number, and pale buff in ground colour, spotted, and more rarely blotched with very dark reddish brown, and with underlying markings of pale gray. They measure on an average 1·3 inch in length by 1·0 inch in breadth. The eggs are smaller than those of the Common Sandpiper, and the markings are smaller, darker, and more clearly defined. It is not known that more than one brood is reared in the year.

**Diagnostic Characters.**—*Totanus*, with the same diagnosis as that given for the preceding species, but with all the secondaries uniformly barred. It should be remarked that the adult in summer plumage is spotted with black on the underparts. Length, 7½ to 8 inches.

Family CHARADRIIDÆ.  
Subfamily *TOTANINÆ*.

Genus TOTANUS.

### GREEN SANDPIPER.

TOTANUS OCHROPUS—(*Linnæus*).

**Geographical Distribution.**—*British*: Occurs not unfrequently on spring and autumn migration, a few remaining over the summer, and a few lagging behind the rest in winter. Becomes rarer in the northern and western parts of Scotland, and in the west of Ireland it is even rarer still. Not yet recorded from the Hebrides or from the Orkneys and Shetlands. May possibly breed in Norfolk, Yorkshire, Sussex, and elsewhere, but hitherto it has not absolutely been detected. On the other hand, the birds lingering behind in spring may be immature and non-breeding. *Foreign*: Palæarctic region; Ethiopian and Oriental regions in winter. Breeds in the forest swamps from about the latitude of the Arctic Circle from the Atlantic to the Pacific. Passes Central Europe on migration, but numbers find a suitable climate at high elevations in which to breed, on the Pyrenees, the Alps, the Carpathians, and the Caucasus. Eastwards its southern breeding range is Turkestan, and the South Siberian mountains. The European birds winter in the basin of the Mediterranean, and in Africa as far south as the Cape Colony; whilst those breeding in Northern Asia pass that season in Persia, India, Ceylon, Burma, China, and Japan.

**Allied Forms.**—*Totanus solitarius*, the American representative of the Green Sandpiper, which as it has occurred in the British Islands will be dealt with fully in the following chapter.

**Time during which the Green Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—The Green Sandpiper arrives at its breeding grounds in Pomerania at the beginning of April, but in the Arctic regions it is nearly two months later. The return journey commences in August, and is undertaken rather slowly, and continues through September into October. The haunts of this species are swamps and marshes in forests, the banks of wooded streams, and lowland dykes. It is not much of a coast bird, even in winter. It is a solitary species, seldom seen even in small parties except during early autumn before the broods have got separated, nor does it appear to associate with other Waders. Its flight is rapid and well-sustained; and wherever there is any cover it is by no means a shy bird. Its food is principally composed of insects, but small worms and snails are also eaten. The note of the Green Sandpiper is a rather low and musical *tyě-tyě-tyě*, modulated under alarm or excitement into *tyük-tyük-tyük*. Whether the bird has any trill during the pairing season has not been recorded.

**Nidification.**—The breeding habits of the Green Sandpiper are remarkably interesting, inasmuch that the bird, instead of making a nest on the ground, lays its eggs in trees, usually in the deserted homes of other species. In some localities the eggs are laid as early as the middle of April, but they are of course much later in higher latitudes. During the breeding season the Green Sandpiper is as often to be seen in the trees and bushes as on the ground. A deserted nest of a Blackbird or Thrush, a Jay, or a Ring Dove, or even a Crow, is often selected by the female in which to deposit her eggs. As a rule old nests are selected from three to twelve feet from the ground, but the eggs have been taken from an old drey of a squirrel as many as thirty feet from it, whilst others have been found in a hole in a fallen tree, and on the stump of a tree which had either been felled or blown down. The eggs are sometimes laid in a broad fork on a lodgment of drifted leaves and lichen. Almost invariably the nests or sites selected are close to waters of some kind, and often in marshes. The eggs are four in number (seven are on record, doubtless the produce of two pairs of birds), and vary from creamy white sometimes tinged with olive, to pale buff in ground colour, spotted with dark reddish brown, and under-

lying spots of pale grayish brown. They measure on an average 1.55 inch in length by 1.1 inch in breadth. When the young are hatched the parents become very anxious, and flit about the trees and bushes in a remarkable and excited manner.

**Diagnostic Characters.**—*Totanus*, with the upper tail coverts white, and the axillaries brown, narrowly barred with white. Length, 9½ inches.

### SOLITARY SANDPIPER.

*TOTANUS SOLITARIUS*—(*Wilson*).

**Geographical Distribution.**—*British.* Three recorded occurrences establish the claim of this species to rank as "British." They are as follows: Lanarkshire (1 example), some years previous to 1870; Scilly Isles (1 example), September, 1882; Cornwall (1 example), October, 1884. *Foreign:* Nearctic region; Neotropical region in winter. Breeds in the northern United States from about lat. 44° up to the limits of forest growth near the Arctic Circle. Passes the United States, the Bermudas, Mexico, Central America, and the West Indies on migration, and winters in South America, in Venezuela, Peru, Brazil, Paraguay, and La Plata.

**Allied Forms.**—*Totanus ochropus*, the Old World representative of the Solitary Sandpiper, a British species, and dealt with fully in the preceding chapter.

**Time during which the Solitary Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—The Solitary Sandpiper arrives at its summer quarters in the northern United States in May, a little later in higher latitudes; the return journey commences as early as the end of July, and in the extreme south lasts into October. In its habits the Solitary Sandpiper very closely resembles its Old World ally, the Green Sandpiper. It is of an equally solitary disposition, only being noticed in small parties shortly after the broods are reared. It is not a coast bird, but prefers to run about the margins of pools and streams, occasionally wading through the

shallows. Its food is not known to differ from that of the Green Sandpiper, and its note is described as a shrill whistle.

**Nidification.**—It is a most extraordinary fact that the nesting habits and the eggs of the Solitary Sandpiper are absolutely unknown! Its breeding grounds are neither unknown nor inaccessible, nevertheless its eggs remain undiscovered. This is most probably because American naturalists have not searched for them in trees. There can be no possible doubt that the Solitary Sandpiper breeds in a similar way to its Old World representative, and lays its eggs in the deserted nests of other birds. During the breeding season it frequents similar localities, forest swamps, and pools. Its eggs probably closely resemble those of the Green Sandpiper.

**Diagnostic Characters.**—*Totanus*, with the axillaries brown narrowly barred with white, and the central upper tail coverts the same colour as the back and rump; primaries unbarred. Length, 9 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

### WOOD SANDPIPER.

TOTANUS GLAREOLA—(*Gmelin*).

**Geographical Distribution.**—*British*: Irregular straggler on spring and autumn passage, most frequent in the east and south; occasionally met with inland. Has only once been obtained in Ireland (Co. Wicklow, August, 1885). Has with certainty been known to breed in the now drained Prestwick Car in Northumberland, and doubtless continues to do so occasionally in Norfolk and other suitable districts without attracting notice. Its eggs are said to have been obtained in the neighbourhood of Elgin, but throughout Scotland it is of much rarer occurrence than in England, only one example being recorded from the west—on the Clyde. *Foreign*: Palearctic region; Ethiopian and Oriental regions in winter. Breeds throughout Europe in suitable localities from the valley of the Danube northwards, but is only a straggler to the Faroes. Eastwards it breeds in Siberia, probably as far north as land extends, and southwards in Turkestan, Mongolia, the north of China, and Kamtschatka. The European birds are well known on passage south of the Danube, and winter in the basin of the Mediterranean, and throughout Africa down to the Cape Colony. The Asiatic birds winter in Persia, Beloochistan, India, Ceylon, the Burma peninsula, and the Malay Archipelago, but are only known in Japan and South China on passage.

**Allied Forms.**—*Totanus flavipes*, the American representative of the Wood Sandpiper, which as it has occurred in the British Islands will be dealt with fully in the following chapter.

**Time during which the Wood Sandpiper may be taken.**  
—August 1st to March 1st.

**Habits.**—The Wood Sandpiper has little right to its name, the true "Wood" Sandpiper being the Green Sandpiper, the present species frequenting moorlands and tundras where thickets of willows fringe the pools and swamps. The Wood Sandpiper is a rather late bird of passage, passing Gibraltar from about the middle of March to the beginning of May, and arriving in Germany from the beginning of April to the early part of June (which is about the date of its appearance on the British coasts), birds coming at the latter date being on their way to the Arctic regions. This species was first observed in the valley of the Petchora near the Arctic Circle by Messrs. Seebohm and Harvie-Brown on the 26th of May; but in the same latitude in the valley of the Yenesay, it did not arrive until the 6th of June. Like most late migrants in spring the return journey commences early in autumn, beginning with August and lasting through September into October. The Wood Sandpiper whilst on passage is said to be very tame, and was observed by Messrs. Seebohm and Harvie-Brown actually near the pools of snow water in the streets of Ust Zylma. A week later they were again met with thirty miles to the north at Habariki, where they were feeding by the edges of the marshes and forest streams, and occasionally perching on the topmost branches of the larch-trees. The Wood Sandpiper at its winter quarters is said not to frequent the coast, but confines itself to the marshes and inland streams and pools. It is not gregarious, is usually met with in pairs or alone, and is seldom seen even in parties. In Ceylon it frequents the rice-fields, even whilst they are being tilled, running about in quest of food with little show of fear for man. Its food consists principally of insects and their larvæ, small worms, and snails. The alarm note of the Wood Sandpiper is a softly-uttered *tyü-tyü*. During the mating season the male utters a somewhat musical but monotonous trill as he descends on elevated wings after soaring, beginning in a soft and slow strain, but becoming quicker and louder as he reaches a perching place on a tree or a fence, or on the ground, and when his quivering pinions almost touch above his head. This trilling note sounds something like *til-il-il*.

**Nidification.**—Towards the southern limits of its breeding area the nesting season of the Wood Sandpiper begins early in

May, and fresh eggs may be obtained from about the middle to the end of that month. Further north the eggs are laid much later. The nest is generally made on a patch of dry ground close to the swamps, amongst heath, sedge, and coarse rank grass, and often in the immediate neighbourhood of a small willow thicket, in which the parent birds from time to time alight. It is only a hollow in the ground, carelessly lined with a few scraps of withered herbage. The eggs are four in number, creamy white, pale buff, or very pale olive in ground colour, boldly blotched and spotted with rich reddish brown, and with a few underlying markings of pale brown. They measure on an average 1·45 inch in length by 1·0 inch in breadth. The female sits closely, usually remaining on her eggs until the last moment. Only one brood is reared in the year, and both parents tend the chicks with equal solicitude.

**Diagnostic Characters.**—*Totanus*, with the lower back nearly the same colour as the mantle, and the prevailing colour of the upper tail coverts, axillaries, and under wing coverts, white. Length of wing, 4·5 to 5·1 inches. Length, 8½ inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

## YELLOW-LEGGED SANDPIPER.

TOTANUS FLAVIPES—(*Gmelin*).

**Geographical Distribution.**—*British*: One doubtful and two well authenticated occurrences establish the claim of this species to rank as “British.” They are as follows: Nottinghamshire (1 example), no exact date (1858?); Yorkshire (1 very doubtful example), October, 1858; Cornwall (1 example), September, 1871. *Foreign*: Nearctic region; Neotropical region in winter. Breeds across the North American continent, from the Yukon valley, in Alaska, in the west, to the Hudson Bay Territory and Greenland in the east. Its southern breeding range appears to extend to about lat. 44°. It passes through the United States, the Bermudas, Bahamas, West Indies, and Trinidad on migration, a few remaining to winter in the Southern States, but the majority passing on to South America, where it has been found at that season as far south as the coasts of Buenos Ayres and Northern Patagonia.

**Allied Forms.**—*Totanus glareola*, the Old World representative of the Yellow-legged Sandpiper, a British species, and dealt with fully in the preceding chapter. *T. melanoleucus*, an inhabitant of nearly the same range as the Yellow-legged Sandpiper, but not extending quite so far north in summer, or so far south in winter. Differs from both these allied forms in being larger (wing 8.0 to 7.4 inches, instead of 6.7 to 6.1 inches in *T. flavipes*, and 5.1 to 4.5 inches in *T. glareola*).

**Time during which the Yellow-legged Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—Like all its allies, the Yellow-legged Sandpiper is a migratory bird. It arrives at its more southerly breeding grounds in May, but is nearly if not quite a month later in the extreme northern limits of its distribution. Its habits do not differ in any important respect from those of its allies. It frequents moors and tundras during summer, and in autumn and winter muddy creeks, streams, and the shores of lakes and pools, and frequently wades in the shallows. The note of this species is described as an oft-repeated shrill cry, which is imitated by the sportsman, who thus lures the bird within shot whilst on its spring or autumn flights. The food of the Yellow-legged Sandpiper consists of insects and their larvæ, worms, mollusks, crustaceans, and, it is said, small fish. The return migration begins in July and lasts through August and September.

**Nidification.**—The nest of the Yellow-legged Sandpiper is placed upon the ground, either on the borders of a marsh or near the margin of a pool in the open treeless country. Very often it is under the shelter of a bush. It is simply a little hollow, sometimes, but not always, lined with a few dead leaves and twigs. MacFarlane found nests as early as the 2nd of June, even in the Arctic regions, and in some instances the eggs were hatched by the 19th of June. The eggs are four in number, creamy white or pale grayish brown in ground colour, spotted and blotched with dark reddish brown, and with large and conspicuous underlying markings of gray and grayish brown. They measure on an average 1·65 inch in length by 1·1 inch in breadth. As soon as the young are hatched the old birds become very anxious for their safety when approached by man. MacFarlane observed the male bird perch in a tree near the nest, and both parents flew from tree to tree for a considerable distance, as if enticing him from the vicinity of their treasures.

**Diagnostic Characters.**—*Totanus*, with the lower back nearly the same colour as the mantle, with the prevailing colour of the upper tail coverts white, and the axillaries and under wing coverts white sparsely marked with brown. Length of wing, 6·1 to 6·7 inches. Length, 10¾ inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

## COMMON REDSHANK.

TOTANUS CALIDRIS—(*Linnæus*).

**Geographical Distribution.**—*British*. Generally though locally distributed over the marshes of the British Islands during summer, becoming most common in the eastern counties of England, and throughout Scotland, where it extends to the Orkneys and Shetlands as well as to the Outer Hebrides. Fairly distributed in suitable localities in Ireland during summer. Becomes more numerous during autumn, as great numbers then resort to the coasts on passage, and many remain to winter on them. *Foreign*: Southern Palæarctic region; Ethiopian and Oriental regions in winter. Breeds throughout Europe, including Iceland and the Faeroes, with the exception that east of long.  $40^{\circ}$  its range gradually becomes more southerly until in the Urals it does not extend beyond lat.  $58^{\circ}$ . Resident throughout the basin of the Mediterranean, breeding in North Africa; but to South Africa and the Canaries it is only known as a winter visitor. Eastwards it breeds in Siberia as far north as lat.  $55^{\circ}$ , and on the mountain ranges of the south of that country and in Turkestan, and possibly on the highlands of Persia. It passes through Mongolia on migration to winter in India, Ceylon, Burma, China, and the Malay Archipelago, and has been recorded from Japan.

**Allied Forms.**—None of sufficient propinquity to require notice.

**Time during which the Redshank may be taken.**—August 1st to March 1st.

**Habits.**—The Redshank is another of those wading birds that changes its haunt according to season, frequenting littoral districts during autumn and winter, but retiring more or less inland to breed. Directly after the breeding season is over, the

nesting grounds are deserted, and for the remainder of the year the Redshank haunts the coast. In autumn the resident birds are largely increased in numbers by individuals from higher and colder latitudes, and in places suited to their requirements they are the commonest species of Wader on the coast. Great numbers of these Redshanks do not remain over the winter, only pass along our coasts on their way to more southern haunts; and during passage in October, a great many are caught in the flight nets of the Wash. At all times of the year the Redshank is a remarkably social bird, and is more or less gregarious in autumn and winter, frequently consorting with other small birds of the shore. Their favourite haunts are the flat muddy coasts and salt marshes, but odd birds are often flushed from the weed-covered rocks at low water. They are active, lively birds, almost constantly in motion when on the feed, wary and watchful, and amongst the very first to take wing as danger approaches. During residence on the coast the Redshank feeds on crustaceans, sand-worms, mollusks, and other small marine creatures; but in summer it eats worms, insects and their larvæ, small snails, and various kinds of ground fruits and berries. It wades a good deal when feeding, and has been observed to swim across the shallows between the mud-banks, and when wounded it will seek to escape by diving. Its flight is rapid and most unsteady, especially just as the bird rises frightened from the shore; the long wings are beaten quickly, and the white bar across them is very conspicuous when they are outspread. The usual note of the Redshank is a loud shrill *tyii-tyii*, most persistently repeated when the bird is excited or alarmed, when it sounds more like the syllables *tyik-tyik*. During the breeding season the male utters a musical trill, not only when in the air, but as he runs about the ground, or along a fence, or even perches in a tree.

**Nidification.**—The Redshank is one of the first birds to leave the coast in spring and to retire to its breeding grounds. The first individuals to leave are those that nest on the broads and fens and swampy moors close to the sea, retiring to these places even in February; those that retire further inland delay their departure until March or early April. It is most attached to certain haunts, visiting them yearly, and in some instances is

known to return and breed in favourite spots even after the marshes have been reclaimed and turned into fields. The usual summer haunts of the Redshank are broads and fens, swampy moors, and the wet ground surrounding mountain lochs and streams. It is just as wary here as on the coast, and the moment its haunts are invaded by man it rises in the air, uttering its shrill notes of alarm; here and there a few more venturesome birds than the rest remain standing daintily poised on some little hillock, or in the bed of the stream, often swaying their elegant bodies up and down as if full of nervous excitement and undecided as to which course to follow, to remain on the ground or join the noisy birds careering about high in air above them. In southern districts the Redshank begins to lay early in April, but in the north of Scotland it is more than a month later, whilst in the Arctic regions fresh eggs may be found up to the end of June. Numbers of pairs nest in close proximity, and all through the breeding period parties of birds may be observed feeding and flying together. The nest is well concealed, often beneath an arched tuft of herbage, or in the centre of a hummock of grass, or under the shelter of a bush or large weed. But little if any nest is made; the site selected is trampled into a little hollow, which may or may not be lined with a few scraps of dry vegetable refuse. The eggs are four in number, ranging from pale to dark buff in ground colour, handsomely spotted and blotched with rich dark brown, and underlying markings of paler brown and gray. Occasionally a few streaks occur. They are pyriform in shape, and measure on an average 1.75 inch in length by 1.2 inch in breadth. Many eggs of this bird are gathered for the table during the season. Only one brood is reared in the year. Incubation is said by Naumann to last from fourteen to sixteen days, but experiments have elicited the fact that the eggs of this bird placed in an incubator did not hatch until the twenty-third day. The parent birds adopt the usual alluring antics when their eggs and young are threatened. As soon as the latter are safely reared a movement to the coasts is made.

**Diagnostic Characters.**—*Totanus*, with the lower back and rump white, and the secondaries white, marbled with brown at the very base. Length, 10 to 11 inches.

Family CHARADRIIDÆ.  
Subfamily *TOTANINÆ*.

Genus *TOTANUS*.

### DUSKY REDSHANK.

*TOTANUS FUSCUS*—(*Linnaeus*).

**Geographical Distribution.**—*British*: Rare straggler on spring and autumn migration, most frequently the latter, to the east coasts of England, south of the Humber. Becomes much rarer in the south, and of still less frequency in the west. Has occurred inland as far as Notts. Has occurred several times on the east coast of Scotland, but not in the west, nor in the Hebrides. Several examples have been killed in Ireland, one near Belfast, and others in the Moy estuary, during autumn and winter. *Foreign*: Northern Palearctic region; Ethiopian and Oriental regions in winter. Breeds on the tundras of Europe and Asia, above the limit of forest growth, but nowhere apparently south of the Arctic Circle (unless it be at high elevations on the mountains of Turkestan, where similar climatic conditions prevail), from Lapland in the west, to the Tchuski Land in the east. Passes the European and Pacific coasts, including Japan, as well as along internal fly-lines on migration, and winters in the basin of the Mediterranean, in Africa north of the equator (a few wandering as far south as the Cape Colony), in India, Burma, and China. It has also been said to wander to Ceylon, and to the Aleutian Islands.

**Allied Forms.**—Perhaps most nearly allied to *Totanus glottis* and *T. calidris*, both of which are well-known British species.

**Time during which the Dusky Redshank may be taken.**—August 1st to March 1st.

**Habits.**—Except during the period of its migrations the Dusky Redshank is rarely seen on the coast; and it is only on

passage that the bird congregates into flocks of any considerable size. It is rather a late bird of passage, probably because its breeding grounds are situated in the high north above the latitude of the Arctic Circle. It begins to cross the Mediterranean in March, and continues to do so until the middle of May, which latter month and the end of April is the time of its appearance on our coasts. The young birds begin to arrive from the north in August, and the return migration lasts through September and October. Throughout that period it may be observed irregularly on the British coasts. The principal haunts of the Dusky Redshank are inland marshes and swamps, and the banks and partially dry beds of rivers, but in the breeding season it affects more wooded localities, bogs, and open parts of the northern forests, sometimes at considerable distances from water. In its habits it does not differ very much from its allies. It both runs and flies quickly, often wades, and is said to swim readily with a bobbing motion of the head. It is equally as shy as the Common Redshank, just as noisy, but nothing near so social or gregarious at any time. The note of the Dusky Redshank is described by Naumann as *tyuit*, and by Wolley as *tjeuty*. This note is most persistently uttered when the haunts of the bird are intruded, and it is said the Finnish hunters have a great antipathy to this species, because its noisy cries disturb the game they are stalking. The food of this species is composed of worms, insects, and their larvæ, crustaceans, snails, the ova of fish and frogs, and various ground fruits and berries.

**Nidification.**—The only British naturalist who has ever written an account of the nidification of the Dusky Redshank from his own observations is John Wolley. This great field naturalist was the first to bring the eggs of the Dusky Redshank before British ornithologists, and an account of his important discoveries, with accurate figures of the eggs he obtained, were published in Hewitson's charming work on the *Eggs of British Birds*. He found that this species arrived at its summer quarters as soon as the ground was free from snow, and that it began to breed almost at once. He remarked that its favourite nesting places were in the open parts of the forest, not necessarily near water, and especially in places where the trees had

been burnt, and the vegetation was scanty. Even here the Dusky Redshank was by no means a common bird, being so thinly scattered up and down the country that only a few pairs could be met with during the course of the day. He found the nests generally on rising ground, near the top of hills, in open clearings amongst the pines where the ground was clothed with heath and reindeer moss. They were mere hollows in the ground, lined with a few dead "needles" of the Scotch fir. In these slight nests four eggs are laid at the end of May, or in higher latitudes than Lapland, towards the middle of June. They vary from pale brown to pale green in ground colour, handsomely and heavily blotched and spotted with rich dark brown, and with underlying markings of pale brown and ink-gray. They are pyriform in shape, and measure on an average 1·85 inch in length by 1·3 inch in breadth. Wolley remarked that the parent bird sat closely, although its white rump was very conspicuous as it brooded over the eggs with its long neck drawn in. When flushed it either ran for a little way before taking wing, or flew into the air at once, and wheeled round and round, uttering its note at intervals; but sometimes it perched on the top of a tree near by. As soon as the young were hatched he found that the old bird became even more demonstrative, sometimes standing close to him, snapping its bill and nodding its head. Although it sits so closely, it is said to be very wary in returning to its nest. Only one brood is reared in the season; and as soon as the young are hatched they are conducted to the neighbouring marshes.

**Diagnostic Characters.**—*Totanus*, with the secondaries white, barred on both webs with gray. In breeding plumage the head, neck, and underparts are very dark slate-gray. Length, 12 to 13 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus TOTANUS.

### GREENSHANK

TOTANUS GLOTTIS—(*Linnaeus*).

**Geographical Distribution.**—*British*: Regular visitor on spring and autumn migration, both inland and on the coast, most numerous on the eastern seaboard in England, and in Ireland a few remaining over the winter, although it is not known to breed in that country. Most of the birds that visit us are on their way to or from their breeding grounds in Northern Europe, but a few spread over parts of the north and west of Scotland to spend the summer. Here it breeds sparingly in the Hebrides, and in greater abundance over Inverness, Argyle, Perthshire, Ross, Sutherland, and Caithness, but not apparently in the Orkneys or Shetlands, which is a matter for surprise. *Foreign*. Northern Palæarctic region; Ethiopian, Oriental, and Australian regions in winter. Breeds on the tundras of Scandinavia and Lapland, in Northern Russia and Siberia up to lat. 66°, and as far south as lat. 60°, eastwards to the Stanavoi Mountains, north of the Sea of Okhotsk. It passes the European and Pacific coasts, including those of Japan, as well as along internal routes on migration, and winters in the basin of the Mediterranean, the coasts and central lakes of Africa as far south as Cape Colony, India, Ceylon, Burma, China, the Malay Archipelago, and Australia. As is the case with so many birds belonging to this family, it is a great wanderer during winter, and stragglers have occurred at that season on Norfolk Island and Mauritius, in Florida, Buenos Ayres, and in Chili.

**Allied Forms.**—*Totanus fuscus*, treated of in the preceding

chapter. *T. stagnatilis*,\* an inhabitant in summer of the southern Palæarctic region, from the basin of the Mediterranean in the west to the Amoor valley in the east; wintering in South Africa, India, and South China. Differs principally from the Greenshank in being much smaller (length of wing, 5·5 inches instead of 7·5 inches). *T. guttiferus*, an inhabitant in summer of Kamtschatka and Behring Island, and in winter of Burma. Distinguished from all other members of the genus by its combining a white lower back and axillaries, and having the middle toe united by a well-developed web to the other toes.

**Time during which the Greenshank may be taken.**—August 1st to March 1st.

**Habits.**—It is during its passage to and from its northern breeding grounds in spring and autumn that the Greenshank is best known in our islands, and during those periods it may be met with, not only on the coast, but in the vicinity of many inland waters. It is a bird of very regular passage, beginning to leave its winter quarters at the beginning of spring, often early in March. It arrives on our coasts from the end of April to the first week or so in May, and reaches Norway during the latter half of May. The return journey begins in August in Holland, in September in our islands, and lasts through October. During migration it may sometimes be observed in small flocks, especially in autumn, when the broods and their parents appear to journey in company, but it is most frequently seen in pairs or even alone, and with other Waders. Its actions on the coast are very similar to those of the other Totani. It runs about the muds and amongst the weed-draped rocks at low water, and often wades into the shallows, being always very wary and suspicious, taking wing long before it is within gunshot. Its flight is quick and wavering, and the bird has a habit of dropping suddenly, running a few paces with wings half open, and then, after closing them, shaking its body in a peculiar manner. It frequently perches in trees at its breeding grounds. The food of the Greenshank consists of insects and their larvæ, especially beetles, for which the bird

\* An example of this species is said to have been shot in Hertfordshire during October, 1887, but no competent naturalist appears to have identified it. The bird has occurred accidentally on Heligoland.

sometimes searches amongst the droppings of cattle in the wet meadows. It is also said to eat small frogs and tadpoles, and the ova of fish. On the shore it eats crustaceans, and other small marine creatures ; and in inland districts worms and snails are sought. The late Mr. Swaysland on one occasion showed me half-a-dozen small minnows, which he had just taken from a dead Greenshank. Probably at its breeding grounds various ground fruits are eaten. The note of this bird, uttered most persistently during flight, I should describe as a shrill *chee-weet* oft repeated, but other observers attempt to express it as *tyii, tyii*.

**Nidification.**—The breeding season of the Greenshank varies a little according to latitude. In Scotland, as I know from personal experience, the birds return in pairs to their accustomed haunts early in May, and the eggs are laid towards the end of that month. In the Arctic regions they are from a fortnight to three weeks later. It is not at all a social bird, and the pairs are scattered up and down over a wide range of country. Its breeding grounds in our islands are on the marshy moors, sometimes quite close to the sea, and a district where lochs and little pools abound is chosen by preference. In other countries it is said to breed in marshy clearings of the pine forests. The nest, which is not found without much search, unless stumbled on purely by accident, is on the ground amongst the heath and other herbage, either close to the water's edge or in a dry tuft of grass in the swamp. It is merely a hollow lined with a few bits of dry vegetable refuse. The eggs are four in number, and vary from buff to very pale buff in ground colour, handsomely blotched and spotted with rich dark brown, and underlying markings (many of them large) of pinkish brown and gray. They are pyriform, and measure on an average 1·9 inch in length by 1·35 inch in breadth. Only one brood is reared in the year. The parent birds become excessively anxious and clamorous when their solitudes are invaded, especially after the young are hatched, but as a rule they keep at a safe distance, and often run about the moor bewailing the intrusion of their haunt. As soon as the young are reared a movement is made to the nearest coasts suited to their requirements, and the passage south shortly after begins, the birds travelling much more leisurely than in spring.

**Diagnostic Characters.**—*Totanus*, with the lower back white, and the secondaries nearly uniform gray; with the wing about seven inches long, and the tarsus over two inches long. Length, 13 to 14 inches.

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The only claim of the Marsh Sandpiper (*Totanus stagnatilis*—Bechstein) to rank as "British" rests upon a single example which was reputed to have been shot by Mr. Rothschild near the Tring reservoirs, in Hertfordshire, in October, 1887. It is distributed over the southern Palæarctic, Ethiopian, Oriental, and Australian regions in winter. Breeds from the delta of the Rhone eastwards through the valley of the Danube, South Russia, North Persia (where it is said to be a resident), Turkestan, and South Siberia. North of these limits it is only an accidental wanderer, but an example has been obtained on Heligoland. It is found on the coasts of China during migration, and in winter is an inhabitant of Africa as far south as the Cape Colony, India, Ceylon, Burma, the Malay Archipelago, and Australia.

**Allied Forms.**—*Totanus glottis*, a British species dealt with in the preceding chapter. *T. guttiferus*, an inhabitant in summer, so far as is known, of the north-west shores of the Sea of Okhotsk, and in winter of Burma. Distinguished by having the middle toe united at the base by a web to both the other toes, and by its white lower back and axillaries.

**Time during which the Marsh Sandpiper may be taken.**—August 1st to March 1st.

**Diagnostic Characters.**—*Totanus*, with the lower back, rump, and central upper tail coverts white; secondaries nearly uniform gray. Length of wing, about 5½ inches.

## Genus **LIMOSA** or **GODWITS**.

Type **LIMOSA MELANURA**.

**Limosa** of Brisson (1760).—The birds comprising the present genus are closely allied to the preceding group, but appear to differ in the formation of the sternum. In the Godwits the apex of the profile of the keel retreats from the furculum, whilst in the Hard-billed Sandpipers it advances towards it. They are further characterised by having the tarsus scutellated in front, the bill long, slightly recurved, expanded, and hard and smooth at the tip; and the frontal feathers not extending beyond the gape. The wings are long and pointed, the first quill the longest; the tail is short and nearly even, and composed of twelve feathers. The tarsus is long and slender, the lower portion of the tibia devoid of feathers. Toes three in front; one behind articulated; the claw of the middle toe pectinated.

This genus is composed of six species and subspecies distributed over the Arctic and temperate portions of the Palæarctic and Nearctic regions during summer, but nearly cosmopolitan in winter. Two species are visitors to the British Islands.

The Godwits are dwellers on the moors and tundras and marshes during summer, the sea coasts during migration time and winter. They are birds of powerful and rapid flight, run and walk with ease, and habitually wade. Their notes are loud and expressive. They subsist on worms, insects, mollusks, etc. Their nests are slight and made on the ground, and their eggs are four in number and spotted. They are monogamous, and more or less sociable and gregarious during winter.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus LIMOSA.

## BAR-TAILED GODWIT.

LIMOSA RUFA—*Brisson.*

**Geographical Distribution.**—*British.* Well-known visitor on spring and autumn migration, most numerous during the vernal flights on the coasts of the eastern counties of England south of the Humber. Most abundant and widely distributed in autumn, but commonest on the eastern coast line. Passes the Orkneys and Shetlands, the Outer Hebrides, and the Channel Islands. Commonest in Ireland during autumn and winter, especially on the west coast. By far the greater number of birds that visit us in autumn pass south, but a few remain to winter on our coasts, especially in the east of England; on the sole authority of Mr. Abel Chapman they are said to occur in thousands even during the hardest winters on the coast of Northumberland, which is contrary to my own experience on the Lincolnshire coast, as well as to that of most other competent observers. Perhaps some other species has been mistaken for them. *Foreign:* Northern and western Palæarctic region in summer; small part of Oriental region in winter. Breeds on the tundras above the limits of forest growth from Lapland in the west across Northern Europe and Siberia, probably as far east as the valley of the Yenesay. It is an accidental wanderer to the Faroes, and passes the western coasts of Europe on migration, to winter in the basin of the Mediterranean, principally in Northern Africa; and occasionally straying to the Canaries. Gambia on the west, and the Somali Country on the east, appear to be the southern limits. The birds breeding in West Siberia appear to migrate down the valleys of the Tobol and the Ural into the Caspian

basin, thence across country to the Mekran coast to North-east Africa, and occasionally to the extreme north-west of India, the great mountain chains of Central Asia apparently turning the tide of migrants westwards from the Yenesay valley into this course.

**Allied Forms.**—*Limosa rufa uropygialis*, northern and eastern Palæarctic region in summer; Australian region in winter. Breeds on the tundras of Northern Siberia above forest growth, probably from the Taimyr peninsula eastwards to the sea of Okhotsk and across Behring's Strait into Alaska. Passes Japan, Mantchooria, and China on migration, and winters in the islands of the Malay Archipelago, Australia, the New Hebrides, Norfolk Island, and New Zealand. The Eastern form of the Bar-tailed Godwit, only subspecifically distinct, and completely intergrading with its Western representative. Typical examples differ from the Bar-tailed Godwit in having the prevailing colour of the rump browner, caused by the dark centres of the feathers being larger and more numerous. This form should be looked for on the British coasts, especially during the autumn flights. *L. fedoa*, the American representative of the Bar-tailed Godwit, breeding as far north as Lake Winnipeg, and wintering as far south as the coast of Peru, but stationary in the central districts. Distinguished from the Bar-tailed Godwit by having the axillaries and under wing coverts chestnut.

**Time during which the Bar-tailed Godwit may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—The Bar-tailed Godwit begins to leave its winter quarters in North Africa in February, and the stream of migrants is slowly percolating into Europe from that date until the end of April. This stream of migrating Godwits breaks upon our coasts towards the end of April and during the first half of May, but does not appear to extend north of Spurn Point, whence the German Ocean is crossed, and the Arctic breeding grounds are reached towards the end of that month or early in June. Birds on the return journey, mostly young, are observed on the British coasts at the end of August, and the autumn flight continues from that date to the end of October or the first week in November. In India, Hume states that the earliest occurrence of this species

known to him in autumn was the 29th of September, and the latest in spring on the 23rd of March. The birds that pass our coasts in spring are mostly adults on their way north to breed, and excessively wary, but in autumn the flocks are mostly composed of young birds which are just as remarkably tame. I have often been allowed to approach single birds on the mud-flats of the Wash within a few feet without their showing the least alarm, only greeting me with what I should say were expressions of astonishment. Probably I was the first human being they had ever seen. During their sojourn on our shores these birds confine themselves principally to flat coasts, where a considerable area of mud is exposed at low tide. They are very fond of frequenting the little creeks and dykes that intersect salt marshes, and during high water often repair short distances inland to wait for the ebb. The Bar-tailed Godwit during autumn and winter is generally a gregarious species, and sometimes unites into very large flocks at the feeding grounds; but these gatherings are easily dispersed, and the birds split up into parties and often fly off in various directions. Hume records similar habits in the winter quarters of this species in Kurrachee Harbour. It usually walks about the soft muds and marshes, but can, when occasion requires, run with considerable swiftness. Its flight is rapid and often rather unsteady at first, and, like most Waders, the bird frequently skims for a short distance before it alights. When reposing on some mud-bank the long neck is usually drawn in close to the body, and one leg is often drawn up. This Godwit moves about a good deal at night, and is often taken in the flight nets of the Wash at that time. It wades frequently, but never attempts to swim or dive unless wounded. The food of the Bar-tailed Godwit during autumn and winter consists of insects, crustaceans, snails, and sand-worms. Hume remarks that birds shot in India which he dissected had been feeding on what appeared to be minute *acephalæ* or jelly-fish. In summer the bird subsists largely on insects and their larvæ, worms, and possibly ground fruits and berries. The flesh of this species is not very palatable, especially when the birds are shot in winter, or after long residence on the coast. A young bird, shot soon after its arrival in our islands in autumn, is in the best condition for the table. The note of this Godwit resembles

the syllables *kyǎ-kyǎ-kyǎ*, often very persistently uttered as the birds fly up and down the mud-flats. During the pairing season the male utters a trill.

**Nidification.**—No thoroughly trustworthy observations of the breeding habits of the Bar-tailed Godwit have yet been made. Its breeding grounds are on the swampy moors of the Arctic regions, and are apparently very locally distributed. Eggs of this bird were obtained by Wolley in Finland on the 29th of May, and he states that it breeds in marshes, and that the nests are hard to find. The nest is said to be merely a slight hollow, lined with a little dry vegetable refuse. The eggs are four in number, olive-green of various shades in ground colour, spotted and blotched with darker brown, and with underlying markings of gray. They measure on an average 2·2 inches in length by 1·45 inch in breadth. It is impossible to distinguish them from eggs of the Black-tailed Godwit. Probably this species only rears one brood in the season.

**Diagnostic Characters.**—*Limosa*, with the lower back, rump, under wing coverts, and axillaries white, obscurely marked with brown. Length, 15 to 16 inches.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus LIMOSA.

## BLACK-TAILED GODWIT.

LIMOSA MELANURA—*Leisler.*

**Geographical Distribution.**—*British*: Although it formerly bred in the eastern counties of England, the Black-tailed Godwit is now much rarer than the preceding species. It is nearly half a century ago since the last eggs were taken in Norfolk. It occurs sparingly, but fairly regularly, on spring and autumn passage, on the low-lying coasts of the east of England, south of the Humber; much less frequently elsewhere, although it is said to visit the coast of Lancashire every autumn. Very much rarer in Scotland, even on the eastern coasts; but it has been observed as far north as the Shetlands; on the west coast it is only accidental. Of rare occurrence in Ireland, chiefly in autumn. Occasionally strays inland to large sheets of water. A few laggards are sometimes met with in winter. *Foreign*: Western Palæarctic region; Oriental region occasionally in winter. Breeds in Iceland and the Faroes. On Continental Europe it breeds in Belgium, Holland, Denmark, Scandinavia (occasionally up to the Arctic Circle), Poland, North Germany, and Central and Southern Russia. In Asia it breeds in Western Turkestan and South-western Siberia up to lat. 60°, and as far east as the western tributaries of the Obb. Passes Western Europe and along internal routes on migration, and winters on the Spanish coasts and in the basin of the Mediterranean, occasionally wandering to the Canaries and Madeira, and down the Red Sea to Abyssinia. The birds breeding in the East appear to pass West Turkestan on migration to winter in the basin of the Caspian, in the Persian Gulf, and in India and Ceylon, the birds visiting the latter country crossing the Himalayas on passage.

**Allied Forms.**—*Limosa melanura melanuroides*, eastern Palæarctic region ; Oriental and northern Australian regions in winter. Breeds from the eastern tributaries of the Yenesej, through the Altai Mountains and the Baikal basin to the valley of the Amoor, not occurring north of lat. 55° in East Siberia. Passes Mongolia and Japan on migration, and winters in China, Burma, the Malay Archipelago, Northern Australia, and many of the Pacific Islands. The Eastern form of the Black-tailed Godwit, only subspecifically distinct. In spite of the fact that the area of distribution during the breeding season appears to be discontinuous, the Eastern and Western forms completely intergrade, a fact owing probably to the winter quarters of each impinging. As may be seen, this is exactly reversed in the Bar-tailed Godwit, in which the breeding area of the two forms overlaps but the winter area is discontinuous. Typical examples only differ from the Black-tailed Godwit in size, measuring in length of wing from 7·0 to 8·0 inches, instead of from 8·0 to 9·0 inches, as in the Western race, and in length of tarsus from 2·25 to 3·0 inches, instead of from 3·0 to 3·75 inches. This form should be looked for on the British coasts, especially in autumn. *L. hudsonica*, the American representative of the Black-tailed Godwit, breeding on the tundras of Arctic America from Alaska to Baffin Bay, wintering in the temperate regions of South America to the Falkland Islands. Distinguished from the Black-tailed Godwit by having the axillaries and under wing coverts dark brown instead of white.

**Time during which the Black-tailed Godwit may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—Flocks of Black-tailed Godwits begin to leave their winter quarters south of the Mediterranean in February, and continue to do so until the middle of March. These birds do not appear to be in any great hurry to reach their breeding grounds, as they pass slowly up the coasts of Western Europe, not reaching our islands before April and May, which is also the date of their arrival in Denmark. The return migration begins in Denmark and the British Islands in August, and lasts into September ; in France it begins in September and continues into October. In Upper India this species does not arrive in any great numbers

before the end of October, and most of the birds have departed again by the end of March ; but Hodgson states that in Nepal it arrives in September, and stays a month before passing south, and returns in March and April. This bird not only frequents the mud-flats and saltings, but more inland marshes and the wet, boggy parts of moors. At its winter quarters in India it is found inland near broads and swamps, usually in the vicinity of rice-fields, and on the banks of the larger rivers ; but in more littoral districts it affects the mud-flats of estuaries by preference. This Godwit usually walks with rather slow, deliberate steps, but it is capable of running very quickly, and often wades in the shallows. Sometimes it sleeps while standing in water up to the breast, with the long neck and bill nestled in the dorsal plumage. In India, they are said to be much more easily approached when in flocks than when in pairs, or alone ; but curiously enough the reverse is often the case on our coasts. It may frequently be seen in marshy meadows, and occasionally frequents long grass almost as tall as itself. This Godwit, whilst on passage, is remarkably restless, and shifts its ground a good deal, but when once fairly settled in its winter quarters it continues to visit certain feeding grounds for many weeks in succession. In India Hume states that although they have certain spots, especially rice stubbles and fields and patches of wild rice, to which they resort for several hours during the day to feed, they also feed at other times in places to which they resort for the remainder of the day. The food of the Black-tailed Godwit consists of worms, insects and their larvæ, crustaceans, sand-worms, and snails. In summer this food is varied with shoots and roots of aquatic plants ; and in winter, according to Hume, rice, whenever available, both cultivated and wild, is this Godwit's favourite food, in addition to which it eats great quantities of millet seed, and the seeds of grass and sedges. Its kind of food, this writer informs us, depends a good deal on what may chance to be to hand, and its gizzard is usually crammed with one variety alone. The call-note of the Black-tailed Godwit resembles the syllables *tyü-it*, but its alarm note is a loud and clear *tyü, tyü*, most persistently uttered when the breeding grounds are invaded by man.

**Nidification.**—The breeding season of the Black-tailed Godwit commences in May, in Poland and Jutland, a little later in higher latitudes, and the young may be seen fully fledged towards the end of June. Although not strictly gregarious during this period, numbers of nests may be found within a small area of the marshes and swampy meadows on which this species breeds. The nest is usually well concealed amongst the herbage, and is often placed in a tussock of sedgy grass. It is merely a hollow about three inches deep, but rather neatly lined with dry grass and other vegetable refuse. The eggs are four in number, various shades of olive-brown in ground colour, spotted and blotched with darker olive-brown, and with underlying markings of pale brown and gray. They are pyriform, and measure on an average 2·15 inches in length by 1·5 inch in breadth. As soon as the breeding haunts are invaded the Godwits rise and fly to and fro with noisy clamour, rarely if ever remaining on their nests until approached; and when the young are hatched they become more bold, and venture within a few feet of the intruder's head. They are said to be very pugnacious at this period; and will even attack cattle that chance to stray on to their haunts, and pursue with great fierceness any wandering Crow or Hawk that invades their quarters. Only one brood is reared in the year, and as soon as the young can fly they begin to move southwards.

**Diagnostic Characters.**—*Limosa*, with the rectrices black with white bases, and the axillaries white, sometimes obscurely barred with brown. Length, 16 inches.

## Genus **EREUNETES** or **SNIFE-BILLED SANDPIPERS.**

Type **EREUNETES PUSILLUS.**

**Ereunetes** of Illiger (1811).—The birds comprising the present genus are characterised by having the frontal feathers not extending beyond the gape, and the point of the bill swollen laterally and rugose. The wings are long and pointed. The tarsus is moderately long, but short in some species, and scutellated both anteriorly and posteriorly; the tibia for some distance above the tarsal joint is devoid of feathers. The bill is somewhat variable in length proportionately, and nearly straight. Nostrils lateral and basal. Toes, three in front, one behind somewhat elevated; the outer and middle ones connected by a well-developed basal web.

This genus is composed of six species and subspecies confined to the north-eastern Palearctic and northern Nearctic regions; Neotropical and Oriental regions in winter. One species is a rare straggler to the British Islands.

The Snipe-billed Sandpipers do not differ in their general habits and the localities they frequent from their near allies. Their eggs and mode of nidification are also normal Totaninæ.

Family CHARADRIIDÆ.  
Subfamily TOTANINÆ.

Genus EREUNETES.

## RED-BREASTED SNIPE.

EREUNETES GRISEUS—(*Gmelin*).

**Geographical Distribution.** — *British*: The recorded occurrences on which the claim of this species to rank as "British" is based are as follows. England: Devonshire (3 examples), October, 1801, 1837, and "previous to 1857"; Cumberland (1 example), September, 1835; Norfolk (3 examples), October, 1836, October, 1840, October, 1845; Middlesex (2 examples), one "previous to 1866"; Scilly Isles (1 example), October, 1857; Lincolnshire (1 example), August, 1882; Lancashire (1 example). Scotland: Fifeshire (1 example), September, 1867; Lanarkshire (1 example), "previous to 1870." Ireland: No examples have yet been obtained. It is by no means improbable that some of these examples may belong to the nearly allied Asiatic species about to be mentioned; it is also impossible to say, without examining each specimen, whether all or part belong to the Eastern or Western form of the American species. *Foreign*: Nearctic region except extreme north-west; northern Neotropical region in winter. Accidental in Greenland and in Continental Europe. Breeds throughout the Arctic regions of North America from the Rockies in the west to Baffin Bay in the east, and south to Hudson Bay, and probably the Great Lakes in about lat. 44°. Passes along inland routes, as well as the Atlantic coasts, and occasionally over the Bermudas on migration, and winters in the West Indies, Central America, and South America, as far south as Brazil and Chili.

**Allied Forms.**—*Ereunetes griseus scolopaceus*, north-western Palæarctic region; northern Neotropical region in winter. Probably breeds from the valley of the Saskatchewan, northwards through the lake region and the Mackenzie valley to Banks Land,

and westwards to Alaska and the extreme north-east of Asia, in the Tchuski Land and Kamschatka. Passes down the Pacific coasts, and inland almost in a line with the Rocky Mountains, and winters in Central America. It occasionally wanders to the Atlantic coasts; has been recorded inland in Asia as far east as the valley of the Lena; and occurs accidentally in Japan. The Western form of the Red-breasted Snipe, only subspecifically distinct, and completely intergrading with its more easterly representative. Typical examples differ from the Red-breasted Snipe in being less spotted on the underparts in breeding plumage, and in having the lower back less spotted in summer and winter alike. It is also said to be on an average a slightly larger bird. *E. taczanowskii*, an inhabitant, probably, of the valley of the Lena in Siberia during summer, passing through Dauria and Mongolia on migration, and wintering in China, Borneo, Burma, and India. Differs from both forms of the Red-breasted Snipe in having the middle toe united at the base by a web to both the adjoining toes.

**Time during which the Red-breasted Snipe may be taken.**—August 1st to March 1st.

**Habits.**—The Red-breasted Snipe is a rather late migrant, passing the northern United States from the latter half of April to about the middle of May, and arriving at its Arctic breeding grounds towards the end of that month. As is the case with most Waders in which the young birds do not breed in their first spring, many individuals pass the summer considerably south of the breeding grounds, or even do not migrate north at all in spring, but remain during the summer in their winter quarters. The return migration commences with the young birds that leave their birth-place almost as soon as they can fly, and reaching even such southern localities as the West Indies by the end of July. During August and September the great bulk of birds pass south, and then this species literally swarms in districts suited to its requirements. As is usual, the autumn passage is made much more leisurely than the spring one, and the migrating parties of a dozen or more individuals often remain for several weeks in a district where food is abundant before passing on again. They are said to be very tame birds whilst on passage, probably because most of them are young and ignorant of man's persecutions. During

autumn and winter the Red-breasted Snipe principally frequents the low, flat, muddy coasts, where abundant food can be obtained, but less frequently it is found near inland swamps and marshes. On the muds it runs about in the usual Sandpiper style, occasionally wading through the shallows, and even swimming when it chances to get out of its depth. When alarmed, the flock rises *en masse*, and settles again in the same manner. The flight of this species is quick and well-sustained, but is not characterised by the unsteady, wavering movements that are so remarkable a feature in that of the true Snipes. The usual note of the Red-breasted Snipe is said to be a whistle, easily imitated by the sportsman, who often thus lures the bird to its doom. The alarm note is described by Coues as a soft *wheet*, uttered as the bird is about to take flight. The food of this bird consists principally of worms and insects, but seeds and various ground fruits are eaten. On the shore it obtains crustaceans, mollusks, and other small marine animals.

**Nidification.**—The breeding season of the Red-breasted Snipe begins in June, and fresh eggs may be obtained throughout that month. The nesting grounds of this species are situated on the Arctic tundras, the marshy portions of these interminable northern moors, or “barren grounds,” as the Americans term them, where pools are frequent. Sometimes its breeding grounds are close to the sea, at others considerable distances inland. The nest is made upon the ground, often in a tuft of marsh-grass, or amongst the short vegetation on the shores of the moorland lakes. It is merely a hollow, scantily lined with a few dead leaves or bits of withered herbage. The eggs are four in number, and vary in ground colour from pale greenish brown to pale buffish brown, blotched and spotted with dark reddish brown, and with underlying markings of pale grayish brown. Sometimes a few very dark streaks occur. They are pyriform, and measure on an average 1·7 inch in length by 1·15 inch in breadth. Only one brood is reared in the year, and as soon as the young can fly they begin to draw southwards on their way to their winter quarters.

**Diagnostic Characters.**—*Ereunetes*, with no web between the middle and inner toes, and with the lower back much whiter than the mantle. Length, 10 to 11 inches.

## Family CHARADRIIDÆ.

### Subfamily SCOLOPACINÆ or CLEFT-FOOTED SAND-PIPERS and their ALLIES.

The birds included in the present subfamily are distinguished from their allies by having all the toes cleft to the base. To exclude the Turnstones from the Charadriinæ, where we have for so long been accustomed to associate them, and to place them in the same division as the Snipes, may appear to some to be rather a high-handed proceeding ; but so far as the eggs are a guide to affinity, the change seems rational ; besides, the small range of variation between summer and winter plumage in the Turnstone is apparently a fact demonstrating closer affinity with the Snipes (*Scolopax*) than with the Plovers.

This subfamily is composed of about sixty species, which may be further subdivided into five fairly well-defined genera. Chiefly Arctic and temperate regions, a few tropical ; cosmopolitan during winter.

## Genus **STREPSILAS** or **TURNSTONES**.

Type **STREPSILAS INTERPRES**.

**Strepsilas** of Illiger (1811).—The birds comprising the present genus are characterised by having the toes cleft to the base, and the nasal orifice reaching beyond the basal fourth of the bill. The wings are long and pointed, the first primary the longest; tail rather short and nearly even, composed of twelve feathers. The tarsus is scutellated in front, reticulated behind; the tibia just above the tarsal joint devoid of feathers. The bill is short, thick at the base, tapering to the point, somewhat conical; nostrils basal, lateral, partially shielded by a membrane. Toes three in front, one behind short and elevated.

This genus is composed of three species, breeding in the northern Nearctic, and temperate and northern Palæarctic regions; cosmopolitan in winter. One species is a common visitor to the British Islands on passage, rarer during winter.

The Turnstones are dwellers on the sea coast, rocky ones by preference. They are birds of powerful and sustained flight, performing extended migrations; and walk and run with equal facility. Their notes are clear and shrill, some not unmusical. They subsist principally on small crustaceans, sand-worms, the animals in small shells, etc. They make scanty nests on the ground, and the four pyriform eggs are spotted. They are monogamous, and more or less gregarious and social, even during the breeding season.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus STREPSILAS.

## TURNSTONE.

STREPSILAS INTERPRES—(*Linnæus*).

**Geographical Distribution.**—*British*: Most abundant on the British coasts during spring and autumn passage, only a few remaining to winter. Commonest on Scotch and Irish coasts, and may possibly breed on the Hebrides. *Foreign*: Circumpolar region, and widely dispersed, breeding as far north as land extends, but not south of the Baltic. In winter it is practically cosmopolitan south of the Arctic Circle, being a visitor to the coasts of both hemispheres. Said to be a resident on Lord Howe's Island, off the coast of New South Wales, but further confirmation than that already given is much to be desired.

**Allied Forms.**—*Strepsilas melanocephalus*, an inhabitant of California and the adjoining coasts. Differs from the Common Turnstone in having the chestnut replaced by black, and in the absence of white on the head and neck.

**Time during which the Turnstone may be taken.**—August 1st to March 1st.

**Habits.**—Although occasionally met with inland on migration the Turnstone is eminently a coast bird, and at all times of the year lives either on the shore or in the immediate vicinity of the sea. It is best known on passage in our islands, although a few odd birds occasionally remain with us during winter, and it would appear that immature non-breeding individuals occasionally stay behind in the winter quarters during summer, or at a considerable distance south of the nesting grounds. Young Turnstones begin to make their appearance on our coasts at the end of July, and the migration continues through August and September, by which

latter date most of the birds have passed south. They arrive on their northern passage in our islands at the end of April, and the spring flight lasts about a month; even in the high north they appear early in June. The Turnstone prefers a rocky or shingly beach to a mud one, and during autumn and winter usually lives in flocks of varying size. Many odd birds, however, may be met with at these seasons, sometimes consorting with other Waders. Most of its time is spent upon the beach in restless quest of food. It is ever running about amongst the pebbles and drifted rubbish on the shore. It indulges in the peculiar habit of turning over shells, pebbles, or any other small objects on the beach—hence its trivial name—in search of the small marine animals that often lurk under them; and it is said occasionally to use its breast as well as its singularly shaped beak for the purpose. It not only runs about the dry shore, but frequently wades, and Hume states that he has seen it swimming on the sea just outside the breakers, rising from time to time and flying a little way, then settling on the water again. Its flight is not particularly rapid, and as it generally flies straight and not very far from the ground it is a somewhat easy bird to shoot. It is also fond of sitting on an elevated spot; and Swinhoe states that in China he has seen numbers of this bird perched on stakes and on the ropes suspended between them. The note of the Turnstone is a shrill whistle, resembling the syllable *keet*; the bird also utters a double note, which some authorities syllable as *kitter*, and sometimes the two are uttered in succession, making a treble note. During the love season these notes are uttered so quickly by the male as to form a somewhat musical trill. The food of this species consists of sand-worms, mollusks, crustaceans, and other small marine animals. An example I dissected during the present autumn had its stomach crammed with dozens of minute shells. It is said that this bird is easily tamed.

**Nidification.**—The Turnstone breeds in June; and although not gregarious during the nesting season, several pairs not unfrequently hatch their eggs in the same immediate neighbourhood. Its breeding grounds are close to the sea, often on low rocky islands. The nest is usually placed amongst the scanty herbage of the coast, amongst tufts of grass or bushes, and is simply a

hollow, often under the shelter of a plant or bush, lined with a few scraps of vegetable refuse. The eggs are four in number, and vary from pale olive-green to pale buff in ground colour, boldly blotched, spotted, and clouded with olive-brown and dark reddish brown, and with underlying markings of violet-gray. They are rather pyriform, and measure on an average 1.6 inch in length by 1.1 inch in breadth. Both parents assist in the duty of incubation, and only one brood is reared in the year. As soon as the chicks are hatched, the broods and their parents repair to the shore, and very soon afterwards the migration south begins. In the high north the entire breeding season only lasts about a couple of months.

**Diagnostic Characters.**—*Strepsilas*, with the chin and throat white. The mottled black, white, and chestnut plumage of this species is very characteristic. Length, 9½ inches.

## Genus **TRINGA** or **CLEFT-FOOTED SANDPIPERS.**

Type **TRINGA CANUTUS.**

**Tringa** of Linnæus (1766).—The birds comprising the present genus are characterised by having the toes cleft to the base, the tarsus scutellated anteriorly as well as posteriorly, the tail uniform and unbarred, and the first primary much longer than the fourth. The wings are long and pointed. The tarsus is rather short, the tibia just above the tarsal joint is devoid of feathers. The bill is always shorter than the tarsus and middle toe combined, sometimes decurved, narrow, slightly compressed, and rugose towards the tip. Nostrils lateral, and situated in a groove. Toes, three in front ; hind toe present in all species except *arenaria*.

This genus is composed of twenty-one species and subspecies, confined during the breeding season to the northern Palæarctic and Nearctic regions, but in winter is almost cosmopolitan. Twelve species are included as British, but only one breeds within our limits.

The Cleft-footed Sandpipers are dwellers on tundras, marshes, the banks of streams, and in winter on the sea coasts. They are birds of rapid flight and extended migrations, run and walk with ease, and frequently wade. Their notes are clear and shrill, some of them not unmusical. They subsist on insects, worms, crustaceans, mollusks, and ground fruits, etc. They make scanty nests on the ground, and the four eggs are pyriform in shape, and spotted. They are monogamous ; gregarious in winter, more or less social during the breeding season.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

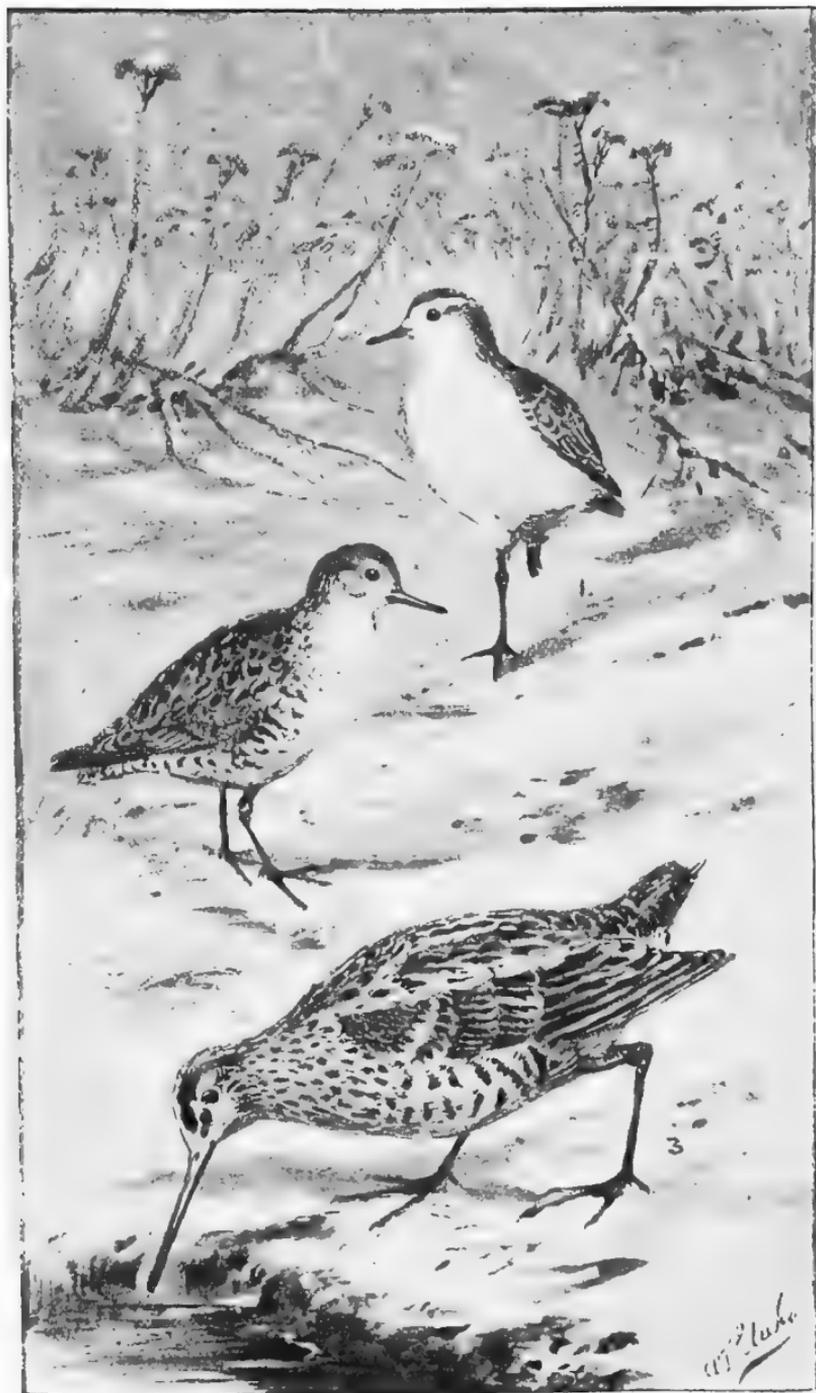
Genus TRINGA.

## KNOT.

TRINGA CANUTUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Common winter visitor, most abundant on the low-lying coast of the eastern counties of England south of the Humber, and only less so in suitable districts on the south coast. Becomes rarer on the more rocky western coasts, but is abundant in many parts of the low shores of Lancashire and Cumberland. Much rarer in Scotland on the west coast than on the east. Commonly distributed round the Irish coasts during winter. Many birds only pass along the British coasts bound further south in autumn, or on their way north in spring, whilst in severe winters our northern coasts are almost deserted. *Foreign*: Circumpolar region; Ethiopian, Australian, Nearctic, and Neotropical regions in winter. The breeding grounds of the Knot are very restricted, and probably lie north of lat.  $75^{\circ}$  in the western hemisphere, and north of lat.  $80^{\circ}$  in the eastern hemisphere. Very little land is known north of these limits, and what little has been explored has failed to reveal the grand summer home of the tens of thousands of Knots that pour southwards from the "nightless north" in early autumn. The few scattered localities where the Knot has been met with breeding, almost invariably in small numbers, are as follows:—New World: Melville Island, lat  $80^{\circ}$ , by Sabine in 1820; (?) Melville peninsula, lat.  $67^{\circ}$ ; Grinnell Land, lat.  $82\frac{1}{2}^{\circ}$ , and lat.  $81\frac{3}{4}^{\circ}$ , by Feilden and Hart (young in down secured). Old World: Not a single known breeding place; although, judging from the birds' vast abundance in Europe during winter, at least one, if not the only, grand breeding place is on undis-





1. SANDERLING.

2. KNOT.

3. COMMON SNIFE.

covered land north of Franz Josef Land and the Liakoff Islands, or New Siberia. The Knot has been observed in summer on many points much further south on Continental Asia, but there is not the slightest evidence forthcoming that these odd birds were breeding. It has been obtained in Alaska and Greenland. It was observed in the Dwina delta, near Archangel, by Hencke; Middendorff saw an odd bird or so on the Taimyr peninsula in May, and at the mouth of the Uda, in the Sea of Okhotsk, in July; Schrenck obtained examples in autumn at the mouth of the Amoor, and it has been obtained at that season near Lake Baikal; and on migration in the valleys of the Obb and the Kama. Passes Greenland, Iceland, and the Faroes on migration, and occurs on passage on the entire coast line of Western Europe, and winters on the west coast of Africa as far south as Damara Land. Rare in the Mediterranean during winter, but common on spring and autumn passage. Of only accidental occurrence in India, but passes the west coast of the Pacific, China, and Japan, on migration, and winters in Australia and New Zealand. It does not appear to pass the Pacific coast of America, but migrates commonly down the Atlantic coasts, as well as along some internal routes, and winters in the southern States, probably Mexico, and some of the West Indies, and has been known to wander as far south as Brazil.

**Allied Forms.**—*Tringa crassirostris*, which possibly breeds in North-eastern Siberia, although the precise locality still remains unknown, and passes down the Ussuri valley, the coasts of China and Japan on migration, and winters in Australia. Has visited the Andaman Isles, and, more remarkable still, the coast of Scinde, the latter in considerable numbers. Distinguished from the Common Knot by its white upper tail coverts and by its black breast and flanks, and absence of all chestnut from the underparts in breeding plumage. It is also a slightly larger bird (length of wing, 7 to  $7\frac{1}{2}$  inches, instead of from  $6\frac{3}{4}$  to  $6\frac{1}{4}$  inches).

**Time during which the Knot may be taken.**—August 1st to March 1st.

**Habits.**—Although great numbers of the Knots that visit our coasts in autumn pass on in a few weeks to more southern

haunts, a by no means small proportion remain behind and winter on the various coasts of the British Islands. The migrations of the Knot are very marked and regular. Small numbers, principally young birds, begin to arrive in our islands early in August, and from that date onwards to the end of October a slowly increasing stream of birds is almost constantly reaching the British coasts, attaining its highest tide in September. As previously stated, many of these individuals do not remain long with us, but spend their winter on the mud-flats of Western Africa. These begin to pass north again in April and May, by the end of which latter month most have quitted the British coasts and retired to the unknown breeding grounds in the North Polar basin. The migrating Knots appear chiefly to follow the coast line, although small numbers occasionally cross inland; and in spring, as is the case with the Bar-tailed Godwit, the flight across the North Sea is taken about the neighbourhood of Spurn Point, probably following an ancient coast line, as Mr. Cordeaux suggests. A few odd birds remain in the south all the summer, as is usual with many species of Waders. The great haunts of the Knot during its stay in our islands are on the low-lying shores of the east coast of England, the vast mud-flats and estuaries, salt marshes and sandy reaches which afford it an ample and constant supply of food. Great numbers are caught in the flight nets of the Wash during October, as they fly low across the shallow sea. Upon their arrival they are often absurdly tame, especially the odd birds that have got separated from the flocks, and I have actually caught them with the hand in the narrow dykes that spread like nets over the muds and marshes. They are very gregarious and social birds, and often mingle with Dunlins. The Knots keep well together whilst feeding, with heads all turned in the same direction, and cover a good stretch of shore in a very short time, as they are always on the move. If the flock is very large, some of the birds are almost constantly in the air, flying over the heads of their companions, as if eager to get the first look over the ground. They seldom admit of a very close approach, and when alarmed rise almost simultaneously, and often wheel about, or go out to sea for a little way before alighting again. The Knot more frequently runs with short quick steps than walks,

and flies rapidly and well. When their appetite is satisfied, the entire flock will often stand for a long time on a certain spot and preen their plumage, but even then they are restless, and it is very rarely that all the birds are still at once. They feed as much by night as by day, especially when there is a bright moon, and according to the state of the tide shift their ground a good deal. They are remarkably silent birds, although the note at the breeding quarters is described by Captain Feilden as a wild Curlew-like cry. The food of the Knot is composed of crustaceans, sand-worms, insects, mollusks, and other small marine animals. In summer it chiefly consists of insects and their larvæ, buds of the saxifrage, bits of algæ, and probably ground fruits. The flesh of this bird is very palatable, as I know from oft-repeated experience, and in autumn it is often surprisingly fat.

**Nidification.**—The eggs of the Knot are unknown to science ; but the downy young were obtained by Mr. Hart, the naturalist attached to the *Discovery*, during the last British Polar Expedition. The Knot evidently arrives at its nesting grounds in flocks, for a party of fourteen were noticed by Captain Feilden near Knot Harbour, in Grinnell Land, on June 5th. They are described as being always wild and difficult to approach. Pairing began immediately after their arrival, and two males were occasionally seen in chase of a female. During this period they indulged in flights something like those of the Common Snipe, and when descending elevated their wings and beat them together, making a whirring sound, and occasionally uttering a flute-like whistle. The birds were observed at some distance from the coast, feeding near the swamps and pools of this desolate land. The young chicks were hatched by July 11th ; and when menaced by danger the old birds feigned lameness, and sought by various antics to draw all attention to themselves. One nest is described as being placed under a flat stone which was resting on two other stones, and consisted of a few leaves and bits of dry grass loosely arranged ; two others were on the banks of a stream several miles from the sea. Richardson, who derived his information from Surgeon Hutchins, describes the egg of the Knot as “dun colour, fully marked with reddish spots,” but no credence can be put on the statement. The egg obtained during

the Greeley Expedition, near Fort Conger, is probably that of *Ereunetes pusillus*. A reputed egg of the Knot, formerly in the possession of Mr. Seebohm, and now in the National Collection, came from Disco, in Greenland, and resembles that of the Snipe; but it is quite unauthenticated. The Knot only rears one brood in the year, and as soon as the young can fly they migrate south.

**Diagnostic Characters.**—*Tringa*, with the ground colour of the upper tail coverts white, the wing from 6·8 to 6·2 inches in length, and the bill from 1·5 to 1·1 inch in length. Length, 10 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### CURLEW SANDPIPER.

TRINGA SUBARQUATA—(*Güldenstädt*).

**Geographical Distribution.**—*British*: Fairly common visitor on spring and autumn migration, most frequent during the latter season, and commonest at all times on the lower-lying coasts, notably the eastern counties of England south of the Humber, and westwards to Devon and Cornwall. Rarer on the western coast line of Great Britain than the eastern, and only accidental in the Orkneys and Shetland. Occasionally met with inland. Of regular occurrence in Ireland in autumn, a few remaining on the southern coasts during the greater part of the winter. *Foreign*: Eastern half of Circumpolar region in summer; Ethiopian, Oriental, and Australian regions in winter; Palæarctic region principally on migration. The breeding grounds of the Curlew Sandpiper are as yet entirely unknown, and are probably situated on undiscovered land north of Franz Josef Land and the Liakoff Islands. Indeed, it is not improbable that the bird may breed on these islands, as it was observed very late in summer by Mr. Seebohm both in the valleys of the Petchora and the Yenesay; whilst it has been obtained in summer at Archangel and on the Taimyr peninsula, and has been observed on migration in the Lena delta, near Behring Strait by the *Vega* Expedition, and at Point Barrow, in Alaska. It passes along the coasts of Europe, and crosses by fly-lines in the interior of the continents of Europe and Asia, as well as the coasts of China on migration. Those that migrate across Europe winter in Africa, both inland and on the coast; and a few appear to do so in the basin of the Mediterranean. Those

that migrate across Asia winter on the Mekran coast, India, Ceylon, the Andaman Islands, Burma, the Malay Archipelago, and Australia.

**Allied Forms.**—*Tringa fuscicollis*, and *T. canutus* with its ally *T. crassirostris*, appear to be the most nearly allied species, all of which are treated of elsewhere (see pp. 255, 266).

**Time during which the Curlew Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—The Curlew Sandpiper is a late migrant, probably because it only breeds in the high north. Great numbers of this species cross the Straits of Gibraltar, and pass along other recognised fly-lines in the Mediterranean district about the end of April, travelling in small parties, sometimes in the company of Knots and Dunlins, and these northern flights continue almost unceasingly until the end of May. A few reach the British coasts in April, but the majority pass in May, a few individuals lingering behind the rest until early June. The southern flight begins in August, chiefly of young birds, and continues through September into October, by the end of which month most have continued their journey south to Africa again. Whilst with us the Curlew Sandpiper chiefly frequents the coast, although it sometimes visits inland pools in the immediate neighbourhood, as well as the marshes some distance from the sea. It loves the mud-banks and wide open salt marshes, and is almost equally fond of estuaries, but less so of sand-banks. Its habits differ little from those of the Dunlin; its flight is similar, and like that species it feeds both by day and by night, especially during the period of a full moon. During high water, like many other Waders, it frequently retires to some inland meadow or field or swamp, and there waits for the ebb. The note is said to be louder than that of the Dunlin, and is described by Legge as being like that of the Little Stint, only louder. Its food consists of crustaceans, small worms, insects, mollusks, the roots of marsh plants, and probably during summer of various ground fruits.

**Nidification.**—Much less is known of the habits of the Curlew Sandpiper during the breeding season than even of the Knot; and its eggs are entirely unknown to naturalists. Legge observed a pair of these birds performing acts of courtship even

in their winter quarters in Ceylon, so that it is not improbable many individuals mate before they migrate. Its great breeding grounds, I am inclined to think, are in the North Polar basin, in undiscovered land north of Continental Asia—some El Dorado where the Knots also retire in countless numbers to rear their offspring. Odd birds have been shot on the Siberian tundras during summer, but some of these are evidently non-breeding individuals that have lingered south of the nesting grounds. Even the bird obtained by Middendorff on the Taimyr peninsula, with a partially shelled egg in the oviduct, may have been on its way to more northern haunts; besides, the few examples seen on the Siberian tundras are utterly insignificant in comparison with the vast numbers that are known to pass north each spring.

**Diagnostic Characters.**—*Tringa*, with the bill decurved and the upper tail coverts white. Length, 7 to 8 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

## DUNLIN.

TRINGA ALPINA—*Linnaeus*.

**Geographical Distribution.**—*British*: Fairly common resident, but greatly increased in numbers during spring and autumn, and more numerous on coasts in winter than in summer, at which season the adult resident birds retire inland to breed, leaving the immature examples behind in the usual winter haunts. Breeds sparingly in Cornwall, Devon, Somerset, the marshes of the Dee, Lancashire, Yorkshire, Cumberland, Northumberland, and throughout the west of Scotland, including the Outer Hebrides, north to Sutherlandshire, the Orkneys, and Shetland. In Ireland it breeds in a few suitable places in the wild north-west. Although its eggs have been taken in Lincolnshire, it can scarcely be regarded as more than accidental; whilst in Wales it may probably breed regularly, but its nest does not appear yet to have been found. *Foreign*: Circumpolar; Palæarctic and Nearctic regions; Oriental and extreme north of Neotropical regions in winter. Breeds throughout the Arctic regions of both the Old and New Worlds almost as far north as land extends. Southwards, in Europe, it breeds in Denmark, Finland, and the Baltic Provinces, and instances are on record of its having done so in Southern Spain and Northern Italy. Further eastwards its breeding range does not appear to extend quite so far south, as Mr. Seebohm did not meet with it in the valley of the Yenesei below lat. 69°; nor does it appear to frequent the Baikal district, or the Amoor valley except near the coast. Its southern breeding range on the American continent appears not to be accurately determined. It passes the coasts of Europe, down the valley of

the Volga, across Turkestan, the eastern coasts of Siberia, North China, Japan, and both the Pacific and Atlantic coasts of North America on migration ; and winters in the basin of the Mediterranean, North Africa (to the Canaries in the west and Zanzibar in the east), the basin of the Caspian, the Mekran coast, occasionally Northern India, South China, Formosa, Borneo, Java, the Southern States of America, and the West Indies.

**Allied Forms.**—American ornithologists have separated sub-specifically the Dunlins of that continent from those of the Old World, under the name of *Tringa alpina pacifica*, on the ground of their being larger and more rufous in breeding plumage ; but as the differences are so trivial and so completely intergrade, it seems wisest, at any rate for the purposes of the present work, to treat the two races as one.\* The Dunlin has probably no other ally closer than the Purple Sandpiper, a British species dealt with elsewhere.

**Time during which the Dunlin may be taken.**—August 1st to March 1st.

**Habits.**—Of all our small Waders the Dunlin is the most widely distributed, the most numerous, and the best known. It is more or less gregarious at all times, some of the flocks in autumn and winter being composed of thousands of birds, whilst even in the breeding season parties of varying size regularly congregate at the feeding places. It is also a social species too, and not only joins flocks of other small Sandpipers, but allows many other odd birds to live in flocks of its own kind. Its haunts vary a good deal with the season : in autumn and winter the bird principally frequents mud-flats, estuaries, and salt marshes, not showing much propensity for sands unless mud-banks are near them ; whilst in summer the old birds retire more or less inland to swampy moors and marshes for the purpose of rearing their young. A great many Dunlins simply pass along our coasts in autumn and spring (in September and May) from and to their Arctic haunts, but vast numbers also stay upon them throughout the winter. The Dunlin chiefly migrates down coast lines, but a

\* Some naturalists assert that two races of Dunlin frequent the British Islands, one small and bright-coloured, the other large and not so vivid ; but nothing satisfactory seems yet to have been determined.

few parties cross by internal fly-lines down great river valleys ; this is especially the case with individuals breeding on the Siberian tundras, although in America coast lines are chiefly followed, as in the western Palæarctic region. Whilst on our coast the Dunlin is not particularly a shy bird, except when congregated in large flocks, which are usually approached with difficulty. Odd birds may often be watched feeding amongst the dykes on salt marshes at a distance of a few feet. The Dunlin is an active little creature, almost incessantly in motion, running about the muddy shore at the margin of the water, and often wading through the shallow tide-pools, or amongst the broken receding waves. Its flight is rapid, but does not differ in any important respect from that of other small Waders. Flocks of Dunlins often indulge in various graceful aerial evolutions, spreading out like a net, closing up again, wheeling and advancing with a common impulse, just like the autumn flights of Starlings. The food of the Dunlin consists of crustaceans, sand-worms, mollusks, etc., on the shore ; but insects and their larvæ, small worms, ground fruits, and various vegetable fragments are eaten in summer. Its note is a rather harsh *purrr*—hence one of its trivial names—but at the breeding grounds it utters a long-drawn *peezh*, something like the well-known cry of the Greenfinch. The male trills repeatedly during the pairing season, like most other Sandpipers.

**Nidification.**—The Dunlin begins to arrive at its breeding grounds towards the end of April, and in southern haunts its eggs are laid during May, but in the Arctic regions they are about a month later. The nest is always well concealed, often by the side of a little moorland pool amongst the rush tussocks, or beneath a bush of bilberry or heather, and even more frequently in a tuft of cotton or other coarse grass. It is simply a hollow with a scanty lining of dry leaves and grass, and perhaps a few twigs round the margin. The eggs are four in number, and vary in ground colour from pale olive to pale brown and buff, blotched and spotted with rich reddish and blackish brown, and with a few obscure underlying markings of gray. They are pyriform in shape, and measure on an average 1·3 inch in length by ·95 inch in breadth. The parent bird sits lightly, leaving the nest at the least alarm. Incubation, performed by the female, lasts from

twenty-one to twenty-two days. Only one brood is reared in the year, and as soon as the young can fly a movement is made to the adjoining coasts.

**Diagnostic Characters.**—*Tringa*, with a great deal of white on the innermost secondaries,<sup>1</sup> but little or none on the upper tail coverts, with a hind toe, and black legs and feet. Length, 8 inches.

### BONAPARTE'S SANDPIPER.

TRINGA FUSCICOLLIS—*Viellot.*

**Geographical Distribution.**—*British*: Accidental straggler on autumn migration, having occurred chiefly in October and November. Its claim to rank as British rests on the following recorded instances. England: Shropshire (1 example), Sussex (2 examples), Middlesex (1 example), Devonshire (4 examples), Cornwall (3 examples), Scilly Isles (2 examples). Scotland: Not been obtained. Ireland: One example said to have been shot near Belfast, and now preserved in the museum of that town. *Foreign*: Northern Nearctic region; Neotropical region in winter. Breeds throughout Arctic America from Greenland in the east to the Mackenzie River in the west. Of only accidental occurrence west of the Rocky Mountains, two examples having been obtained at Point Barrow, the most northerly land in Alaska. Passes the United States, inland as well as along the coast, and the Bermudas on migration, and winters in the West Indies, Central America, and throughout South America to the Falkland Islands.

**Allied Forms.**—Probably most nearly related to *Tringa canutus*, a British species dealt with fully elsewhere; and from which it is readily distinguished by its short bill, which seldom measures more than .9 inch, and nearly white upper tail coverts.

**Time during which Bonaparte's Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—The habits of Bonaparte's Sandpiper very closely resemble those of the Dunlin, although during the breeding season it is rather more of an Arctic bird. Its migrations are

regular, and not only taken along the coast, but inland down the great river valleys. It is equally gregarious as the Dunlin, indeed, often flocks with that species, as well as with other small Sandpipers. It is described by American naturalists as being remarkably tame and trustful, and runs about the rocky beaches in the presence of an observer with little show of fear. Bonaparte's Sandpiper is a rather late bird of passage, even for an Arctic species, passing along the coasts of the United States and up the valley of the Mississippi during May, and reaching its breeding grounds towards the end of that month or early in June. Odd birds make their appearance in the Northern States near the end of July, but the majority pass southwards during September and October. Its actions on the shore are very similar to those of the Dunlin. The bird runs about the wet sands and muds, and over the weed-grown rocks in the usual restless manner. Its flight is rapid, yet rather wavering, and it often wades breast-deep into the water in its eager quest for food. The flocks often wheel and gyrate in the air when disturbed. The note of Bonaparte's Sandpiper is said by Coues to be a low, soft *weet*, unlike that of any of the bird's congeners. Its food is said to consist of insects, worms, mollusks, crustaceans, and other small marine animals, and during summer various ground fruits are eaten.

**Nidification.**—The breeding grounds of Bonaparte's Sandpiper are the Arctic tundras in the immediate neighbourhood of the sea. But little has been recorded of its habits during the nesting season. A nest discovered by MacFarlane was merely a hollow in the ground, lined with a few dead leaves. The eggs are four in number, and vary in ground colour from olive to grayish buff, blotched and spotted with dark reddish brown and pale brown, and with underlying markings of gray. They are pyriform in shape, and measure on an average 1·25 inch in length by ·9 inch in breadth. It is said that only one brood is reared in the year, and, like the Dunlin, as soon as the young are fledged, they begin to migrate slowly south.

**Diagnostic Characters.**—*Tringa*, with the upper tail coverts white, more or less streaked with brown, and the bill under one inch in length. Length, 7½ inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

## PURPLE SANDPIPER.

TRINGA MARITIMA—*Gmelin.*

**Geographical Distribution.**—*British.* Fairly common winter visitor, locally distributed on all parts of the coast suited to its requirements, including the Hebrides, the Orkneys, and the Shetlands. Equally as well known in Ireland as in the rest of the United Kingdom. Many birds may probably pass our coasts in spring and autumn; some few remain in the British Islands through the summer—a fact which has given rise to the belief that this species occasionally nests with us; but no authentic case has yet been discovered. It is not improbable that odd pairs may do so in the Orkneys and Shetlands, and in the Outer Hebrides. Young birds, scarcely fledged, have, it is said, been obtained on the Farne Islands; but this proves nothing, for young Knots, with flakes of down still adhering to their plumage, have been observed on the British coasts. The Purple Sandpiper is much rarer some years than others, especially during mild northern winters; and at no time are the migrations of this species very extended. *Foreign.* Circumpolar region. Breeds in Iceland, the Faroes, Spitzbergen, and Nova Zembla, on the Taimyr peninsula, on the coast of Behring Strait, and across Arctic America to Greenland. In the extreme north of its range it appears to be migratory, but in the southern limits, as, for instance, in South Greenland, Iceland, the Faroes, and the coast of Norway it is resident. It winters on the southern coasts of the North Sea, and in small numbers on the northern shores of the Mediterranean and on the Kurile Islands, south of Kamtschatka. The American birds appear to winter round the

Great Lakes and on the shores of New Brunswick, occasionally wandering to the Bermudas and the Azores ; whilst one example has been obtained in South Africa.

**Allied Forms.**—*Tringa maritima couesi*, said to be an inhabitant of the Aleutian Islands, and *T. maritima ptilocnemis*, an inhabitant of the Prybilof Islands, in Behring Sea, during summer, and wandering in winter to the Kurile Islands and the coast of Alaska. So utterly slight are the characters on which these subspecies of the Purple Sandpiper are based, that I feel small hesitation in ignoring them, and consider it much the wisest to treat the three forms as one until more reliable and substantial characters are discovered. The Purple Sandpiper is probably most closely allied to the Dunlin, a British species dealt with elsewhere.

**Time during which the Purple Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—A few Purple Sandpipers make their appearance on our coasts early in September, but the great majority of birds arrive towards the end of that month and during October. Many are taken in the flight nets of the Wash, or used to be a dozen years ago, in the first week of November. They remain with us for the most part, comparatively few prolonging their flight to the south, until the following May, when the return migration north is undertaken. Although this species is decidedly partial to a rocky coast, a shore where huge boulders shelve down into the water and are left bare at low tide, it is by no means uncommonly observed on mud-flats and salt marshes. A favourite haunt of this kind is in the Wash, and there I have repeatedly shot this bird from flocks of Dunlins and Knots, and observed it very frequently running over the bare mud round the margins of the big tide-pools at low water. At other times it frequents the rock-bound coast, and seeks its food upon the wet weed-draped boulders as the waves break over them and spread them with the food it loves. I have seen it running over the rocks almost before the big waves have spent their force and broken into seething drifts upon them ; and so venturesome is the little bird that it runs along the very edge of the waves, where each one that breaks upon the shore seems certain to sweep it away. It is

by no means a shy bird, especially when by itself, and always seems to prefer to run along just out of harm's way rather than to take wing. It swims well and frequently, and occasionally alights on the sea after it has been flushed. The food of the Purple Sandpiper consists of crustaceans, mollusks, sand-worms, insects, and the seeds of various marine plants. Most of this food is obtained as the tide is dashing over the rocks in its ebb or flow, and during the period of high water the bird not unfrequently retires inland a little way, or to a rocky islet or point to await the turn. The flight of this species is rapid and straightforward, but except during migration it is seldom very high, and even then I am inclined to think that the bird, as a rule, journeys close to the water. The note of this Sandpiper is a shrill and quickly uttered *tee-wit*.

**Nidification.**—In its more southerly breeding stations, as for instance at the Faroes, where the influence of the Gulf Stream causes a comparatively early spring, the Purple Sandpiper commences to breed in the second week of May; further north and east it is at least a month later. Its breeding grounds are rarely far from the sea, either in the immediate neighbourhood of the beach amongst broken ground covered with scanty herbage, or in marshy districts at the summit of adjoining hills. In the Faroes both Wolley and Captain Feilden found it nesting on the fells, the latter naturalist taking its eggs before the snow had melted from the sheltered hollows and the tops of the hills. The Purple Sandpiper, if it does not actually pair for life, seems much attached to its nesting place, and appears yearly to frequent the same spot. Wolley had the eggs for two successive years from a nest made on the same piece of ground on which a colony of Skuas were breeding. The nest of the Purple Sandpiper, like that of most Waders, is merely a hollow in the ground, lined with a few bits of dry vegetable refuse, such as moss and grass. The eggs are four in number, and vary in ground colour from pale olive to buffish brown, very handsomely spotted and blotched, mottled and streaked with dark blackish brown and reddish brown, and with numerous and well-defined underlying markings of pale brown and violet-gray. They are pyriform, and measure on an average 1·5 inch in length by 1·05 inch in breadth. Both parents

assist in the duties of incubation, and only one brood is reared in the year. Sometimes the sitting bird remains brooding on the eggs until nearly trodden upon, and then hurriedly rises and begins to feign lameness to allure the intruder away. In spite of the fact that this species often breeds at some distance from the sea, the birds appear always to come to the coast to feed.

**Diagnostic Characters.**—*Tringa*, with the rump and upper tail coverts nearly black, and the seventh to the ninth secondaries nearly white. Length, 8 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### BROAD-BILLED] SANDPIPER.

TRINGA PLATYRHYNCHA—*Temminck*.

**Geographical Distribution.**—*British*. Rare straggler on spring and autumn passage. The claim of this species to rank as "British" rests on the following recorded instances of its occurrence. England: Norfolk (3 examples), May, 1836, May, 1856, April, 1868; Sussex (2 examples), October, 1845, August, 1887; Yorkshire (1 example), April, 1863. Scotland: No instance of its occurrence on record. Ireland: (1 example), Belfast Bay, October, 1844. *Foreign*: Palæarctic region; Oriental region in winter. Very locally distributed during summer; and although found from the Atlantic to the Pacific, its breeding area is comparatively unknown. Breeds commonly on the Scandinavian fells as far south as lat. 60°, and in Finland. These are apparently the only known breeding grounds of this species, but it has been met with near Lake Baikal and on the southern shores of the Sea of Okhotsk. Occasionally occurs on the coasts of Europe and Japan on migration, and winters in the basin of the Mediterranean, North Africa (extending to Egypt, and occasionally to Madagascar), the Mekran coast, and Northern India (accidentally to Ceylon and the Andaman Islands). It also visits during the cold season, Burma, the Malay peninsula, Java, the Philippine Islands, Formosa, and China. Perhaps a more unsatisfactory bit of geographical distribution cannot be found throughout the class Aves!

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Broad-billed Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—Of the habits of the Broad-billed Sandpiper during winter but little has been recorded. It is found during that season either in flocks of varying size, roaming about alone, or mingling with Dunlins and other small Sandpipers. It frequents the coasts, preferring those that are muddy, but sometimes haunts the sands. It runs about in the usual quick, restless manner of its kind, and in its flight is said to resemble the Dunlin. Its note in winter is apparently undescribed, but during the breeding season the late Richard Dann remarked that its cry when disturbed was a rapid *too-woo*, uttered whilst the bird rose and fell in the air like a Snipe. The food of the Broad-billed Sandpiper is composed of crustaceans, small worms, insects and their larvæ, and probably ground fruits.

**Nidification.**—Admirable descriptions of the breeding habits of the Broad-billed Sandpiper were furnished by Richard Dann to Yarrell, and by John Wolley to Hewitson, by whom they were published. The former naturalist met with this bird breeding in small colonies in the grassy morasses and swamps at the head of the Bothnian Gulf, and in the swamps of the Dovrefjeld, three thousand feet above sea-level. It arrived at its breeding stations about the end of May, being very wild and wary just after its return, and feeding on the banks of the pools and lakes. Later in the season it became more skulking in its habits, creeping through the long grass, and when flushed dropping again almost at once. It began laying about June 24th, and the young were still unable to fly a month later. The nest resembled that of a Snipe, and was made in a tuft of grass. Wolley remarked that its favourite nesting places were soft open spots in the marshes, where the ground was clothed with bog-moss and sedge, and the nests were often placed on grass tufts just above the water. He found that the eggs were laid about the third week in June; and that the nests were rounded hollows lined with a little dry grass. The sitting bird was observed not only to run from the eggs but to fly from her nest, and when incubation was far advanced she became very tame and confiding. Other nests, observed by Mr. Mitchell on the

Dovrefjeld, contained eggs during the latter half of May. These nests were in open parts of the marshes, and were made more elaborately than is usual amongst this order of birds, the hollow being deeper and more carefully lined. He also remarked that the lining in each nest resembled the colour of the eggs it contained, the darker varieties being laid on withered leaves of the willow, the paler ones on dry grass. The eggs are four in number, buffish white in ground colour, densely mottled and spotted with rich chocolate-brown and paler brown, and with underlying markings of gray. They are pyriform in shape, and measure on an average 1·3 inch in length by ·9 inch in breadth. Both birds assist in the task of incubation, and only one brood is reared in the year. As soon as the young are reared the broods and their parents form into small flocks.

**Diagnostic Characters.**—*Tringa*, with the bill very flat and wide, and more than a fourth of the length of the wing, and with little or no white on the secondaries and upper tail coverts. Length, 6½ inches.

### AMERICAN PECTORAL SANDPIPER.

TRINGA ACUMINATA PECTORALIS—*Say*.

**Geographical Distribution.**—*British*: Rare straggler on migration, chiefly in autumn. The claim of this species to rank as "British" rests on the following recorded occurrences. England: Scilly Isles (4 examples, 1 in May); Cornwall (1 example); Devonshire (2 examples); Sussex (1 example); Suffolk (1 example); Norfolk (5 examples); Yorkshire (3 examples); Durham (2 examples); Cumberland (1 example); Northumberland (2 examples, 1 in June). Scotland: Dumbartonshire (1 example); Aberdeenshire (1 example). Ireland: Co. Galway (1 example). With the two solitary exceptions noticed these occurrences have all been in autumn, during August, September, October, and November. *Foreign*: Northern Nearctic region; Neotropical region in winter. Breeds in the Arctic regions of America above the limits of forest growth, from Alaska in the west to Davis Strait in the east, and has wandered as far as Greenland. Passes the United States, the Bermudas, and the Bahamas on migration, and winters in the West Indies, Mexico, Central America, and throughout South America.

**Allied Forms.**—*Tringa acuminata*, of which the American Pectoral Sandpiper is the New World representative, and only subspecifically distinct, as, according to Mr. Seebohm, who has made a special study of the CHARADRIIDÆ, both forms "appear completely to intergrade." An inhabitant of the eastern Palæarctic region, wintering in the Australian region. Exact breeding grounds unknown. Probably breeds in Dauria, the Tchuski Land, and Kamtschatka, and is said occasionally to visit Alaska.

Passes Behring Island, the coasts of Japan and China, and the Malay Archipelago on migration, and winters in Australia and New Zealand. Typical examples are said to be slightly smaller than the American form (length of wing 5·5 inches to 4·8 inches instead of 5·7 inches to 5·0 inches), and the central tail feathers only project 1 inch beyond the next, instead of 25 inch. In breeding plumage all the underparts are streaked; in the American form only the flanks. It is far from improbable that some of the British examples of the Pectoral Sandpiper may be of this eastern Palæarctic race; and it therefore behoves possessors of specimens to have them examined by competent authorities. *T. bairdi*, an inhabitant of Alaska, and the valley of the Mackenzie, passing through the western United States on migration, and wintering in South America, occasionally straying even as far as South Africa. Distinguished from the Pectoral Sandpiper by its black legs and feet (those of the Pectoral Sandpiper are buff), and by having the central tail feathers no longer than the outer ones.

**Time during which the American Pectoral Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—During its migrations this Pectoral Sandpiper passes along the coasts, as well as by inland routes down the river valleys, of the United States during April and May. It begins to return from its Arctic breeding grounds in August, and the autumn flight continues through the two following months. It frequents by preference low sandy or muddy coasts, swampy meadows, and salt marshes, running about in a restless, active manner, tame and trustful. Like the Dunlin, it is sometimes observed in large flocks and parties, and is often met with solitary or in the company of other Waders. Its flight is rapid, sometimes rather wavering, and when in flocks the birds often perform graceful evolutions after they are flushed. The birds of a flock scatter about a good deal whilst feeding, but when alarmed they soon form into a compact body in the air, and often rise to a considerable height after being fired at. It is much attached to its feeding grounds, resembling the Ringed Plover in this respect, and continues to haunt certain spots in spite of much disturbance. The food of the Pectoral Sandpiper consists of small mollusks, crustaceans, insects of various kinds, notably beetles, scraps of

algæ, and seeds. In summer the bird doubtless eats ground fruits. The call-note of this species is a single *tweet*, only repeated under exceptional cases when the bird is alarmed or excited; but at the breeding grounds the male often indulges in short flights with the wings elevated and beaten rapidly together, the throat expanded to the utmost, uttering meanwhile a guttural note which has been syllabled as *hoo-hoo-hoo*.

**Nidification.**—Nothing appears to have been known respecting the breeding habits of the Pectoral Sandpiper until its eggs were obtained by Lieutenant Ray's expedition to Point Barrow in Alaska in 1882-83. The birds were observed to arrive at their nesting places on the Arctic tundras or barren grounds at the end of May, and early in June they began to pair. The nest is stated to be always amongst the grass in a dry part of the tundra. The nest has not been described minutely, but the eggs are four in number. These vary in ground colour from pale olive-brown to pale buff, blotched and spotted with rich reddish brown, and with underlying markings of gray. They are pyriform in shape, and measure on an average 1·5 inch in length by 1·1 inch in breadth. Only one brood is reared in the year, and as soon as the young are fledged they begin to congregate into parties for migration, the old birds lingering and skulking until they have completed their moult, before starting south.

**Diagnostic Characters.**—*Tringa*, with the rump and upper tail coverts blackish, with little or no white on the secondaries, and with the central rectrices ·25 inch longer than the next, and ·35 inch longer than the outermost. Length, 8½ inches. For other characters see notes on allied forms above.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### LITTLE STINT.

TRINGA MINUTA—*Leisler*.

**Geographical Distribution.**—*British*: Fairly common visitor on spring and autumn migration, most abundant during the latter period. Principally found on the eastern coast of England, rarer on the south coast, and still less frequent on the east coast of Scotland as far north as the Shetlands. Unknown on the west coast of Scotland, and rare on the west coast of England, chiefly affecting Lancashire and the Solway district. Visits Ireland sparingly every autumn, most frequently on the north-east and eastern coasts. Passes the Channel Islands on migration. *Foreign*: Western Palæarctic region; Ethiopian region, and Indian subregion of Oriental region in winter. Breeds locally on the Arctic tundras of Europe and Asia from the North Cape in the west to the Taimyr peninsula in the east, including Nova Zembla and Waigatz Island. Has been found breeding at Kistrand in Northern Norway, the Kola peninsula in Lapland, the delta of the Petchora in Russia, the Yalmal peninsula, the valley of the Yenesay, and the Taimyr peninsula in the Siberian province of Yeniseisk. Passes the coasts of Europe, the valleys of the Kama and the Volga, Western Siberia, and Turkestan on migration, and winters sparingly in the basin of the Mediterranean, throughout Africa (including the valley of the Nile and the Central Lakes), Persia, India, Ceylon, and Burma.

**Allied Forms.**—*Tringa minuta ruficollis*, an inhabitant of Eastern Siberia, from the valley of the Lena to the Tchuski Land, passing the Baikal region, China, and Japan on migration, and

wintering in the Malay Archipelago and Australia. The Eastern form of the Little Stint, only subspecifically distinct and completely intergrading with its Western representative. Typical examples in breeding plumage differ from the Little Stint in having the underparts, from the chin to the breast inclusive, unspotted chestnut, and the two central tail feathers uniform brownish black. In the Little Stint the chin and throat are white, and the breast is streaked with chestnut. The two forms are, however, indistinguishable in winter plumage. *T. subminuta* and *T. subminuta minutilla*, treated of in the next chapter.

**Time during which the Little Stint may be taken.**— August 1st to March 1st.

**Habits.**— British naturalists and sportsmen only have the opportunity of meeting with the Little Stint during the period of its autumn and spring migrations along our coasts. In autumn it begins to arrive in August, but the majority appear in September and remain until October before passing on still further to the south. It is a late bird of passage in spring with us, not arriving before May in any numbers, lingering with us often until the middle of June, then starting north for the Arctic tundras, where it breeds. During its sojourn on the British coasts it chiefly frequents the low shores where mud-flats abound, and broad reaches of sand supply it with haunts where food is ever plentiful. It also frequents salt marshes, and is pretty partial to the wide estuaries of East Anglia. Here it is frequently to be met with in the company of Dunlins and other little birds of the shore. It usually migrates in flocks of varying size which, when alarmed, perform various graceful evolutions in the air before settling again. Even during the breeding season the Little Stint is a remarkably social bird, and small parties collect round the shores of the moorland pools to feed. The immature non-breeding birds appear to keep in large flocks in the summer quarters throughout their stay; and whilst the females are busy incubating, the adult males often form into considerable bands. When on the coasts of our islands its habits are very similar to those of the Dunlin. Like that bird it is almost constantly in motion, running hither and thither about the mud and sand in a restless manner, and even wading through the shallows, but it appears never to swim

or dive. The food of this Stint consists of insects and their larvæ, crustaceans, worms, and various small marine creatures; whilst in the Arctic regions the bird may also eat ground fruits and small seeds. Its note at the nesting place is a rather shrill *whit*, but in autumn and winter it utters a chirping cry. This species probably has a trill during the pairing season; but as Messrs. Seebohm and Harvie-Brown did not reach the breeding grounds of the Little Stint until after this event was over they probably did not hear it.

**Nidification.**—Von Middendorff was the first naturalist to discover the breeding grounds of the Little Stint. Nearly fifty years ago he met with it nesting on the Taimyr peninsula, at the eastern limit of its known range. In 1875 Messrs. Seebohm and Harvie-Brown discovered nesting places of this Stint at the delta of the Petchora, and their interesting accounts of the breeding of this bird in Europe were the first made known to British ornithologists. Since their discoveries, other breeding places have been found in various parts of Arctic Europe, extending as far west as the Porsanger fjord in Northern Norway. At the mouth of the Petchora the breeding grounds of the Little Stint were situated on a comparatively dry and gently sloping part of the tundra close to the inland sea, at the mouth of the great river. Here the tundra was thickly studded with tussocks of grass, and the swampy ground was almost concealed by cotton-grass. These grass tufts were covered with green moss, and smaller patches of reindeer moss, the whole almost hidden with a thick growth of cloud-berry and carices, dwarf shrubs, and sundry Arctic flowers. Several of the nests discovered were quite close together. Other nests were found on more sandy ground, full of small pools, and covered with short grass and plants. The nest of the Little Stint is merely a slight hollow in the ground, lined with a few dead leaves of the cloud-berry, and other scraps of vegetable refuse. The eggs are four in number, and vary in ground colour from pale greenish gray to pale brown, spotted and blotched with rich reddish brown, and with underlying markings of paler brown and gray. Most of the spots and blotches are on the larger end of the egg, as is usual in those of all Waders. They are pyriform, and measure on an average 1·1 inch in length by ·8 inch in breadth.

They are laid towards the end of June, or early in July. Incubation appears to be performed by the female, and only one brood is reared in the year. The female alone appears to frequent the nest, and when this is approached she makes little demonstration and is remarkably quiet. Messrs. Seebohm and Harvie-Brown state that the tameness of the hen bird was sometimes most extraordinary. The former gentleman states that at one nest the female approached within eighteen inches of his hand as he sat beside the eggs, and when his hand was stretched towards her she quietly retreated a couple of feet ; but the moment he left the vicinity of her home she changed her tactics at once, and began fluttering along the ground with quivering wings and outspread tail as if dying. After having a glove thrown at her and being fired at, she concluded that men were not to be trusted, and she finally flew away. It is sad to read that after all she returned, faithful to her beloved eggs, and fell a martyr to science !

**Diagnostic Characters.**— *Tringa*, with the wing under 4 inches in length, the bill broadest at the base, and the legs and feet black. Length, 6 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### AMERICAN STINT.

TRINGA SUBMINUTA MINUTILLA—*Vieillot.*

**Geographical Distribution.**—*British*: Very rare straggler on autumn migration, but doubtless frequently overlooked. The claim of this species to rank as "British" rests on the following occurrences. England: Cornwall (1 example), October, 1853; Devonshire (1 example), September, 1869. *Foreign*: Northern Nearctic region; Neotropical region in winter. Breeds in the Arctic regions of America from Alaska to Labrador and Newfoundland, south to Nova Scotia. Passes the United States, from California in the west to the Bermudas in the east, on migration, a few wintering in the Southern States, but the majority in Mexico, the West Indies, Central America, the Galapagos, and the north of South America.

**Allied Forms.**—*Tringa subminuta*, an inhabitant of Eastern Siberia, south of the Arctic Circle, from the valley of the Lena to the coasts of the Sea of Okhotsk and Behring Island. Passes through the Baikal region, the valley of the Amoor, and the coasts of China and Japan on migration, and winters in the Malay Archipelago, India, Ceylon, and Burma. The Old World representative of the American Stint, only subspecifically distinct, and completely intergrading with its New World ally. Typical examples differ from the American Stint in having a larger foot (length of middle toe and claw, '85 to '95 inch, instead of '8 to '85 inch). *T. minuta* and *T. minuta ruficollis* treated of in the preceding chapter.

**Time during which the American Stint may be taken.**  
—August 1st to March 1st.

**Habits.**—The American Stint is as well-known and abundant in the United States during its seasons of migration, as the Little Stint is in Western Europe. Unlike that bird, however, it appears to migrate across inland districts as well as along the coast line. They begin to arrive in the Southern States in April, slowly travel on to New England early in May, reach North Carolina towards the end of the latter month, but do not appear on the Arctic tundras where they breed until early June, when the snow is melted, and the “barren” grounds no longer deserve the name but teem with life. Notwithstanding the fact that many follow an inland course, the favourite haunts, both on passage and in winter, are the mud-flats of the low-lying coasts. Here in the wide marshes behind the actual beach, amongst the creeks and mud-fringed streams, the American Stint may be watched in flocks of varying size tripping about the slimy soil, picking here and probing there in quest of their food. The return migration commences with the immature non-breeding birds towards the middle of July; in August many of the young appear, but the great flights arrive during September. When in flocks the American Stint is rather a silent bird, but when flushed solitary or in little parties, it usually utters a sharp *whit* as it hurries away. It is very tame when on the coast. Flocks of this bird when flushed often perform various graceful evolutions in concert before alighting again. Like all its congeners it is a restless, active little bird, ever tripping about in quest of food, and very frequently associates with other small Waders. The food of the American Stint consists of insects and their larvæ, small worms, crustaceans, and mollusks, seeds, and various ground fruits. Some of this food is sought on the weed-covered rocks at low water, or even on masses of drifting seaweed.

**Nidification.**—Eggs of the American Stint may be found towards the end of June or early in July. Its breeding grounds are on the Arctic tundras, sometimes near the coast, more frequently a short distance inland on the margins of the lakes and pools. The nest is merely a slight hollow in the ground, lined with a little withered grass and dead leaves, and is often made under the shelter of a bush or a stone. The eggs are four in number, pale buff in ground colour, spotted and blotched with

reddish brown, and with underlying markings of paler brown and gray. They very closely resemble those of the preceding species. They are pyriform in shape, and measure on an average 1·0 inch in length by ·8 inch in breadth. The female is very tame and trustful at the nest, but sometimes seeks to lure an intruder away by feigning lameness. Only one brood is reared in the year, and as soon as the young can fly they begin to draw southwards.

**Diagnostic Characters.**—*Tringa*, with the outer rectrices gray, the legs and feet pale brown, and the wing less than 4 inches long. Length,  $5\frac{1}{2}$  to 6 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### TEMMINCK'S STINT.

TRINGA TEMMINCKI—*Leisler.*

**Geographical Distribution.**—*British*: Rare but regular visitor on spring and autumn migration; most frequent on the east and south coasts of England from the Humber to the Scilly Isles, especially in Norfolk. North of the Humber it is rare, and has only once been recorded from Scotland. Very rare on the west coast of England; only one example recorded from Ireland, and this in January, the sole known instance of this species being found in our islands during winter. Occasionally wanders inland: Middlesex, Cambridgeshire, Notts, and Lancashire. *Foreign*: Northern Palæarctic region; Oriental region in winter. Breeds on the tundras above the limits of forest growth, from Scandinavia in North-western Europe to the Tchuski Land in North-eastern Asia, and in suitable localities on river banks as far south as lat. 65° on the White Sea and Bothnian Gulf, and lat. 55° on the coasts of the Okhotsk Sea. It has been said to breed on the lofty Siberian Mountains, but on unsatisfactory evidence. It passes the European coasts, along internal fly-lines both of Europe and Asia, and the coasts of China, on migration, and winters in the basin of the Mediterranean, Northern Africa, and both eastern and western coasts, as far south as lat. 10°, India, Ceylon, Burma, South China, and the Malay Archipelago.

**Allied Forms.**—None nearer than the Stints already dealt with, and with which it is only distantly related.

**Time during which Temminck's Stint may be taken.**  
—August 1st to March 1st.

**Habits.**—The British Islands are evidently situated on the extreme outer fringe of the spring and autumn migrations of Temminck's Stint. This is probably because the bird's line of flight is more inland, not so maritime as that of the Little Stint, and taken down the great river valleys, which extend almost due north and south between the tundras where it breeds, and the countries where it winters. The few individuals that do stray so far to the westward as our coasts usually make their appearance in May and September, and the great majority of the birds reach their Arctic haunts during the last week of May in Europe and the first week of June in Siberia. It is much more addicted to inland lakes and rivers than the coast, and always prefers a muddy shore to a sandy one. During passage and in its winter quarters Temminck's Stint is generally met with in flocks, but occasionally in scattered pairs or alone, and odd birds are frequently met with in the gatherings of other Waders. Its habits and movements on the mud-flats do not differ in any important respect from those of its congeners. Its flight is rapid, and the small bunches of birds frequently gyrate in the air after being disturbed from their feeding places, each movement being performed with such precision that a common impulse seems to control the entire number of individuals. The food of Temminck's Stint is composed principally of insects and their larvæ, worms, and various small marine animals; particles of vegetable matter have been noticed in the stomach of this bird. Its call-note is a shrill *ptirr*, very different from the *whit* of the Little Stint.

**Nidification.**—The breeding season of Temminck's Stint is in June. Wolley was the first naturalist to furnish detailed information of the nest and eggs of this species, which he found breeding sparingly in the marshes to the north of the Bothnian Gulf. Although several nests may be found quite close together it is said that Temminck's Stint is not gregarious at the breeding grounds, keeping in pairs during that period. During the pairing season this Stint frequently perches on the small trees in its haunts, or stands on a post or fence, vibrating its wings, and trilling lustily. This trill, however, is generally uttered whilst the bird is wheeling round and round, or hovering

and floating in the air, although it is sometimes heard as the bird runs along the ground with uplifted wings. The nest is usually made near water, often on low islands at the delta of a river which are clothed with willows and long grass. It is merely a hollow amongst the sedge, rushes, or grass, scantily lined with dry grass and withered leaves. The eggs are four in number, ranging from pale buff to pale olive in ground colour, spotted and blotched with reddish brown and dark brown, and with underlying markings of paler brown and gray. On some eggs a few dark, nearly black streaks occur. They are pyriform in shape, and measure on an average 1·1 inch in length by ·85 inch in breadth. When its breeding grounds are invaded Temminck's Stint becomes exceedingly demonstrative and noisy, and often betrays the whereabouts of its nest by careering wildly about above it. When the nest is actually discovered it becomes much quieter, and its actions closely resemble those of the Little Stint under similar conditions. Incubation seems always to be performed by the male, and it is he that is so excited and alarmed when the nest is threatened by danger. Only one brood is reared in the year, and as soon as the young are able to fly the breeding grounds begin to be deserted.

**Diagnostic Characters.**—*Tringa*, with the outer rectrices pure white. Length, 6 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

### SANDERLING.

TRINGA ARENARIA—*Linnaeus*.

**Geographical Distribution.**—*British*: Common visitor on spring and autumn migration, most abundant during the latter, a few remaining behind in the fall to winter, especially in the mild climate of the south. Visits all the islands as well as the mainland coasts, including the Orkneys and Shetlands, the Hebrides and the Channel Islands. Occasionally occurs some distance inland, especially near large sheets of water. *Foreign*: Circumpolar region in summer, Palæartic and Nearctic regions chiefly on passage; Ethiopian, Oriental, and Neotropical regions in winter. Probably breeds in suitable localities on all the shores of the Arctic Ocean, although its known breeding grounds are remarkably few. In the Old World its eggs appear only to have been taken in Iceland (lat. 65°), although it is to be met with during summer on the Golaievskai Islands in the Petchora Gulf, the Waigats, Nova Zembla, the delta of the Yenesay, the Taimyr peninsula, and the Liakoff Islands. In the New World portion of the Circumpolar region its eggs have been taken on the Anderson River (lat. 68°), on the Parry Isles (lat. 78°), in Grinnell Land (lat. 82½°), and in Greenland on the west coast near Smith Sound (lat. 79°), and Godthaab (nestlings) (lat. 63°), on the east coast Sabine Island (lat. 74½°). It is also a common bird during summer in Alaska. It passes the coasts of Europe, Asia, and America, as well as along many internal routes, on migration, and winters in the basin of the Mediterranean, on the coasts of Africa, and the Mekran coast, but becomes rare in

India, Ceylon, and Burma. Further east it is a winter visitor to China, Japan, and the Malay Archipelago, and is found during that season on all the coasts of South America, the Galapagos, the West Indies, and the Bermudas.

**Allied Forms.**—None of sufficient propinquity to demand notice.

**Time during which the Sanderling may be taken.**—August 1st to March 1st.

**Habits.**—A few Sanderlings, probably individuals that have not been breeding, appear on the British coasts at the end of July, but the majority of birds arrive during August and the early days of September. By the middle of the latter month many have passed on towards the south; by the end of October comparatively few are left, and some of these linger with us throughout the winter. The return migration of the Sanderling commences on our coasts in April, and lasts into May and early June. It is said to be one of the first migrants to arrive in the Arctic regions, even reaching such high latitudes as the extreme north of Siberia by the 4th of June, and Grinnell Land, upwards of eight degrees further north, one day later. That the Sanderling migrates by night there can be little doubt, for I have repeatedly become aware of its arrival in the Wash in autumn by taking as many as half-a-dozen birds from a single flight net as soon as the tide had ebbed, and before sunrise. I do not think they fly very high whilst on passage, for these birds must have struck the net at the half-ebb, when only a part of it was exposed above water. The Sanderling is a gentle, trustful little creature, not only fond of the sandy reaches, but the mud-flats and shores of the creeks and streams in salt marshes, and in the estuaries of rivers. Whilst on passage and in its winter quarters the Sanderling gathers into flocks of varying size, but many pairs frequent the coast by themselves, or attach themselves to parties of other small Waders. I have especially remarked the partiality of this little bird for the company of Ringed Plovers. Here in Devonshire most large bunches of that Plover contain a few Sanderlings during the period of the latter bird's migrations. Its actions on the sand are very similar to those of the Ringed Plover. It does not appear to run in such fits and starts, but steadily searches

the ground after the manner of a Dunlin or a Stint. In many localities I have repeatedly observed that during high water the Sanderling skulks on the higher shingle, returning to the actual beach as soon as the sands begin to be exposed. Here it follows the receding tide, running about the edge of the waves as they break on shore, and occasionally wading through the shallow water. The white breast of the Sanderling makes it a very conspicuous bird on the dark sands, and the effect produced of a scattered flock all standing head towards the observer is very pretty. It is a remarkably tame little creature upon its first arrival, but becomes more wary later. The food of this species consists of crustaceans, sand-worms, and various insects, as well as of great quantities of minute shells. In summer the Sanderling is much more insectivorous, and also feeds on the buds of the Arctic saxifrages. The note of this Wader is a sharp, shrill *whit*; whether it utters a trill or any other cry at the breeding grounds observers who have had ample opportunities of noticing omit to inform us.

**Nidification.**—Only meagre details concerning the breeding habits of the Sanderling are on record. MacFarlane appears to have been the first naturalist to take the nest of this bird, killing a female from her eggs on the tundras near the Arctic Ocean in North-west America, on the 29th of June, 1863. This nest was merely a hollow scantily lined with dry grass and leaves. Thirteen years afterwards, almost to the very day (24th June), Captain Feilden found a nest of the Sanderling, close to Cape Union in Grinnell Land, on the shores of the Arctic Ocean at the very northern limit of known animal life. This nest was made on a ridge of gravel several hundred feet above sea-level, and was merely a slight hollow in the centre of a bent-down willow plant, lined with a few dead leaves and withered catkins. By the 8th of August he observed the young able to fly, yet still in company with their parents. The eggs of the Sanderling are four in number, buffish olive in ground colour, densely mottled and spotted with pale olive-brown, and with underlying markings of ink-gray. They measure on an average 1·4 inch in length by 1·0 inch in breadth. Both parents assist in the task of incubation, and only one brood is reared in the season. It is rather an unusual

circumstance in this group of birds for the adults to migrate south as soon as their young, and before completing their autumn moult ; but this the Sanderling does, and I have repeatedly shot adults in breeding dress the first week in August.

**Diagnostic Characters.**—*Tringa*, with no hind toe, and the legs and feet black. Length, 8 inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus TRINGA.

## BUFF-BREASTED SANDPIPER.

TRINGA RUFESCENS—*Viillot.*

**Geographical Distribution.** — *British*: Rare straggler chiefly on autumn Passage, as is usually the case with abnormal migrants from the New World. The claim of this species to rank as "British" rests on the following recorded occurrences. England: Cambridgeshire (1 example); Norfolk (4 examples); Sussex (1 example); Cornwall and Scilly Isles (4 examples); Lundy Isle (1 example); Lancashire (1 example), May, 1829; Cumberland (1 example). Scotland: Caithness (1 very doubtful example). Ireland: Co. Dublin (1 example); Antrim (2 examples). All occurred in autumn with the exception of the Lancashire example, the date of which is open to some doubt. *Foreign*: Northern Nearctic region, and probably extreme north-east of Palæarctic region; northern Neotropical region in winter. Breeds in the Arctic regions of America, from Alaska probably to Baffin Bay, although it is unrecorded from Greenland. Westwards it appears to range to the Siberian coasts of Behring Strait, and has been obtained on the southern shore of the Okhotsk Sea. Passes the United States, and occasionally the Bermudas on migration, and winters in Mexico, the West Indies, and the northern portion of South America. A single example has been obtained on Heligoland in May, a date, by the way, which tends to confirm that of the Lancashire example.

**Allied Forms.**—None of sufficient propinquity to require notice.

**Time during which the Buff-breasted Sandpiper may be taken.**—August 1st to March 1st.

**Habits.**—The Buff-breasted Sandpiper is a Sandpiper that eschews the sands. It is not a coast bird, and prefers the prairies to the mud-flats, and the wide grassy wastes to the shore. Its migrations to and from its breeding grounds are consequently chiefly taken across inland districts, but small parties occasionally frequent the shore. It passes across the prairies of the United States in spring, and arrives at its Arctic breeding grounds during the first week in June, and the return migration commences in August and lasts through the autumn. In many of its habits it resembles Bartram's Sandpiper, and like that species it is fond of frequenting the waggon tracks and bare spots on the plains, where it runs about in quest of food. It is said to be a very tame bird, seldom flying far after being fired at. Its flight is rapid and straightforward. The note of the Buff-breasted Sandpiper is described by Dr. Heermann as a low, oft-repeated *tweet*. The food of this species consists principally of insects, especially coleoptera, for which the bird searches amongst the droppings of animals, and the herbage of its haunts. Worms, and when on the shore crustaceans and mollusks are also eaten; and during summer various ground fruits and berries. During migration the Buff-breasted Sandpiper is more or less gregarious, but whether these flocks continue through the winter appears to be unknown.

**Nidification.**—But little has been recorded of the habits of the Buff-breasted Sandpiper during the breeding season. MacFarlane found this bird breeding in abundance in the Anderson River district in the north-west of America, and obtained a remarkably fine series of eggs; but unfortunately he neglected his splendid opportunities of observing and recording details of the nesting habits of this and many other Waders, and the few facts he has furnished only bring out in stronger contrast his unpardonable neglect. He informs us that the nest is always on the ground, and scarcely distinguishable from that of the Golden Plover (*Charadrius virginicus*). His series of eggs was obtained between the 26th of June and the 9th of July. The Buff-breasted Sandpiper was also met with breeding at Point Barrow, in Alaska, by Mr. Murdoch. He states that it frequented the dry portions of the tundra, and that the nest was a shallow depression lined with a little moss. The eggs are four in number, and vary in

ground colour from pale to rich buff, sometimes tinged with olive, handsomely blotched and spotted with rich reddish brown and blackish brown, and with numerous underlying markings of ink-gray. They measure on an average 1.45 inch in length by 1.0 inch in breadth. The parent birds are said to be very tame at the nest, only flying away for a little distance when flushed from the eggs. But one brood is reared in the season, and the southern flight commences shortly after the young can fly.

**Diagnostic Characters.**—*Tringa*, with the under surface of the wings buff, mottled with black and white, and the tail graduated. Length, 7 to 8 inches.

## Genus **SCOLOPAX** or **SNIPES** and **WOODCOCKS**.

Type **SCOLOPAX RUSTICOLA**.

**Scolopax** of Linnæus (1766).—The birds comprising the present genus are characterised by having the bill twice as long as the tarsus, and the toes cleft to the base. The wings are long, and generally pointed; the tail is rounded, and the number of feathers varies considerably. The tarsus is scutellated anteriorly and posteriorly; the feathering of the tibia is also subject to some variation. The bill is long and straight, swollen laterally, and softened towards the tip, rugose; nostrils lateral, basal, covered by a membrane. Three toes in front, one behind small and elevated. Summer and winter plumage nearly alike.

This genus is composed of twenty-seven species and subspecies, and is cosmopolitan in its distribution. Four species are British, two of which breed in, and two are visitors on migration to, our islands.

The Snipes are dwellers in marshes and woodland swamps. They are birds of rapid, powerful, and well-sustained if somewhat erratic flight, and run and walk with ease. They are more or less nocturnal in their habits. Their notes are loud, some of them not unmusical. They subsist on worms, insects and larvæ, etc. They make slight nests on the ground, and their pyriform eggs are four in number and spotted. They are monogamous. They are almost solitary, never gregarious, save perhaps during migration or courtship. Their flesh is highly esteemed for the table.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus SCOLOPAX.

## WOODCOCK.

SCOLOPAX RUSTICOLA—*Linnæus*.

**Geographical Distribution.**—*British*: Local resident, but most abundant during winter, and on spring and autumn migration, especially the latter. Breeds sparingly throughout the British Islands (including the Shetlands), except perhaps on the Orkneys and Hebrides and other similar districts where suitable cover is wanting. It has, however, been recorded as having bred on the Long Island. *Foreign*: Palearctic region; Oriental region in winter. Breeds in the forest districts of Scandinavia as far north as the Arctic Circle, in West Russia up to about lat. 65°, and in East Russia and Siberia not much beyond lat. 60°. Southwards it breeds as low as the Azores, the Canaries, and Madeira, and at considerable elevations in the Alps, the Carpathians, the Balkans, and the Caucasus. Its southern breeding range in Asia reaches the Himalayas at an elevation of ten thousand feet, the mountains of the Baikal district, Mongolia, and the mountains of Japan. In the southern portion of its breeding area it is probably a resident, but the birds breeding in the north pass southwards to the basin of the Mediterranean, Persia, India (occasionally straying to Ceylon), Burma, and China for the cold season. It has occurred on the Faroes, and is an accidental wanderer to the Azores, Newfoundland, New Jersey, and Virginia.

**Allied Forms.**—*Scolopax minor*, an inhabitant of North America from about lat. 50° in the north to Texas in the south, and as far west as the Rocky Mountains. Resident in the south, but migratory in the north of this area. Distinguished by its

attenuated first three primaries, and nearly uniform buff underparts. *S. rochusseni*, an inhabitant of the Moluccas, distinguished by its unbarred breast and primaries marked with rudimentary bars; and *S. saturata*, an inhabitant, so far as is known, of Java and New Guinea, much smaller than the Common Woodcock, and with the primaries barred on the outer webs only. These are all the true Woodcocks at present known to science.

**Time during which the Woodcock may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—Speaking from a naturalist's point of view, and with a full knowledge of the habits of birds during the moulting season, I should say emphatically that the Woodcocks breeding in the British Islands are stationary, that is, in the sense of not crossing the seas. I am glad to say that this opinion is confirmed by several intelligent gamekeepers, on whose grounds the bird breeds in fair numbers every season. After the breeding season is over, the Woodcock is a most skulking bird until its moult is completed; in this respect it resembles the Snipe. Not only so, but many of these resident Woodcocks are actually breeding even before the return migration of this species in spring, when the birds that breed further north pass our islands on their way thither. The migrations of the Woodcock are both marked and regular. The bird may be traced leaving its winter quarters in the Mediterranean basin at Gibraltar in the west during the latter half of February, and in Asia Minor in the east during the former half of March. We find it in the British Islands on its way north in March, and it reaches Scandinavia by the end of that month or early in April. The return migration in autumn, which is much more pronounced and noticeable than the vernal one, begins early in October, and continues with varying intensity through the month into the first half of November. Asia Minor is reached towards the end of October, but in the west of the Mediterranean the birds are about a fortnight later. The Woodcock almost invariably migrates by night, up wind, and at a considerable elevation. This species is seldom or never caught in the flight nets, because it continues its lofty course until over dry land, and then drops almost perpendicularly into the cover below. I have met with great numbers of tired-out Woodcocks

n the early morning before actual sunrise on the shores of the Wash, skulking in the hedge-bottoms amongst the drifts of autumn leaves, or on the sea banks amongst the long dry grass. Here they generally remain, if not much disturbed, until the evening, and then, under the cover of darkness, continue their flight inland to their favourite and more suitable winter haunts. Many migrating Woodcocks come to grief at the lighthouses, attracted by the glare of the lanterns. The Woodcock very often arrives on our coasts, especially in autumn, in considerable numbers, or "rushes," but the bird, notwithstanding, is eminently a solitary one, even on passage, and these unusual arrivals are caused by a prolonged spell of unfavourable weather detaining them on Continental Europe, and causing them to accumulate whilst waiting for a favourable passage. As soon as this is presented all start off, eager to get to their journey's end, and consequently arrive simultaneously on our coasts, but as soon as they reach land they separate and each bird, or at most a pair, retire to their own particular haunts. Even in districts where the Woodcock is common during winter no gregarious tendencies are ever observed, and the birds are flushed with rare exceptions one after the other from certain favoured spots. Its habits are quite as solitary as those of the Snipes, and like those birds it is ever changing its ground, sometimes for no apparent cause. Woodcock-shooting is a sport that should never be put off till to-morrow; if plenty of birds chance to be in the covers they should be looked after at once, for very often, if a night is allowed them, they have taken their departure. The favourite haunts of the Woodcock are plantations of young trees and spinneys, with plenty of long grass and undergrowth, and the borders of woods, where similar cover abounds, especially hollies, under which the bird loves to skulk during the day. Its feeding grounds are marshes, swamps, and the boggy banks of streams, even turnip-fields, and these are often at some considerable distance from the haunts it frequents during the day-time. The Woodcock feeds principally at night, and it retires to its favourite pastures with great regularity about dusk, following a certain track to and from them; when its feeding places are close by, it always prefers to walk down to them. Even whilst feeding

it is ever a shy and cautious bird, and I have heard dozens of men whose daily lives have been spent in the woods and other haunts of this species, remark, when questioned on the subject, that they had never seen a Woodcock feeding or running about in a purely voluntary manner. The occasions on which I have seen Woodcocks stirring of their own free will could easily be counted on the fingers of one hand. I have seen odd birds during a bright moonlight night whilst sitting near the swamps, certainly not watching for them, wandering about probing the mud with their long beaks, and looking very big and round and plump in the uncertain light, and disappearing like phantoms, as it were, into the very ground the moment they were alarmed. I remember one of these occasions was in the depth of winter, and all the country-side was deep in snow, except the little swamp in question. The food of the Woodcock consists principally of earth-worms and grubs, but beetles and other insects are eaten, and vegetable fragments have been found in the bird's stomach. It has also been known to eat shellfish. Its flight is quick, but somewhat laboured, the bird carrying its long bill depressed. Sometimes when flushed the Woodcock hurries off at first in a very erratic manner, dipping and gliding or turning and twisting from side to side ; and it is surprising how deftly the bird will thread its way between the tree-trunks and network of branches. It makes a very distinct whirr with its wings as it rises, and at the same time occasionally utters a croaking sound, which I will not attempt to syllable, although some naturalists have done so with that of *skaych*. The Woodcock has been known to perch in trees.

**Nidification.**—As previously inferred, the breeding season of the Woodcock is an early one. Even in the north of Scotland its eggs have been taken on the 9th of March ; a week earlier still in the north of England. The majority of the eggs are laid during April. The Snipes are birds remarkable for their peculiar flight, and for the singular sounds they produce during the love or pairing season. The Woodcock, although somewhat aberrant, is not wanting in this curious performance. With the approach of the pairing season the habits of the male undergo considerable change. From being one of the shyest and most skulking of

birds he suddenly changes, for a certain time each day, into a bold and obtrusive one. For a quarter of an hour in the early morning and again at night the male birds fly slowly to and fro along certain routes, usually a "drive" or an open glade in the woods or along the borders of the plantations and spinneys, uttering two peculiar notes, sometimes in succession, at others only one of them. One of these notes is a harsh, guttural *r-r-r-r-k*, the other a cry between a whistle and a hiss, impossible to express on paper. Whilst "roding," as it is termed, should rival males meet each other a chase and a combat very often occurs, incited more probably by invasion of haunt rather than the favour of the female. The nest is made in a dry secluded corner of the wood or spinney, where plenty of cover is to be found in the form of last year's withered bracken, tall dry grass, brambles, and drifts of fallen leaves. It is merely a hollow in the ground, rather thickly lined with dry grass and withered leaves, and is usually sheltered more or less with surrounding vegetation, but sometimes in a bare spot at the foot of a tree. The lining materials are occasionally increased whilst incubation is in progress. The eggs of the Woodcock are four in number, and vary in ground colour from very pale yellowish brown to buffish brown, rather sparingly spotted and blotched with reddish brown, and with underlying markings of gray. They measure on an average 1.7 inch in length by 1.35 inch in breadth. Incubation lasts about three weeks. The Woodcock is a close sitter, and usually remains upon the eggs until the last moment; rarely, if ever, are both parents seen near the nest together. Whether the eggs are ever covered when they are left voluntarily I cannot say, but I strongly suspect that such will prove to be the case. Although this species is solitary enough during the breeding season, as at most other times, several nests may frequently be found within a small area, especially in districts where suitable sites are not very common. Only one brood is usually reared in the year, but instances are on record where fresh eggs have been found in July and August. St. John states that this species is double-brooded in Scotland, and this is also the experience of Hume in India. There can be no question that the female Woodcock very often removes her brood from place to place, carrying them one at a

time between her legs, and pressed close to the body with her bill. It has even been stated that where the favourite feeding grounds are some distance from the nesting place, the chicks are carried to them at night and brought back to the woods at dawn. The flesh of the Woodcock is not excelled by that of any other bird.

**Diagnostic Characters.**—*Scolopax*, with silvery tips to the under surface of the rectrices, with the breast barred, and with the primaries marked with rudimentary bars on both webs. Length, 13 to 14 inches. The Woodcock is subject to considerable variation in size, weight, and plumage. Average weight, 11 to 12 oz. ; more rarely 14 to 16 oz. ; an example is on record weighing 27 oz. Indian individuals are said by Hume to be constantly smaller and lighter than British ones. Birds with the ground colour of the plumage white or yellow, are not very uncommon.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus SCOLOPAX.

## GREAT SNIPE.

SCOLOPAX MAJOR—*Gmelin.*

**Geographical Distribution.**—*British.* Rare straggler chiefly on autumn migration, and most frequently observed in the eastern and southern counties. Very rare in Scotland, perhaps not more than a dozen authentic instances, two of which were in May—a fact which more likely proves the bird occasionally to winter with us than to wander here in spring. In Ireland it is of even rarer occurrence still, probably not more than three examples having been recorded. *Foreign:* Western Palæarctic region; Ethiopian region in winter. Breeds more or less frequently in Holland, Denmark, North Germany, Poland, throughout Scandinavia, and Russia south to about lat.  $50^{\circ}$ , and north to the coast. In West Siberia it is found as far north as lat.  $67\frac{1}{2}^{\circ}$  in the valley of the Obb, but only to lat.  $66\frac{1}{2}^{\circ}$  in the valley of the Yenesay, which appears to be the eastern limit of its range. Passes the remainder of Europe (east of the Rhone valley), the Caucasus, and Persia, on migration, a few wintering in the basin of the Mediterranean, but the majority passing on to South Africa for the cold season.

**Allied Forms.**—*Scolopax megala*, an inhabitant in summer of South-east Siberia and the north island of Japan, passing China on migration, and wintering in the Malay Archipelago. Distinguished from the Great Snipe by having twenty tail feathers instead of sixteen, the outermost being narrow and banded with brown, instead of being broad and pure white for at least the terminal half. *S. australis*, an inhabitant of Japan in summer, passing the coast of China and the Philippine Islands on migra-

tion, and wintering in Australia and Tasmania. Distinguished from the Great Snipe by having eighteen tail feathers, only the two outermost being narrow, and by having the wing six inches or over in length. *S. aquatorialis*, an inhabitant of Africa south of the Great Desert. Distinguished from all other birds of this genus by its having the ground colour of the four outer tail feathers on each side white, and the median wing coverts narrowly tipped with buff.

**Time during which the Great Snipe may be taken.**

—August 1st to March 1st.

**Habits.**—Although the Great Snipe is but accidental in its visits to our islands, its migrations (undertaken at night) in Continental Europe and in Asia are very marked and regular. It crosses the Mediterranean during March and April—a month earlier in the east than the west (which is an exceptional Passage)—and arrives at its breeding grounds in Norway and Sweden from the middle to the end of May. Mr. Seebohm found that it was one of the latest birds to arrive in the latitude of the Arctic Circle, not doing so in the Petchora valley until the 3rd of June, and eight days later still in the Yenesay valley in Siberia. The haunts of the Great Snipe are in swamps, especially those where patches of bare mud or sand occur; and the marshy margins of rivers and lakes, where tall rank grass, sedges, and other aquatic vegetation furnish plenty of cover. Its habits are very similar to those of its congeners. It delights to skulk amongst the herbage, remaining buried under the grass and sedge until almost trodden upon before it rises. Its flight, however, is neither so erratic nor so rapid as that of the Common Snipe, and the tail is much more expanded; the bird makes a considerable whirr as it rises. Like that bird, however, it feeds principally at dusk or by the light of the moon, then wandering from its favourite cover on to the more open parts of its haunts, where it struts about in a timorous kind of way in search of food, at the least alarm hiding amongst or behind the nearest tuft of vegetation. Its food consists principally of worms, but insects and their larvæ, as well as slugs, are also eaten. Whilst in quest of food the Great Snipe often wanders into districts which it does not usually frequent—turnip-fields, and grass lands, and dry commons. Seldom more than a

pair of these birds are flushed in one particular spot during autumn and winter, but on migration and in the pairing season much more gregarious tendencies are developed.

**Nidification.**—In the pairing season parties of male birds appear often to collect and go through various strange antics on the ground and in the air. Mr. Seebohm, who has had exceptional opportunities of observing this species at its nesting grounds, relates how he has often watched them at a distance of from fifteen to twenty yards, whilst concealed among willow bushes, “stretch out their necks, throw back the head almost upside down, and open and shut their beaks rapidly, uttering a curious noise like that produced by running the finger along the edge of a comb.” Sometimes these notes were uttered just after the bird had taken a short flight, or spread its wings and tail. As many as six birds were counted in the air together, during this singular tournament, in another locality. The nest of the Great Snipe is either made amongst the long coarse grass which the bird frequents, or in the centre of a tussock of rush or sedge. It is merely a shallow depression lined with dry grass and sometimes a little moss. The eggs are four in number, and vary in ground colour from olive and grayish buff to brownish buff, handsomely and heavily spotted and blotched with rich dark brown and pale brown, and with numerous and large underlying markings of violet-brown and gray. Most of the blotches are obliquely distributed, and on some eggs many streaks are to be seen. They are pyriform, and measure on an average 1·8 inch in length by 1·25 inch in breadth. The eggs are laid at the end of May in some localities, nearly a month later (middle to end of June) in others. Incubation lasts from seventeen to eighteen days. Only one brood is reared in the year.

**Diagnostic Characters.**—*Scolopax*, with the major portion of the four outer rectrices on each side white, and with broad white tips to the median wing coverts. Length, 10½ to 11½ inches.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus SCOLOPAX.

## COMMON SNIPE.

SCOLOPAX GALLINAGO—*Linnæus*.

**Geographical Distribution.**—*British*: Common resident, breeding wherever suitable localities occur; most numerous in Scotland, and especially so in Ireland. More abundant in winter than in summer, its numbers being largely increased during the cold season by arrivals from higher latitudes. *Foreign*: Palæ-arctic region; Oriental region, and northern confines of Ethiopian region in winter. Breeds throughout Northern and Central Europe (including Iceland and the Faroes) north to the Arctic Ocean, and south to the Alps, and South Russia. Eastwards it breeds throughout Siberia, south of lat.  $70^{\circ}$ , southwards to the lofty heights of Turkestan and South-east Mongolia. The northern birds pass the intermediate country on migration, and winter in the basin of the Mediterranean and North Africa (south to about lat.  $10^{\circ}$  on both east and west, and including the Azores, Madeira, and the Canaries); in Persia, India, Ceylon, Burma, China, Formosa, and the Philippine Islands. Once recorded from the Malay peninsula, and is said to have visited South Greenland.

**Allied Forms.**—*Scolopax gallinago wilsoni*, northern Nearctic region in summer; southern Nearctic, and extreme north of Neotropical regions, in winter. Breeds throughout North America from the Atlantic to the Pacific, as far north as the Arctic Circle, and as far south as the northern United States to about lat.  $40^{\circ}$ . Winters in the Bermudas, Mexico, Central America, the West Indies, and the northern limits of South America. The New World representative of the Common Snipe, only subspecifically distinct, and completely intergrading with its Old World repre-

sentative. Typical examples are distinguished from the Common Snipe by having sixteen tail feathers instead of fourteen, by having the axillaries barred with brown instead of pure white, and the breast marked with transverse bars instead of longitudinal streaks. The outer tail feathers are crossed by five dark bars instead of three, and the bill is appreciably shorter, varying from 2·3 to 2·7 inches instead of from 2·5 to 3·0 inches. Intermediate forms are said to be common in India, and birds possessing some of the characteristics of the American form are often met with in England and elsewhere, but hitherto no Snipe combining all the characters of the New World race has been detected in the Eastern hemisphere. The *S. sabinii* of Vigors, rarely met with outside the British Islands, is now universally admitted to be nothing but a melanistic variety of the Common Snipe, with no specific value.

**Time during which the Common Snipe may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—Like many other birds that may be found in the British Islands throughout the year, the Common Snipe is migratory elsewhere, even in such countries as Denmark and Germany. It is, however, an early migrant, reaching its summer quarters in Central Europe by the middle or towards the end of March. Finland is reached by the end of April; Lapland not until the end of May; whilst further north and east it is at least a week later still. Hume states that in India this species leaves the plains towards the end of March, but in the north they linger a month or six weeks longer, which is a fair corresponding date with that of their arrival in Siberia. The return journey commences in Europe about the middle of August, and continues for at least two months. In India they are later, the earliest arriving at the end of August, but the greater number in September, and in the south in October. Oates states that in Burma they do not arrive until December. In our islands the Common Snipe is certainly a solitary bird, but in India Hume distinctly states that it is eminently gregarious, and arrives and departs "*en masse*." By this, however, he does not appear to infer that the birds when flushed rise in flocks, although three or four will rise from the same spot where they had evidently been feeding in company. In our islands no matter how thick Snipe may be on the ground, they

are almost invariably put up a yard or so apart; and this is Hume's experience in India, where it should be remarked the Common Snipe is probably more abundant in winter than in any other known locality. The Snipe is nocturnal in many of its habits; it migrates at night; becomes most active at dusk, and obtains the greater part of its food between sunset and sunrise. In its skulking habits it does not differ from its congeners. No birds are more retiring, or more persistently hide themselves away, and unless flushed they are rarely seen on the wing except in the breeding season. The usual haunt of the Snipe is never far away from marshy ground, either in a swamp or a bog, but never on the mud-flats or bare sands. Cover is imperative; rough herbage such as sedges, rushes, and coarse grass, being the usual vegetation amongst which the bird delights to hide. From this cover it strays to the bare spots in the marshes, the banks of the sluggish streams, and the margins of the pools where the ground is soft, to feed. Hume states that in India during winter, the Common Snipe may be found in every swamp and marsh, on the banks of rivers, ponds, and lakes, wherever the foreshore is mud, protected by short grass, rushes, or reeds. Here their favourite vegetation, and amongst which they are sure to be found if in the locality at all, is the round-stemmed rush (*Scirpus carinatus*). Snipe never rest much in swamps covered with water; they may and do feed in such localities, but rarely or never squat in them; they invariably skulk in a comparatively dry spot where their under plumage is free from contact with water. Hume remarks that many Snipe often rest at midday on large floating masses of water-weed, the birds keeping close until the boat pushes against the patch of vegetation, which may be as much as half a mile from land. The flight of the Common Snipe, just after the bird rises, is very rapid and uncertain, full of sudden unexpected twists and turns which baffle the best of shots, but it soon becomes steadier, and is rarely far prolonged. The Common Snipe occasionally perches in a tree, and has been known to utter its peculiar pairing notes whilst sitting on the topmost spike of a bare larch seventy feet from the ground. The Common Snipe, except during the breeding season, is a very silent bird, but sometimes as it rises it utters a long-drawn guttural note as impossible to

express on paper as that of the Woodcock. The pairing notes will be described later. The food of the Common Snipe consists of worms, grubs, aquatic insects and their larvæ, and small water-snails. Much of this food is obtained whilst the bird probes the soft mud with its extremely sensitive bill, which is full of small thread-like nerves connected with the brain. This complicated nervous plexus renders the bill of the Common Snipe so sensitive that the bird is enabled to feel its prey when buried deep and out of sight in the soft mud. Much difference of opinion has been expressed respecting the best method of shooting Snipe, some sportsmen preferring to work their ground "off the wind" or down wind; whilst others are equally attached to working against the wind. Both methods are to be recommended according to circumstances, but light charges and a gun held straight rarely fail to answer for Snipe, however worked. A hundred couple a day have been known to fall to a single gun in India.

**Nidification.**—In the British Islands the breeding season of the Snipe commences towards the end of March, and fresh eggs may be obtained through April and May. In more northern latitudes the eggs, of course, are laid much later. During the pairing season especially, and less frequently even up to the time the young are hatched, the male Snipe spends a good deal of his time in the air. All the old love of skulking in the marshes seems relinquished for the time being, and high in air the bird careers about uttering his love notes, and making the sound popularly known as "drumming" or "bleating." These flights may be witnessed at all hours of the day, but are most persistently and frequently indulged in towards evening. The bird rises to a considerable height, often uttering his note of *tchik-tchak*, *tchik-tchak*, or *tyik-tyuk*, *tyik-tyuk*, as he goes. Then when at the zenith of his course he suddenly descends with great velocity on vibrating wings and outspread tail making the drumming noise. Sometimes this descent is continued until the ground is reached, but more often the bird stays its course at varying heights, the drumming ceases, and he flies off in another direction uttering his monotonous *tchik-tchak* as he goes. Much difference of opinion has been expressed concerning the "drumming" of the Snipe. Some writers assert that the sound is a vocal one, others

maintain that the vibration of the wings is responsible for its production ; whilst others yet again hold that it is caused by the rush of air through the outspread tail. The vocal organs must be dismissed, because the Snipe has been heard to utter its love notes whilst drumming, although this is exceptional. I am inclined to adopt Colonel Legge's explanation, based as it was on much careful observation and experiment, which he minutely described to me some years ago, and that is, the drumming is produced by the combined action of the wings and tail. He informed me (as he also published in his magnificent work on the *Birds of Ceylon*) that the vibrations of sound were exactly coincident with the beats of the wings, and that the air-waves are driven by the powerful wing-beats through the expanded and rigid tail feathers. The nest of the Common Snipe is usually placed in the centre or under the side of a tuft or tussock of coarse grass and rush in the swamps. It is merely a slight depression lined with dry grass and bits of dead aquatic herbage. The eggs are four in number, and vary from buff of different shades to olive of different shades in ground colour, heavily and handsomely blotched and spotted with rich dark brown, occasionally streaked with blackish brown, and with numerous large underlying markings of pale brown and gray. They are pyriform, and measure on an average 1·6 inch in length by 1·1 inch in breadth. Incubation, principally performed by the female, lasts from sixteen to twenty days. But one brood is reared in the year.

**Diagnostic Characters.**—*Scolopax*, with fourteen rectrices, with dark streaks (not bars) on the breast, and with the axillaries white, more or less marked with dark gray. Length, 10½ inches. Albinos and fawn-coloured varieties are not uncommonly met with, especially in India.

Family CHARADRIIDÆ.  
Subfamily SCOLOPACINÆ.

Genus SCOLOPAX.

## JACK SNIPE.

SCOLOPAX GALLINULA—*Linnaeus*.

**Geographical Distribution.**—*British*: Common winter visitor locally distributed throughout the British Islands, including the Orkneys, the Shetlands, and the Hebrides. Owing to the fact of odd birds having been met with in early summer, it has been surmised that the Jack Snipe may occasionally breed within our limits, but there is no decided evidence whatever that such is ever the case. *Foreign*. Northern Palæarctic region; southern Palæarctic region and Oriental region in winter. Breeds locally above the limits of forest growth, on the Dovrefjeld and the tundras of Lapland, and in Western Russia as far south as St. Petersburg. In Asia it appears to breed as far north as about lat.  $70^{\circ}$ , and probably as far south as lat.  $60^{\circ}$ . Passes Europe, south of the above limits, on migration, and winters in the basin of the Mediterranean, in North Africa as far south as the Great Desert, and is said to penetrate down the Nile valley to Abyssinia. The birds breeding in Asia are known to pass South-west Siberia, Turkestan, and less frequently Japan on migration; and probably cross other central districts, though as yet undetected, and winter in Persia, Afghanistan, India, Ceylon, and Burma.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Jack Snipe may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—A few Jack Snipes make their appearance in our islands during the latter half of September, but the great bulk of birds arrive in October and the beginning of November. The

return migration begins in March and continues into April. Birds which breed in the highest Arctic limits of the European range of this species do not appear to pass our islands at all; those that winter with us breed in Scandinavia most probably; those that pass later in spring through Central Europe nest in Northern Russia. Jack Snipes arrive in India as a rule at the end of September or early in October, and leave later than the Common Snipe, in April and May. Middendorff noted their arrival in North Siberia on the 8th of June. The Jack Snipe frequents almost precisely the same kind of haunts as its larger ally, but it is frequently found in much smaller bogs. A few square yards of marshy ground, provided there is cover and a snug corner in which to nestle, will content a Jack Snipe; and haunts that are tenanted one year are invariably filled the next, either by the same bird, if it is fortunate enough to escape the sportsman, or by another individual that in some strange manner only known to themselves becomes aware that the eligible haunt is vacant. Jack Snipes migrate at night, obtain much of their food by night, and change their ground—say when frozen out during continued frosts—at the same time. It is always a mystery to me how these birds can spot a tiny bog in the darkness when newly arrived in this country; the sense that guides them must be one totally unknown to man. The Jack Snipe at all times is a very solitary species, but whether it migrates in company is entirely unknown to me. If the birds do journey together (and Hume seems to infer that they do) they must separate at once; and though many may be flushed from one bog, each seems concerned with its own affairs. It is a skulking bird enough, and usually remains squatting close in the herbage, often behind a tuft, until nearly trodden under foot. When put up it flies at first in a very unsteady manner, but after going some distance the flight becomes steadier, and the bird pitches again almost directly. It may be flushed time after time in this manner, as it is one of the easiest birds to mark down. Much has been said about the difficulty of shooting Jack Snipe; but if the gunner can only control himself, and wait until the critical moment, when the zigzag flight is changed into a steadier course, and which usually happens when the bird is just about a nice distance from the gun,

a moderate marksman should rarely miss. The Jack Snipe whilst with us is remarkably silent, and never, so far as my experience goes, utters a sound as it rises, nor is the whirr of its wings very perceptible. As Hume very aptly remarks, the favourite haunt of a Jack Snipe is a *corner*; the bird loves a cosy nook in which to nestle, a sheltered secluded spot where the cover is ample and where there is just enough bog to ensure a comfortable living. In such a retreat a Jack Snipe will remain the entire winter through—unless it is shot, of course. The food of this species consists of worms, insects and their larvæ, shells and crustaceans, and a considerable amount of vegetable substances, such as small seeds, bits of green weed, club-moss, and grass. In the manner of its search for food the Jack Snipe resembles its congeners. During the heat of the day this Snipe keeps very close and sleeps; but it has been shot in the absolute act of feeding rather late in the morning and long before sunset. The flesh of the Jack Snipe is excellent, and even in very severe weather, when Common Snipe have been woefully out of condition, I have remarked that Jack Snipe continue to remain as plump and fat as ever.

**Nidification.**—It is rather remarkable that so little has been recorded of the breeding habits of the Jack Snipe. Every writer has to depend upon the information gathered by Wolley, and this in a great measure is meagre and vague. It would be interesting to hear the accounts of other naturalists. The Jack Snipe begins to breed towards the end of June. Wolley found the first nest on the 17th of that month, and four others on the 18th. From his account we are left in ignorance as to whether the male bird drums like the Common Snipe during the nesting season; indeed, the facts appear to be against it. He describes the bird careering about the air over the marshes of Muonioniska, uttering a sound like the distant canter of a horse over a hard road. This evidently refers to the *note*, which is compared by Naumann to the clicking of the death-watch beetle, and undoubtedly not to drumming or bleating. He found the nests placed in dry spots amongst the sedge and grass close to the borders of the more open swamps. They were mere hollows lined with a little dry grass, equisetum, and dead withered leaves

of the dwarf birch. The eggs are four in number, ranging from buff to olive in ground colour, blotched and spotted, and sometimes streaked with rich blackish brown, and with underlying markings of pale brown and gray. They are pyriform, very large for the size of the bird (a clutch weighs nearly as much as the hen herself), and measure on an average 1·5 inch in length by 1·0 inch in breadth. The female is a close sitter, and remains brooding over her eggs until the last moment; Wolley was allowed to approach one nest within six inches before the parent rose. Only one brood is reared in the year, so far as is known.

**Diagnostic Characters.**—*Scolopax*, with the mantle glossed with purple, and the inner webs of the scapulars with metallic green; rectrices twelve in number. Length,  $7\frac{1}{2}$  inches.

## Order **ANSERIFORMES.**

Family ANATIDÆ or SWANS, GEESE, DUCKS, and MERGANSERS.

THE Ducks and their allies are an extensive and very clearly defined group of birds. They are perhaps most nearly allied to the Herons by way of the Flamingoes, and to the Rails by way of the Screamers. They are also more or less closely allied to the Raptores and the Pelicans. Their sternum contains only one notch on each side of the posterior margin. In the modification of their cranial bones they are desmognathous. In their pterylosis they are characteristic and well defined; whilst in their myology and digestive organs they are perhaps most closely allied to the Grebes (*Podicipediformes*) and the Herons (*Pelargiformes*).

The most important external characteristics of the Ducks and their allies are their peculiar laminated bill, short legs, webbed feet, and dense compact plumage. Primaries ten in number; rectrices variable in this respect. Moults single in autumn. In the Ducks the males moult their small feathers twice in twelve months; the Geese, Swans, and Sheldrakes have only one moult. Quills moulted so rapidly as to incapacitate the bird for flight. Young hatched covered with down, and able to run and swim almost immediately. Progress of young to maturity: (Geese), do not differ very remarkably from their parents in colour except in those species where the adults are characterised by violent contrasts of colour; (Ducks), in first plumage very closely resemble the old female, and acquire nearly adult plumage after their first autumn moult; (Swans), in first plumage are grayish brown, a plumage which they carry until their second autumn, when the adult white attire is assumed.

Number about 160 species or less; almost cosmopolitan, but rare in species in the tropics, except during the period of the northern winter.

## **Family ANATIDÆ.**

### **Subfamily CYGNINÆ or SWANS.**

The species forming this large family fall very naturally into four fairly well-defined subfamilies. The birds included in the present subfamily are distinguished from their allies by having the lores (space between the eye and the bill) bare of feathers. Their reticulated tarsus further distinguishes them from the Ducks, whilst the shortness of that member (not so long as the middle toe) is a point of distinction from the Geese. Sexes nearly alike in colour. One moult in autumn.

This subfamily is composed of seven species, probably all referable to one genus. Palæarctic, Nearctic, Neotropical, and Australian regions.

## Genus **CYGNUS** or **SWANS**.

Type **CYGNUS MUSICUS**.

**Cygnus** of Bechstein (1803).—The birds comprising the present genus are characterised by having the lores devoid of feathers, the tarsi reticulated, and shorter than the middle toe. The wings are long, but rather rounded, secondaries long and broad, the first four primaries being of nearly equal length; the tail is short and rounded. The bill is moderately long, and of equal breadth, higher than wide at the base, depressed at the tip; nostrils oblong, lateral and central. The neck is long and slender. Three toes in front webbed, hind toe small.

This genus is composed of seven species, which are confined to the Palæarctic and Nearctic regions, and the southern portions of the Australian (S. Australia) and Neotropical regions; more widely distributed in winter than in summer. Three species are British, but only one is resident, and breeds in our islands in a semi-domesticated state.

The Swans are dwellers on lakes and inland waters in summer; more maritime in winter. They are birds of very powerful and sustained flight, and swim and walk with ease. Their notes are loud and trumpet-like. They subsist chiefly on vegetable substances, insects, and mollusks. They make large and bulky nests on the ground, and their eggs are oval, three to eight in number, dull white and unspotted. They are monogamous, and probably pair for life. More or less social and gregarious, especially in winter. Their flesh was formerly held in high repute for the table.

Family ANATIDÆ.  
Subfamily CYGNINÆ.

Genus CYGNUS.

## HOOPER SWAN.

CYGNUS MUSICUS—*Bechstein.*

**Geographical Distribution.**—*British*: On the authority of Low, this species is said to have bred in the Orkneys upwards of a hundred years ago. It is now only a winter visitor, passing the Shetlands on migration, and is found more or less commonly round the Scotch coasts, including St. Kilda, the Orkneys, and the Hebrides. To England it is not so common a visitor, its numbers being influenced by the severity of the weather, but it occurs in most suitable districts from Northumberland to Devonshire, inland as well as on and off the coasts, Slapton Lee, in South Devon, being one of the many favourite resorts. The same remarks apply to Ireland, although this species is never seen in such enormous quantities as its smaller ally, Bewick's Swan. *Foreign*: Northern Palæarctic region; southern Palæarctic region in winter. Accidental straggler to Greenland, visits the Faroes on migration, but breeds commonly in Iceland. Breeds throughout Arctic Europe and Asia, in the former not below the Arctic Circle in Norway, but four degrees further south in Sweden, Finland, and North Russia. In Asia it does not appear to nest commonly below the Arctic Circle, and ranges above that limit eastwards to Behring Strait. In Europe it wanders south during winter to the basin of the Mediterranean, Black and Caspian Seas, as far as the lakes of Algeria, Lower Egypt, and Palestine. The Asiatic birds pass South Siberia and Mongolia on migration, and spend the cold season in Japan and on the coasts of China as far south as Shanghai. It is said to have wandered abnormally to Nepal.

**Allied Forms.**—None nearer than *Cygnus bewicki*, a British species treated fully in the following chapter.

**Time during which the Hooper Swan may be taken.**  
—August 1st to March 1st.

**Habits.**—The Hooper migrates to and from its Arctic haunts in flocks of varying size, and sometimes in pairs, not only at night but during the day, as may easily be learned from its loud notes uttered during flight. It begins to leave its winter quarters in the south in spring, and reaches the Arctic regions about the middle of May, just as the ice on the great rivers is about to break up, and the snow to melt from the grounds where it breeds. At first only a few pairs make their appearance, but soon the migration is in full swing, and continues until the early days of June. The migration south in autumn commences soon after the moult is completed; in fact, whilst it is in progress the birds begin to wander down the great rivers towards their winter quarters, which are reached in October and November. Migrating flocks of this species usually assume the form of a wedge, and fly at an immense elevation. The flight is rapid enough when the bird gets fairly under weigh, and the swish, swish of the long wings beating regularly can be heard for long distances; the head and neck are stretched out in a straight line. The Hooper spends much of its time on the water, searching round the banks and in the shallows for food. It is nothing near so graceful in its movements as the Mute Swan, and the neck is never so beautifully curved, being almost always held up straight, except when the bird is feeding. Like most big birds it is excessively wary and shy, and during its sojourn in our islands is very careful to keep well in the centre of the pool or lake, or at some distance from shore, when not actually feeding. When disturbed from the water it rises with apparent difficulty, and the long wings beat the surface for some distance as the bird attempts to reach the air. The Hooper feeds a good deal whilst on dry land, and is very fond of swimming round the banks of a deep pool, from time to time plunging the head and neck under water to explore the mud and the roots of the herbage growing at the bottom. The food of this species is principally of a vegetable nature—herbs, grasses, weeds, flowers, and seeds, roots, stems, buds, and

leaves—but water insects and mollusks are also eaten. The note of the Hooper once heard can never be forgotten or confused with that of any other British species. It is a short, loud, clear, far-sounding trumpet-blast, uttered several times in succession, and when mellowed by distance sounds far from unpleasant, but at close quarters is ear-splitting and discordant. Nothing in bird life to my mind sounds so inspiring as the distant yet clear calls of migrating Swans, one to the other, as they cross the night sky.

**Nidification.**—The chief breeding grounds of the Hooper are beyond the Arctic Circle on the islands in the deltas of the great rivers that flow into the northern seas, or near the big lakes of the tundras, or the creeks that run some distance inland from the parent stream. The birds pair for life. The nest is usually placed on an island well covered with willow-trees and other dense scrub, or at others amongst the tall rank grass and reeds that fringe the pool. It is a huge pile of coarse grass, sedge, and other herbage built upon the ground, and probably carried to such a height in anticipation of any sudden rise in the water near by. As incubation proceeds it often increases in bulk, the birds adding materials from time to time. In Northern Russia from two to four eggs formed a clutch; in Iceland five is frequently found; and old females are said occasionally to lay as many as seven. The eggs are laid towards the end of May in some districts, a fortnight later in others. They are creamy white in colour, rough in texture, and nearly oval in shape. They measure on an average 4·5 inches in length by 2·8 inches in breadth. Incubation lasts from five to six weeks, and according to Dr. Palmén the young mature slowly. Only one brood is reared in the year.

**Diagnostic Characters.**—*Cygnus*, with the tail short and rounded, and with the lores and the basal portion of the bill extending below the nostrils yellow, remainder black. Length, 60 inches.

Family ANATIDÆ.  
Subfamily CYGNINÆ.

Genus CYGNUS.

### BEWICK'S SWAN.

CYGNUS BEWICKI—*Yarrell.*

**Geographical Distribution.**—*British.* Winter visitor to the coasts and many inland waters of the British Islands. Most abundant on the wild broken coast of the west of Scotland, and the lakes and western coasts of Ireland. It is, however, fairly well known as a frequent winter visitor on the east coast of Scotland and the coasts of England. *Foreign:* Northern and eastern Palæarctic region; southern Palæarctic region in winter. But little is known of the breeding grounds of this species, and until the visit of Messrs. Seeborn and Harvie-Brown to the valley of the Petchora in the summer of 1875, the eggs were absolutely unknown to science. Breeds on the tundras above the limit of forest growth, on the eastern shores of the White Sea, probably on the islands of Kolguev and Nova Zembla, and in the deltas of the Petchora, Obb, Yenesay, and Lena; on the Liakoff Islands and the tundras of North-eastern Siberia, possibly to Behring Strait. It is only an accidental visitor to Norway and Finland, and the coasts of the Baltic, Denmark, Holland, and France; one example is recorded from Nepal. Passes the great river valleys from the Kama and the Volga eastwards, down those of the Obb, the Yenesay, and the Lena, and crosses Turkestan and Mongolia on migration, and winters in the basin of the Caspian, and on the coasts of Japan and China as far south as Shanghai.

**Allied Forms.**—None nearer than *Cygnus musicus*, a British species, treated fully in the preceding chapter.

**Time during which Bewick's Swan may be taken.**  
—August 1st to March 1st.

**Habits.**—Bewick's Swan resembles the Hooper very closely in its habits. It is a bird of regular passage to and from the Arctic regions, arriving at its breeding grounds just as winter is about to give way to the short, hot northern summer, and the ice on the great rivers is breaking up, towards the end of May. It is a gregarious bird on passage, and journeys in herds of varying size which usually assume a wedge-shaped formation as they fly. It migrates by day as well as by night, and like its larger ally is a very noisy bird on passage, the individuals of the party calling to each other at intervals. This note is neither so loud nor so harsh as that of the Hooper, and is aptly described by Sir Ralph Payne-Gallwey as *tong*, short but musical. Both at its summer quarters and whilst in our islands during winter Bewick's Swan is a remarkably shy and cautious bird, difficult to approach either on the sea or on an inland lake. During winter it is a very gregarious species, sometimes congregating on certain favoured waters in flocks, hundreds or even thousands strong. Its food is obtained in a very similar manner to the Hooper, and consists of the roots, stems, buds, flowers, seeds, and leaves of herbs and aquatic plants, and of grass, insects and their larvæ, and worms. The bird, perhaps, feeds more whilst on land than the Hooper, and is more fond of enclosed waters than the open sea. Its flight is just as rapid and powerful, the long wings beat regularly with a loud noise, and the bird's neck is outstretched.

**Nidification.**—Very little is known of the breeding habits of Bewick's Swan, and although its eggs have been obtained, no naturalist has yet been fortunate enough to see them *in situ* or to examine the nest. Messrs. Seebohm and Harvie-Brown, when in the valley of the Petchora in 1875, had eggs of this bird brought to them by a Russian fisherman, which were obtained on the island of Pyonin in the delta of that river. Other eggs were brought to the former gentleman during his visit to the valley of the Yenesay two years afterwards, which had been obtained from an island, and on the mainland of the delta of that river. The nest is said by the natives to resemble that of the Hooper, and to be built in a similar situation. The number of eggs in a clutch is not known with certainty, but more than three have not yet been found in one nest. They are smaller than those of the Hooper, whiter on

an average, and not so glossy. They measure on an average 4·0 inches in length by 2·6 inches in breadth.

**Diagnostic Characters.**—*Cygnus*, with the tail short and rounded, and with the lores and the basal portion of the bill, but not extending below the nostrils, yellow, remainder black. Length, 50 inches.

## MUTE SWAN.

*CYGNUS OLOR*—(*Gmelin*).

**Geographical Distribution.**—*British*: Whether the present species was introduced into the British Islands (as some writers affirm it was by Richard I. from Cyprus) or not is a question somewhat difficult to decide. It is rather remarkable that such an explanation should ever have been put forward, for there is nothing extraordinary in a bird which, in a wild state, is a regular summer visitor to Denmark and North Germany, extending its migrations to our islands. Its exceeding beauty and gracefulness probably led very early in the history of our civilisation to its domestication, which has finally brought it to its present condition of a semi-wild resident species. It is to be met with more or less abundantly throughout the United Kingdom, wherever man affords it protection, some of the Swanneries being very ancient and extensive. *Foreign*: Western Palæarctic region; occasionally in the extreme north-west of the Oriental region during winter. Breeds in South Sweden (but only an accidental visitor to Norway), Denmark, Germany west of the Rhine, Central and South Russia, the valley of the Danube, Transylvania and Greece, Turkestan and Mongolia. It occasionally wanders into Dauria, and to North-west India during the cold season. In the basin of the Mediterranean, and throughout most of Europe south of the above limits, it is best known as a winter visitor, and during that season it is also found in the southern districts of the Caspian.

**Allied Forms.**—None of sufficient propinquity to demand notice. In 1838 Yarrell described a Swan under the name of *Cygnus immutabilis* (*Proc. Zool. Soc.* 1838, p. 19). It was said

to differ from the Mute Swan in having the tubercle at the base of the upper mandible smaller, the legs lead colour instead of black. A further specific distinction was that the young birds had a paler bill, and the plumage of the upper parts pure, unsullied white. Although this bird received the trivial name of "Polish" Swan it appears to have been confined to the British Islands, with the exception of a single example captured on the Haarlem Lake in Holland during December, 1840. The alleged characters of the "adult" appear only to depend on age—the older the bird the larger the frontal tubercle, and the darker the legs. As regards the white plumage of the young it appears to be nothing but an exceptional albinism, the result probably of semi-domestication, and from a similar cause as that which has originated white Ducks and poultry.

**Time during which the Mute Swan may be taken.**—August 1st to March 1st.

**Habits.**—The Mute Swan is too well known in a domesticated state to require any description of its habits in our islands. There can be little doubt that a few really wild birds visit the British Islands from time to time in winter, but it is utterly impossible to identify them, as domesticated birds often wander about a good deal from one sheet of water to another where they are allowed to live unopinioned. In the northern portions of its range the Mute Swan is a regular bird of passage, appearing in its summer quarters in March, and leaving them with its brood in October. Like its congeners, it migrates in flocks of varying size, by day and by night, in the same wedge-shaped formations. Its haunts in summer are large lakes, especially those that contain islands with plenty of low cover, amongst which it can make its nest safe from enemies. During winter wild Mute Swans frequent the coast as much as their congeners do; and in India they haunt the tanks and lakes, but are rare visitors. The flight of this bird is powerful and rapid, and the noise of the mighty wings may be heard a long distance, especially across water on a calm, still day. Although tame and confiding enough with us in a semi-domesticated state, when wild it is excessively shy and wary, rarely admitting of a close approach. When fired at, however, instances are on record where the flock has returned

again and again, flying over their fallen companions, and showing the greatest reluctance to quit the place. The Mute Swan is a much more graceful bird in the water than either of its two preceding congeners, and its neck is often curved into beautiful lines. It feeds, however, in much the same manner, both whilst on land and swimming in the water. This food consists of aquatic plants and grass, insects and their larvæ, mollusks, and frogs. The bird is also said to eat fish spawn, and I have known it devour small fish. In a state of domestication the Mute Swan, as its name implies, is a very silent bird, only making a low hissing noise, especially when excited or angry, but wild individuals are said to utter a loud, trumpet-like cry similar to the note of the Hooper.

**Nidification.**—The breeding season of wild Mute Swans commences in May. Both tame and wild birds appear to pair for life, and to return each season to a favourite nesting place, although they usually make a new nest every year, but in some cases repair the old one. This is usually made on the ground on an island in a dense thicket, or amongst tall grass and other aquatic vegetation, and is a huge pile of dead grass, rushes, reeds, and any other rubbish the birds can collect in the neighbourhood. As incubation advances the nest is increased in bulk, especially when in a district subject to sudden inundation. Many nests are said to be built together in some localities. The eggs are from five to eight in number, old birds laying from eight to twelve. They are greenish white or very pale green, rough in texture, and with little or no gloss. They measure on an average 4·5 inches in length by 3·0 inches in breadth. Incubation, performed by the female, lasts from five to six weeks. Only one brood is reared in the year.

**Diagnostic Characters.**—*Cygnus*, with the tail wedge-shaped and long, and with the lores and frontal tubercle black. Length, 60 inches.

## **Family ANATIDÆ.**

### **Subfamily ANSERINÆ or GEESE.**

The birds included in the present subfamily are distinguished from their allies by having the lores covered with feathers and the tarsus reticulated all round. They are further distinguished from the Swans by their longer tarsus (longer than the middle toe) and much shorter neck ; whilst from the Ducks their short, robust, subconical (and in many cases higher than broad at the base) bill is an additional distinction. Sexes nearly alike in colour. One moult in autumn.

This subfamily is composed of about forty species, referable to several genera. Nearly cosmopolitan ; most widely dispersed in winter.

## Genus **ANSER** or **TYPICAL GEESE**.

Type **ANSER CINEREUS**.

**Anser** of Bechstein (1803).—As Bechstein was the first naturalist properly to define the Geese, he has far more claim to the genus than Brisson, whose **ANSER** is a confused and bewildered mass of distantly related species. The birds comprising the present genus are characterised by having the lores feathered and the tarsus reticulated. The wings are long and ample, but not acutely pointed; the tail is short and rounded, and said to contain sixteen feathers. The bill is nearly as long as the head, and has a strongly defined unguis at the tip; the inner edge of the mandibles is crooked and the lamellæ are conspicuous; nostrils lateral. Neck much shorter than in **CYGNUS**. Three toes in front webbed, one behind small and elevated.

This genus is composed of about twenty species which are distributed throughout the colder and temperate regions of the world; more cosmopolitan in winter than in summer. Six species and subspecies are British, but only one of these breeds within our islands.

The typical Geese are dwellers on moors and marshes and more or less cultivated plains, but in winter they become more maritime. They are birds of rapid if somewhat laboured flight, swim well, and walk with equal facility. Their notes are loud and unmusical. They subsist chiefly on vegetable substances. They make bulky nests upon the ground, and their eggs are numerous and creamy white in colour. They are monogamous, and probably pair for life, the male assisting the female in family duties. They are gregarious in winter, and more or less social even in the breeding season. Their flesh is palatable.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus ANSER.

## LESSER SNOW GOOSE.

ANSER HYPERBOREUS—*Pallas.*

**Geographical Distribution.**—*British*: Very rare straggler to Ireland on autumn migration, and has once been observed in England. The claim of this species to rank as “British” rests on the following occurrences. Ireland: Lake Tacumshane, south coast of County Wexford (2 immature examples purchased in Leadenhall Market, 1 example shot at same time and place not preserved), November, 1871; Termoncarra, Co. Mayo (flock of seven seen, one of which was shot, and another trapped), October, 1877. The two examples said to have been captured in Ireland, and afterwards placed in Lord Derby’s menagerie at Knowsley, and which subsequently were sold by auction to Castang, the bird and animal dealer of London, have too dubious a pedigree to share the honour of positive evidence. England: Coast of Cumberland (1 adult example, “identified but not obtained”), August, 1884. *Foreign*: Northern Nearctic region; more southerly in winter. Breeds, so far as is known, in the Arctic regions of North-west America; winters as far south as California in the west, and the valley of the Mississippi in the east, and is said to visit Japan at that season. Owing to the two races of this species being confused, it is difficult to trace the geographical area of the smaller form in any more detail with accuracy.

**Allied Forms.**—*Anser hyperboreus nivalis*, only known to breed in Hudson Bay Territory, but is probably circumpolar, as it has occurred on migration in various localities throughout the Palæarctic region, especially in Japan and China. Winters in the United States south to Texas, and is an occasional visitor to



1. KING EIDER.

2. LESSER SNOW GOOSE.

3. WHITE-BELLIED BRENT GOOSE.



Greenland and the Bermudas. The large form of the Snow Goose, only subspecifically distinct. Typical examples measure from 17 to 18.5 inches in length of wing, instead of from 15 to 17.5 inches, and in length of bill from 2.38 to 2.65 inches, instead of from 1.95 to 2.28 inches. Also *A. caeruleus* and *A. rossii*.

**Time during which the Lesser Snow Goose may be taken.**—August 1st to March 1st.

**Habits.**—But little has been recorded of the habits of the Lesser Snow Goose. It is a migratory bird, breeding on the tundras or barren grounds above the limit of forest growth, reaching its summer quarters towards the end of May, and returning to its winter haunts in September and October. Audubon proves his careful observation of this species by remarking accurately enough that the young birds are the first to appear in the south at least a fortnight before their parents, the latter being delayed at their breeding grounds until the moult is completed. During winter the Lesser Snow Goose appears seldom to stray far from large sheets of water, but visits inland localities as well as the coast. The food of this species consists largely of grass and rushes, but ground fruits and berries are also eaten, as well as insects and small mollusks. During winter this Snow Goose becomes gregarious, and not only flocks with the larger race, but with other kindred species. The note of this species is nowhere clearly described to my knowledge.

**Nidification.**—The Lesser Snow Goose breeds on the tundras on the banks of the northern lakes, or on small islands in the Arctic Ocean not far from the mainland. Again MacFarlane, with his splendid opportunities, only records the barest details of the nesting habits of this interesting bird. He says that the nests were mere hollows in the sandy ground, warmly lined with down. The eggs are generally five in number, dull white in colour. They measure on an average 3.4 inches in length by 2.2 inches in breadth. The young can fly by the middle of August, and about a month later begin their southern journey, slowly progressing as the food supply begins to fail. Only one brood is reared in the year.

**Diagnostic Characters.**—*Anser*, with the primaries black, and the remainder of the plumage white. Length, 23 inches.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus ANSER.

## BEAN GOOSE.

ANSER SEGETUM—(*Gmelin*).

**Geographical Distribution.**—*British*: Common visitor on spring and autumn migration, most abundant during the latter, but great numbers remain to winter in our islands. Not known to breed in any part of the British area. Widely dispersed on the mainland of Scotland and some of the adjoining islands, but only a straggler to the Orkney and Shetland Islands, and on the Outer Hebrides it appears to be quite unknown. In England it is most frequent on the southern and western coasts south of Lancashire, becoming rarer on the east; whilst in Ireland it appears to be generally distributed and abundant, but less common on the southern coast than the White-fronted Goose. *Foreign*: Northern, and at high elevations, central Palæarctic region; southern Palæarctic region in winter. Accidental in Iceland. Breeds in Scandinavia north of lat. 64°, in North Russia as low as Archangel, in the delta of the Petchora, on Nova Zembla, in the valley of the Yenesay above forest growth, and southwards on the mountains of the Baikal district, eastwards to the Stanavoi Mountains, and the Arctic tundras of Eastern Siberia northwards to the coast. Passes Europe south of the limits already given to winter on both shores of the Mediterranean (with the exception of North-east Africa); but in mild winters many remain on the coasts of Denmark and France, and more rarely those of Spain, whilst it has been known accidentally to wander as far south as Madeira. Vast numbers also winter in the south of Russia and in the basin of the Caspian. Further east it passes South-west

Siberia, Mongolia, and the valley of the Amoor on migration, and winters in North-east Turkestan, China, and Japan.

**Allied Forms.**—*Anser segetum serrirostris*, the Eastern form of the Bean Goose; only subspecifically distinct, the two races completely intergrading. As we have already noticed, in treating of the entire range of both forms, it is an inhabitant of Eastern Siberia from the Baikal district to the Pacific. Typical examples differ from the Bean Goose in being larger, especially the bill and feet (length of bill from frontal feathers to tip 3·4 to 2·4 inches, instead of from 2·5 inches to 1·7 inch). The head and neck are buffish brown instead of brownish gray; but it is possible this character is derived from the Eastern race interbreeding with *A. cygnoides*, a bird with the back of the neck dark brown, and with the bill black, and the legs and feet flesh-coloured. *A. brachyrhynchus*, a fairly distinct island race, a British species, and dealt with in the following chapter.

**Time during which the Bean Goose may be taken.**—August 1st to March 1st.

**Habits.**—Great numbers of Bean Geese simply pass along our coasts in autumn for more southern haunts, and re-pass them on their way north again in spring; still many remain with us throughout the winter. This species, like most of its congeners, begins to arrive in its northern haunts with the first signs of departing winter. Small parties reach the neighbourhood of the Arctic Circle, both in Europe and Asia, during the second half of May, but these are often compelled to retire some distance south again owing to a late frost. When once the great rivers break through their bonds of ice, and the south wind brings summer to the Arctic regions, the Bean Geese arrive in full force, flock after flock pouring in from the south, following in the wake of the open water. As soon as the young are half-grown, and the short summer begins to wane, these Geese again unite into flocks to complete their moult, and then in early autumn the grand flight south commences. In our islands the Bean Goose lives in flocks of varying size, which wander about a good deal according to the state of the weather and the supply of food. Some of these gatherings are very large, and at all times difficult to approach, although they are certainly less wary at night. The

Bean Goose usually frequents the sea and the coast during the night, coming inland to stubbles and fields of newly sown grain in the day to feed. During long-continued frost they keep more to the coast, but in rough, stormy weather they are more partial to remaining in inland districts, from which, however, they soon depart at the first signs of recurring frost. The flight of this Goose is rapid and strong, and when passing from place to place a wedge-shaped formation is usually assumed. Its note whilst staying in our islands is the familiar *gag-gag* variously modulated. Bean Geese when feeding on the inland fields usually post sentinels here and there to give timely warning of the approach of danger. Upon the water the Bean Goose swims well and buoyantly, but it rises with apparent labour with a great flapping of wings until well in the air. The food of this species consists of grass, the tender shoots of grain, and the roots of various plants. In autumn the bird picks up a great quantity of grain of all kinds from the stubbles, and also frequents the newly sown fields at that season and in spring to dig up the seed-corn, as well as beans. Much of this food is sought at dawn.

**Nidification.**—The breeding grounds of this bird are situated on the northern tundras beyond or near the limits of forest growth, in the vicinity of lakes and pools. The nest is made early in June, and is usually placed amongst the tall rank grass and sedge of an islet in the lake, or on a hillock on the bank. It is merely a slight hollow lined with dry grass and other vegetable refuse, and with down from the old bird's body. The eggs are three or four in number, creamy white in colour, and rather rough in texture. They measure on an average 3·2 inches in length by 2·15 inches in breadth. Only one brood is reared in the year.

**Diagnostic Characters.**—*Anser*, with the central portion of the bill orange-yellow, black at the base and on the nail, and with the legs and feet orange-yellow. Length, 34 inches.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus ANSER.

## PINK-FOOTED GOOSE.

ANSER BRACHYRHYNCHUS—*Baillon.*

**Geographical Distribution.**—*British*: Common winter visitor, found most abundantly on the east coast of England and Scotland, more sparingly on the west coast of Scotland, and locally in the Outer Hebrides, and on the south coast of England. Singularly enough this species has not yet been obtained in Ireland, or observed in the Shetland Islands. *Foreign*: Extreme north-western Palæarctic region; accidental in Oriental region during winter. The only known breeding places of this very doubtfully distinct species are the islands of Spitzbergen, probably on Iceland, and possibly on Nova Zembla. It is found on the coasts of Scandinavia, Denmark, and Holland during the autumn and spring migrations, and during winter has been observed on the coasts of Belgium and France. So far as is known, the British Islands are the grand head-quarters of this Goose during winter. It has been obtained in Northern India. Among other occurrences may be mentioned a pair shot in the Jumna by Hume during January, 1864.

**Allied Forms.**—*Anser segetum*, probably the parent form, a British species, and treated fully in the preceding chapter.

**Time during which the Pink-footed Goose may be taken.**—August 1st to March 1st.

**Habits.**—The habits of the Pink-footed Goose are not known to differ in any very important particular from those of the closely allied Bean Goose; indeed, further investigation may yet prove that the two birds are only subspecifically distinct. The note of the Pink-footed Goose, however, is said to be sharper and

more quickly repeated. The flocks of this Goose that visit our islands every autumn frequent the stubbles, fields, and marshes inland during the day, and on moonlight nights, to feed, and retire to the coast at the approach of darkness to sleep, generally frequenting some low island or sandbank for the purpose. The flight of this Goose is very similar to that of the Bean Goose, and it also subsists on precisely similar fare.

**Nidification.**—But little is known of the breeding habits of the Pink-footed Goose. Early in the summer it frequents its breeding grounds in small flocks, but these eventually separate into pairs. The eggs are laid in June, and the young are hatched about the middle or towards the end of the following month. They are said to make their nests on low rocks near the sea, or in higher cliffs either in the fjords or at some distance inland. The nest is not known to differ from that of the preceding species. The eggs are four or five in number, white or creamy white in colour, and somewhat smooth in texture. They measure on an average 3·15 inches in length by 2·15 inches in breadth. Incubation, performed by the female, lasts twenty-eight days. The male keeps constant watch close to the nest, to warn or defend his mate. Only one brood is reared in the year.

**Diagnostic Characters.**—*Anser*, with the central portion of the bill usually pink, but sometimes orange-yellow, black at the base and on the nail, and with the legs and feet flesh colour. Length, 28 inches.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus ANSER.

## GRAY LAG GOOSE.

ANSER CINEREUS—*Meyer.*

**Geographical Distribution.**—*British:* Most probably the original form from which the domestic Goose was derived. Formerly bred in the fens and marshes of East Anglia, but for nearly a hundred years now has ceased to do so, the reclamation of so much of the swampy wastes in this district causing it to forsake its ancient strongholds. Its only breeding places now are in the north of Scotland, especially in the Outer Hebrides, as I know from personal experience, in Ross, Sutherland, and Caithness. In Ireland a colony of birds in a half-domestic state have their breeding place on the lake at Castle Coole, the seat of Lord Belmore in Co. Monaghan. Winter visitor to the British Islands, accidental in the Orkneys and Shetlands, rare on the east coast of Scotland, more abundant on the east coast of England, but rare on the south. Rare on the west coasts of England and Scotland, and very local in Ireland, mostly in the central counties and the sea lough at the mouth of the Shannon. *Foreign:* Palæarctic region; northern Oriental region in winter. Breeds throughout Scandinavia and Denmark, and Russia below the Arctic Circle in all suitable localities south to the Caucasus. Breeds sparingly in North Germany, and still more rarely in Holland and South-western Spain; and is known to do so in the valley of the Danube. Eastwards it may probably breed in Central Persia and in the valley of the Obb as far north as the Arctic Circle, but in the remainder of Siberia it does not appear to extend north of Lake Baikal. It breeds in the upper valley of the Amoor, in Mongolia, and Turkestan. On

migration it occurs in the Faroes, but is doubtfully recorded from Iceland. It visits Holland, Belgium, and France on passage, sometimes remaining to winter during mild seasons, and is also known on migration in Central Europe, and is a winter visitor to both coasts of the Mediterranean and the Spanish peninsula. The Asiatic birds winter in China south to Shanghai, and in Northern India.

**Allied Forms.**—*Anser cinereus rubrirostris*. Eastern examples of the Gray Lag Goose are said to be rather larger than those from Western localities, and to have more black on the underparts and less gray on the wing coverts, but whether these differences are of sufficient constancy and importance to merit subspecific rank is still an open question. *A. albifrons* and *A. albifrons minutus*, British species, dealt with fully in the following chapter.

**Time during which the Gray Lag Goose may be taken.**

—August 1st to March 1st (to March 15th in Essex).

**Habits.**—The Gray Lag Goose does not go so far north to breed as the preceding species, and consequently its migrations are performed earlier in spring, and in some localities the return south is also much sooner than is usually the case with birds that seek their summer quarters early. The return migration begins early in March, both in Europe and in Asia. Naumann states that they arrived in Germany at the end of February or early the following month. Hume says that they begin to leave India early in March, and continue to do so throughout that month, whilst Scully observed them at Yarkand in Turkestan, flying due north at a corresponding date. The return migration is said by Naumann to begin in Germany towards the end of July, and a month later most of the birds have gone; but in Upper India this Goose is not observed until the end of October, and in the south a week or so later still. In its winter quarters it is a very gregarious bird, and often congregates into large flocks of many hundreds which, when passing from one distant place to another, or during migration, fly high either in a single line or in the shape of a V or a W, but when simply changing their feeding grounds progress in scattered order. Although so gregarious, it is rather a remarkable fact that the Gray Lag Goose seldom consorts with

other Wild Geese, although it is ready enough to fraternise with its domesticated descendants. Normally this Goose is a day feeder, but in districts where it is much persecuted, it changes its habits and searches for its food at night. In India where the days are very hot it does not feed much after nine in the morning until about four in the afternoon, spending the interval in sleep in some safe and convenient spot. In our islands many Gray Lag Geese repair to the coast towards evening, and sleep on some sandbank or low island; others repair to wild marshes and uplands to spend the hours of repose. This Goose does not frequent the water much unless alarmed or during the helpless period of its moult; then the flocks often go for some distance out to sea to rest. It swims well and buoyantly, and when wounded is even known to dive, although it cannot remain under water long. In India Hume remarks that it always prefers rivers, and is rarely seen on lakes and pools. Although a wary bird it is by no means a shy one, and if proper means are adopted can often be approached with little difficulty. The stalker, instead of advancing directly towards the flock, should approach in a side-long manner as if about to pass them. The flight of the Gray Lag Goose is rapid and powerful, and often very graceful, especially as a big flock of birds survey the ground previous to alighting. When satisfied that all is safe the birds often descend with great velocity, circling and turning, and alighting on the earth almost directly below them. The call-note of this Goose is a loud, far-sounding *gag-gag*, which is uttered not only when the birds are migrating, but when they are congregated on the ground, or just after they are disturbed. The din of *gag-ing* sounds, and the rattle of wings as a big flock struggle into the air after being fired at, is almost deafening. This note is variously modulated during sexual excitement or surprise. The food of the Gray Lag Goose consists largely of grass and the tender shoots of growing corn. Grain of all kinds is also eaten, both on the stubbles and the newly-sown fields, whilst buds and leaves and roots of various aquatic plants are sought.

**Nidification.**—The Gray Lag Goose is an early breeder; in southern localities the eggs are laid late in March or early in April, but further north they are from three to five weeks later.

This Goose pairs for life, as probably all other of its congeners do, and during the breeding season is more or less gregarious, numbers of nests often being made in a comparatively small area. The breeding grounds of this bird are wild moors and swamps. The nest is made on the ground, amongst tall heather or the rank, coarse vegetation of the swamps, and is a huge structure sometimes more than a foot in height and three feet in diameter. The materials of which it is composed vary a good deal according to locality—branches of dead heath, rushes, reeds, dry grass, bracken, leaves, and turf, lined, as incubation progresses, more and more thickly with down and feathers plucked from the breast of the female. The eggs are six or eight in number, but in rare instances it is said twelve or fourteen have been found. They are creamy white, and exhibit little or no gloss. They are oval in form, and measure on an average 3·45 inches in length by 2·35 inches in breadth. Incubation is performed by the female, and lasts twenty-eight days. The male keeps close in the neighbourhood of the nest, ready to warn his mate or to fight fiercely if the eggs are threatened by any marauding bird or beast. Only one brood is reared in the year, and as soon as the young are sufficiently fledged a move to the sea is usually made. The young are said to return at night and sleep in the nest for some time, covered by the wings of the female. Flocks of immature, non-breeding birds may often be observed in the neighbourhood of the breeding grounds, waiting until the young are reared, when they flock with the rest for the winter.

**Diagnostic Characters.**—*Anser*, with the rump and wing coverts slate-gray, with the bill flesh-coloured, white on the nail, and with the legs and feet flesh-coloured. Length, 35 inches (male); 30 inches (female).

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus ANSER.

## WHITE-FRONTED GOOSE.

ANSER ALBIFRONS—(*Scopoli*).

**Geographical Distribution.**—*British*: Winter visitor, local in distribution, and much more abundant in some seasons than others. Found in small numbers on the east coast of Scotland, but very rare in the Shetlands, and even more locally on the west, where its chief strongholds are the Outer Hebrides, notably Islay. Rare on the east coast of England and in Wales, but much more common—in some seasons remarkably abundant—on the south and south-west. Commonest in Ireland, its principal haunts being in the north-west, west, and south. *Foreign*: Palæarctic region; some parts of the Oriental region in winter. Accidental in the Faroes and Iceland, but breeds regularly in Arctic Russia and across Siberia to Behring Strait. Passes the coasts of West Europe, the river valleys of Russia and Siberia, and Turkestan on migration. Winters off the coast of France, and occasionally wanders as far south as Gibraltar, Italy, and Transylvania. Other parties of migrants, crossing inland routes, winter in Greece, South Russia, Asia Minor, North-east Africa, the Persian coasts of the Caspian, and North-west India. In the far east the migrants follow the coast as in the west, and winter in Japan and China as far south as Shanghai.

**Allied Forms.**—*Anser albifrons minutus*. The small form of the White-fronted Goose, a “British” species, and dealt with fully in the following chapter. *A. gambeli*, an inhabitant of Arctic America as far north as lat. 72°, ranging from Alaska to Greenland, wintering in the United States as far south as the

Gulf of Mexico. The Nearctic form of the White-fronted Goose, only subspecifically distinct. Typical examples are distinguished by their large size, much darker wing coverts, and greater amount of black on the underparts. *A. cinereus*, a British species, to which the present Goose and its several forms are most nearly related.

**Time during which the White-fronted Goose may be taken.**—August 1st to March 1st.

**Habits.**—Remarkably little of any value has been recorded concerning the economy of the White-fronted Goose. It is by no means common in our islands, but here its habits are certainly very similar to those of the allied Geese. Unfortunately it is a rare bird in India, and Hume has little to tell us of its habits there in winter. Captain Shelley, however, remarked its abundance in Egypt during the cold season, where it remains until March, usually in flocks. They visit their feeding grounds with great regularity, taking one particular line of flight each day, and frequenting certain places, but if shot at soon quit the neighbourhood altogether. The birds that Hume obtained in India had been feeding on wild rice and tender shoots of grass or corn. The note of this Goose is said to be rather more harsh and cackling than that of the preceding species, hence the bird's name in India and other districts of "laughing" Goose.

**Nidification.**—Von Middendorff met with this Goose breeding in great numbers on the tundras of the Taimyr peninsula, the most northerly land of Continental Asia, and states that the nest was built on a grass-covered mound. It was simply a hollow on the top of a mound lined with plenty of down from the body of the female. Dall, in Alaska, describes nests he found on the banks of the Yukon as depressions in the sand, but this was probably before the full clutch of eggs were laid and no down been added; for MacFarlane discovered nests on the Anderson River warmly made of dry grass and well lined with down and feathers. The eggs are from five to seven in number, but ten have been found, creamy white in colour, and measure on an average 3'0 inches in length by 2'0 inches in breadth. The period of incubation is unknown. Doubtless only one brood is reared in the year.

**Diagnostic Characters.**—*Anser*, with the bill orange-yellow, and the nail white, with the legs and feet orange-yellow, and with a variable amount of white feathers at the base of the upper mandible. Adults much mottled with brownish black on the breast. Length, 27 inches.

## Genus **BERNICLA** or **BRENT GEESE**.

Type **BERNICLA BRENTA**.

**Bernicla** of F. Boie (1822).—The birds comprising the present genus are characterised by their short subconical bills, much shorter than the head. The inner edge of the mandibles is nearly straight, and the lamellæ are concealed or nearly so. The strongly contrasted colours of the plumage are also very characteristic. The wings are long and ample and more pointed than in *Anser*; the tail is short and rounded. The bill is higher than broad at the base, the unguis ovate; nostrils oval and nearly central. Three toes in front webbed; hind toe small, elevated.

This genus is composed of about ten species and subspecies confined to the northern portions of the Palæarctic and Nearctic regions, slightly more widely dispersed during winter. Four species and subspecies are visitors to the British Islands, but none breed within our area.

The Brent Geese are maritime in their haunts during winter, but in summer little is known concerning them. They are birds of sustained and rapid flight, and swim and walk with ease. Their notes are loud and sonorous. They subsist chiefly on vegetable substances. They are said to make bulky nests on the ground, and their eggs are numerous, and creamy white in colour. They are monogamous, and probably pair for life. During winter they are remarkably gregarious. Their flesh is not unpalatable.

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Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus BERNICLA.

## BRENT GOOSE.

BERNICLA BRENTA—*Brisson*.

**Geographical Distribution.**—*British*: Common winter visitor to the British Islands. The most abundant species of Goose upon our coasts during the cold season, universally distributed, especially on the east and south, becoming rarer, however, in the Orkneys and Shetlands, the Hebrides, and along the entire western shores of Scotland. In Ireland it is equally abundant and widely distributed. *Foreign*: North-west Palæarctic region; more southerly in winter. The typical form of the Brent Goose breeds on Spitzbergen, Franz Josef Land, and Nova Zembla, but how far to the east is unknown. It passes the Faroes, the coasts of Scandinavia, and the shores of the Baltic on migration, and winters on the coasts of Denmark, Holland, Belgium, North Germany, and France. During the cold season it occasionally visits the Mediterranean basin, the Black Sea, and the Nile delta. It has recently been shot as far south as Mogador, in Morocco, by Mr. A. C. Payton. Of the breeding of this species in Iceland there is not a shred of positive evidence.

**Allied Forms.**—*Bernicla brenta glaucogaster*, an inhabitant of the northern Nearctic region, breeding from the Arctic Archipelago in the east to the west coast of Greenland in the west, and as far north as land is known to exist. Winters on the Atlantic coasts of North America as far south as Texas. The American form of the Brent Goose, only subspecifically distinct, a "British" species more or less intergrading with its Old World ally, and dealt with fully in the following chapter. *B. nigricans*, an inhabitant of Siberia as far east as the Lena, and

North-west America, west of the Rocky Mountains. Distinguished from the Brent Goose by having the white of the neck meeting in front and forming a nearly uninterrupted collar, and the black of the breast reaching to the belly.

**Time during which the Brent Goose may be taken.**—August 1st to March 1st.

**Habits.**—Brent Geese are seldom very common in our islands before October, but from that date onwards, through the winter up to the end of March, they are far and away the most numerous species of the present subfamily to be found on the British coasts. Vast flocks accumulate in certain favoured districts, among which I may specially mention the Wash, where I have seen gatherings of these birds covering many acres of mud-flat, and whose noisy clamour in the still hours of early morning could be heard for a mile or more across the salt marshes. The Brent Goose whilst with us is decidedly a coast bird, rarely seen inland, but spending its time either on the sea or the great mud-banks adjoining. It is a very gregarious bird, and the young and adults flock together; but it has frequently been remarked that in some winters few, if any, young birds made their appearance, a fact which apparently suggests a great misfortune at the breeding grounds. It is a remarkably wary bird, seldom allowing a near approach on shore, and requiring the most skilful management on the part of the sportsman to creep up within range on the sea. The principal food of the Brent Goose consists of the grass-wrack (*Zostera marina*) and laver (*Ulva latissima*), which grows plentifully on certain mud-banks, and to these banks the Geese resort as soon as the tide recedes sufficiently for them to reach the plants, which are torn up and eaten. If approached at these times, the adult birds usually fly off to sea well out of harm's way, but the young birds are more trustful, and simply rise and settle again, as if loth to leave the feast, and this greediness or inexperience costs the lives of a good many every year. During the period of high water the Brent Goose usually retires some distance out to sea, but I have known great flocks settle on low islands, and pass the time between the tides in sleeping or preening their plumage. The Brent Goose feeds principally during the day, but often visits the banks at low water for that purpose during a bright moonlight

night. In addition to the food already mentioned, Feilden records that at their breeding grounds Brent Geese feed on the buds of a saxifrage, a substance which is only taken whilst the birds are ashore rearing their young. Grass and possibly animal food may also be eaten then. The flight of this bird is rather laboured but regular. Its note is a loud and oft-repeated *hank*, or *honk*, which is uttered not only on the ground, but when the birds are flying.

**Nidification.**—The breeding habits of the Brent Goose have been carefully observed by Captain Feilden during the Nares Arctic expedition. He noticed its arrival at the breeding grounds near Knot Harbour in lat.  $82\frac{1}{2}$  on the 9th of June, and eggs were laid by the 21st of that month. Shortly after its arrival the male and female were observed rising in spiral flight to a great elevation, toying and playing with each other meanwhile. Some of the nests were made on the hillsides between the snow-line and the sea, others were placed on an island, beyond the line of open water, and separated from the mainland by rough hummocks of snow and ice. The nests were made in hollows in the ground, and were composed of grass, moss, and saxifrages, and warmly lined with down. The eggs are four or five in number, creamy white in colour, and rather smooth and glossy. They measure on an average 2.75 inches in length by 1.85 inch in breadth. As with other species, the male keeps watch near the nest whilst the female is incubating, ready to warn her or assist in defending the eggs. Only one brood is reared in the year, and by the end of July most of the Brent Geese were moulting their quills so rapidly as to be incapable of flight. When alarmed, however, they run quickly to the nearest water for safety.

**Diagnostic Characters.**—*Bernicla*, with the head and neck black, and a small white patch on the sides of the latter. Length, 22 to 24 inches.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus BERNICLA.

### WHITE-BELLIED BRENT GOOSE.

BERNICLA BRENTA GLAUCOGASTER—(*Brehm*).

**Geographical Distribution.**—*British*: Winter visitor to the coasts of the British Islands, where its distribution is not known to differ from that of the typical Brent Goose, although it is much rarer. Intermediate forms between the two races occur on our coasts, and are perhaps more numerous than the thoroughbred white-bellied race. *Foreign*: Northern Nearctic region; more southerly in winter. Breeds on the coasts and islands north of lat.  $72^{\circ}$ , from the Arctic Archipelago to the east coasts of Baffin Bay and north to the limits of known land. Captain Feilden, during the Nares Arctic expedition, found this Goose breeding in lat.  $82\frac{1}{2}^{\circ}$ , near Knot Harbour. It winters on the Atlantic seaboard of North America as far south as Texas, the birds appearing on our coasts in winter probably crossing the North Pole and reaching our shores by way of Spitzbergen and Franz Josef Land.

**Allied Forms.**—*Bernicla brenta*, the typical race of Brent Goose, a British species already dealt with in the preceding chapter. *B. nigricans*, the American representative of that species, and previously alluded to (see p. 345).

**Time during which the White-bellied Brent Goose may be taken.**—August 1st to March 1st.

**Habits.**—It is not known that the habits of the White-bellied Brent Goose differ in any important respect from those of the typical form. It is just as northerly in its distribution during summer, and comes south in winter to the coasts of temperate

America. It is equally gregarious, and often mingles in small numbers with flocks of the preceding race.

**Nidification.**—The breeding habits, the nest, and the eggs of the White-bellied Brent Goose are not known to differ in any noteworthy manner from those of its ally.

**Diagnostic Characters.**—*Bernicla*, with the underparts below the breast nearly white, and with the head and neck black, with a small white patch on the sides of the latter. Length, 22 to 24 inches. Intermediate forms between the two extreme races are frequently met with in the British Islands.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus BERNICLA.

## BERNACLE GOOSE.

BERNICLA LEUCOPSIS—(*Bechstein*).

**Geographical Distribution.**—*British*: Winter visitor to the British Islands, most abundant during severe seasons. Least common on the eastern coast line of Scotland and England, rare on the south coast, becoming much more frequent on the west, from Cornwall northwards. Abundant in the Solway district and on the coasts of Lancashire, and commonly distributed throughout the west coast of Scotland, including the Hebrides. Locally distributed in Ireland, where it is most abundant on the north and north-west coasts, and, as might naturally be expected, in one or two favoured districts on the east. Frequently wanders inland, and winters on large sheets of water, especially where it is afforded protection. *Foreign*: North-west Palæarctic region; more southerly in winter. Although the Bernacle Goose has been well known for the past three hundred years and more, its breeding grounds remain undiscovered, and authentic eggs laid by the bird in a wild state are unknown. All that can be said is that it has been met with during the breeding season in Greenland, Iceland, Spitzbergen, and Nova Zembla. Collett states that this bird breeds on the Loffoden Islands, off the coast of Norway, in lat.  $68\frac{1}{4}^{\circ}$ ; but inasmuch that the evidence is secondhand, only the eggs being sent, with a meagre description of the parents (by the proprietor of the island), it is unwise to accept it. It should also be remembered that these "Black Geese" are birds of the high north, and seem to require far different climatic conditions for their reproduction than those prevailing in these comparatively low and Gulf Stream-encircled islands. Occurs sparingly





1. GRAY LAG GOOSE.

2. BERNACLE GOOSE.

3. WHITE-FRONTED GOOSE.

in the White Sea, and regularly along the coasts of Scandinavia, on passage, and winters in the Baltic and on the coasts of Denmark, Holland, Belgium, and North France, accidentally straying as far south as the Spanish peninsula and Foggia, in the Italian province of Capitanata. A couple were seen five years ago by Mr. C. A. Payton, near Mogador, in Morocco, in company with Ruddy Sheldrakes. It occurs as a straggler in the Shetlands and the Faroes, and has been known to wander as far as the extreme southern shore of Hudson Bay.

**Allied Forms.**—*Bernicla canadensis* and its allied forms, all inhabitants of the New World, from which the Bernacle Goose is readily distinguished by its white instead of black forehead, and black instead of white upper breast.

**Time during which the Bernacle Goose may be taken.**  
—August 1st to March 1st.

**Habits.**—Probably owing to its much more shy disposition, the Bernacle Goose frequents wilder haunts than the Brent Goose, nor is it so much addicted to low shores and mud-banks. It is by far the most abundant, perhaps, from the neighbourhood of the Solway northwards, along the wild, secluded coasts of the Hebrides and the Scotch mainland. The Bernacle Goose is just as gregarious as the Brent Goose during its sojourn in the British Islands, but, unlike that species, it sometimes frequents inland waters, returning to them regularly every year. Owing to the different nature of its food, the Bernacle Goose is much more of a land bird than the Brent Goose, whilst instead of feeding by day, it is decidedly a night feeder. I am of opinion that this nocturnal habit is ancestral, but intensified through the bird's habitual shyness impelling it to select the time when it is least likely to attract observation during its visits to land, especially in civilised countries. Even when much disturbed at night, it is ready enough to come ashore during the day. The Bernacle Goose frequents the mud-flats to sleep and rest, but it does not feed much whilst there. Its food consists principally of marsh grass, to obtain which the bird comes up from the sea to the littoral saltings, and the banks of lakes and tidal rivers. The flight of this Goose is quick and powerful, and the bird not only swims well, but is capable of running very fast when wounded or during the helpless

period of its moult. The note of this species is a short, loud, and trumpet-like clang, variously modulated. A flock of Bernacle Geese whilst feeding will keep up a constant chatter among themselves, and it should be stated that sentinels are stationed to keep watch and to give the alarm in case of danger approaching.

**Nidification.**—It is rather remarkable that nothing absolutely is known of the breeding habits of this Goose. The nesting grounds of the great flocks that come south in winter are still undiscovered. It has, however, repeatedly been induced to breed in captivity, and by this means its eggs are known. They are creamy white, rather rough in texture, and without gloss. They are rather larger than those of the Brent Goose, and measure on an average 2·85 inches in length by 1·95 inch in breadth. It may safely be inferred that the Bernacle Goose rears only one brood in the year, and the eggs are probably laid early in June, seeing that the birds have been discovered in full moult and incapable of flight on the 22nd of July in Spitzbergen.

**Diagnostic Characters.**—*Bernicla*, with the hind half of the head and the neck black, and with the fore half of the head white, except the lores and the feathers at the base of the upper mandible, which are black. Length, 25 inches.

Family ANATIDÆ.  
Subfamily ANSERINÆ.

Genus BERNICLA.

### RED-BREASTED GOOSE.

BERNICLA RUFICOLLIS—(*Pallas*).

**Geographical Distribution.**—*British*: Accidental straggler during autumn and winter. Among many more than doubtful records, the following instances are apparently thoroughly trustworthy. England: near London (1 example), 1776. Quite an historical interest attaches to this specimen. It was recorded by Tunstall, formed the subject of one of Bewick's plates, and is still preserved in the Newcastle Museum. Yorkshire (1 example), probably got about the same time as Tunstall's specimen; Northumberland (1 example), 1818; Devonshire (2 examples), 1828, 1837; Essex (1 example), January, 1871. *Foreign*: Extreme north-central Palæarctic region; more southerly in winter. Is only known to breed above the limits of forest growth in the valleys of the Obb, the Yenesay, and the Boganida. Middendorff obtained the first authenticated eggs of this Goose on the Boganida, and was assured that the bird was still more numerous at the mouth of the Piasina, some miles further west. An egg with the parent bird was brought to Mr. Seebohm, which had been obtained from an island in the delta of the Yenesay; whilst Finsch found this Goose fairly numerous in the valley of the Obb. The migrations of this species appear to be across the plains of the Tax, between the Yenesay and the Obb, and down the valley of that river into the Irtish valley, thence into that of the Tobol and the Ural, onwards to the Caspian. This route takes it through South-western Siberia and Northern Turkestan to its winter quarters in the basin of the Caspian. Eastwards this species has wandered as far as Lake Baikal, whilst westwards

it has occurred in every country of Europe, except the Spanish peninsula. The only evidence of this bird extending its wanderings southwards to Africa is that it is figured with unmistakable accuracy on some of the ancient Egyptian papyri, and on the tombs of her kings; whilst coming to modern times an example of the Red-breasted Goose, labelled "Alexandria," is in the collection of Lord Lilford, whilst Mr. Saunders records skins on sale in 1884 said to have come from Algeria.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Red-breasted Goose may be taken.**—August 1st to March 1st.

**Habits.**—Although the habits of this beautiful Goose are but little known, they appear to resemble very closely those of allied species. The Russian naturalist Radde states that it winters in great numbers on the southern coasts of the Caspian Sea, and that during this season and whilst on migration it congregates into large flocks. It is shy and very difficult to approach. The Red-breasted Goose is a day feeder like the Brent Goose, but comes inland to do so like the Bernacle Goose. Radde states that the flocks visit the inland pastures during the day, but at the approach of night return to the sea, and pass that period some considerable distance from land. During heavy falls of snow which cover its feeding grounds, great numbers of this Goose are caught in nets spread on places where the snow has been cleared away for the purpose. Many birds are also shot during their migration as the thousands of flocks pass along certain routes towards the Arctic regions where they rear their young. The food of this Goose consists principally of grass, and the leaves and shoots of other herbage. The flight note is described by Pallas and other naturalists as resembling the syllables *shak-voy*, but when feeding a short trumpet-like cry is uttered somewhat similar that of the Brent Goose.

**Nidification.**—Von Middendorff obtained the first authentic eggs of the Red-breasted Goose on the banks of the Boganida in Northern Siberia on the 6th of July. Another nest was discovered on July 1st, on an island in the delta of the Petchora, containing two eggs, one of which was broken, as the female was shot upon

them, and the other was brought to Mr. Seebohm, then on his visit to the valley of that river. The nest was described as being like that of the Bean Goose, only not so large. A month later that gentleman observed broods of Red-breasted Geese and their parents on the banks of the river a few miles to the south of the locality where the nest had been discovered. The eggs are creamy white in colour, somewhat smooth in texture, very fragile, and measure on an average 2·75 inches in length by 1·76 inch in breadth. There can be little doubt that this species rears only one brood in the year.

**Diagnostic Characters.**—*Bernicla*, with the forehead black, the lores white, and the throat and breast rich chestnut. Length, 22 inches.

## **Family ANATIDÆ.**

### **Subfamily ANATINÆ or SHELDRAKES and NON-DIVING DUCKS.**

The birds included in the present subfamily are distinguished from their allies by having the tarsus scutellated in front, and only a narrow membrane attached to the hind toe. None of the species contained in this group ever dive for their food, which they search for on land or in shallow water, only submerging the fore half of the body whilst probing and sifting the mud and weeds for prey. In the Sheldrakes the sexes are nearly alike in colour, but in the Ducks there is usually considerable sexual difference in this respect. The Sheldrakes moult once in autumn, but the Non-diving Ducks have one complete moult in autumn, and the males of many species moult their small feathers twice—once in early summer, and once in autumn.

This subfamily is composed of about seventy species, divisible into several fairly well-defined genera. Practically cosmopolitan, but most widely dispersed during the northern winter.

## Genus **TADORNA** or **SHELDRAKES**.

Type **TADORNA CORNUTA**.

**Tadorna** of Fleming (1822).—The birds comprising the present genus are characterised by their white carpal region of the wing, which is also swollen into a hard feathered protuberance; by their rather long tarsus (nearly as long as the middle toe and claw), and by their prevailing and usually strongly contrasted colours of black, white, and chestnut. The wings are long and ample, the second primary the longest. The bill is higher than broad at the base, the unguis decurved and hooked; nostrils oval, sub-basal. Three toes in front webbed; hind toe small. Sexes very similar in colour.

This genus is composed of six species, breeding in the temperate portions of the Palæarctic and Ethiopian region, and in the Australian region; Oriental region chiefly in winter. Two species are British, one of which is a common resident in, the other an accidental visitor to, our islands.

The Sheldrakes are dwellers on sea coasts, and on salt lakes and marshes. They are birds of rather slow and laboured flight, progressing by slow, regular beats of the wings, like Swans. They also swim and walk with ease. Their notes are harsh and unmusical. They subsist on both animal and vegetable substances. They breed in holes of trees, in rocks, or in the ground, and their eggs are numerous and creamy white. They are monogamous, pair probably for life, and the male bird shares the duty of tending the eggs and young. They are more or less gregarious and sociable, especially during winter.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus TADORNA.

### COMMON SHELDRAKE.

TADORNA CORNUTA—(*S. G. Gmelin*).

**Geographical Distribution.**—*British*: Resident and widely dispersed throughout the British Islands. Breeds in all suitable places on the east and west coasts of England, but is very much more local in the south during the breeding season. Breeds in many localities on the east of Scotland, notably in the Forth, and the same remarks apply to the west, including the Hebrides. Breeds sparingly and locally round the Irish coasts, but is most abundant during winter, as it also is on the eastern coast line of Great Britain. *Foreign*: North-western and southern Palæarctic region; northern Oriental region in winter. Breeds throughout Europe in all suitable localities, but in the basin of the Mediterranean, where it nests sparingly on both shores, it is best known as a winter visitor, whilst in the north it does not extend beyond lat.  $69^{\circ}$  in Norway, lat.  $60^{\circ}$  in the Baltic, and lat.  $56^{\circ}$  in the Urals. In Asia it does not appear to breed north of lat.  $52^{\circ}$  in the west, and the valley of the Amoor in the east. The birds breeding in the northern portions of this range, including Turkestan and Mongolia, are migratory, but in the basin of the Black and Caspian Seas they are resident, as they also appear to be in Japan. To the coasts of China, and to India, as far south as the Tropic of Cancer, it is a winter visitor. A single example has been recorded from the Faroes.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Common Sheldrake may be taken.**—August 1st to March 1st.

**Habits.**—The Sheldrake is a thorough bird of the coast, and only under exceptional circumstances frequents inland waters, and only then when they are salt. Although it is a resident with us in all the colder portions of its range, it is a bird of passage, drawing south in October, and retiring north again in March. Its numbers are consequently increased in our islands during winter. In India it arrives later in autumn, during the latter half of November, and appears to linger longer in spring, till nearly the middle of April, probably because at its breeding grounds in Mongolia and South Siberia the summer is much later than in Europe. The Sheldrake prefers sandy coasts to mud-flats, and low beaches and dunes are its favourite resorts. It is ever a shy and wary bird, difficult to approach, and usually takes alarm before any other Wild Fowl that may by chance be in its vicinity. At all times the Sheldrake is a rather sociable bird, but never appears to congregate into very large flocks, being usually met with in small parties or scattered pairs. It changes its ground a good deal according to season, and in winter visits many parts of the coast where it is entirely absent in the breeding season. The flight of the Sheldrake is regular and straightforward, not performed with rapid beats like that of the typical Ducks, but with slow and measured strokes, which lend the bird's movements a laboured appearance, more apparent than real. The flight is seldom taken very high, usually close to the water, and is often considerably prolonged; but when on migration, the bird rises much higher. The food of this species consists of grass, and the stems and leaves of various plants growing in or near the water; of insects, crustaceans, worms, mollusks, and small fish. The young, in their downy stage of existence, feed almost exclusively on sand-hoppers, which they are very expert at catching, even shortly after they are hatched. None of this food is obtained by diving, but whilst the bird is wandering about the shore, paddling in the shallows, or swimming in water just deep enough to allow it to reach the bottom when the fore part of the body is submerged, and the hind quarters are held almost perpendicular. The Sheldrake swims well and lightly, and on land walks more elegantly than the typical Ducks. It seldom wanders far from the water, but occasionally visits the pastures close to its haunts,

and wanders to the turf amongst the dunes. As soon as the young are reared, the broods and their parents frequently go out to sea, only coming on shore to feed, but not always to sleep. The call-note of the Sheldrake is a harsh quack; in the pairing season an oft-repeated, tremulous whistling or chirping note is uttered, and when the young are abroad a hoarse *korr* or *kurr* is heard. Hume states that, when surprised, both sexes utter a whistle of alarm.

**Nidification.**—The breeding grounds of the Sheldrake are near the sea, either on the sandy coasts of the mainland or on low islands. In our islands the birds gather at their breeding places in March, but the eggs are usually laid during May; in other localities they are a little earlier or later according to circumstances. The Sheldrake pairs for life; at all seasons the duck and drake may be observed in company, and in many cases the old nesting site is tenanted yearly. This Duck cannot be termed gregarious in the breeding season, and although many pairs may nest within a small reach of the coast, each appears to keep apart from the rest. The nest is usually placed at the end of a burrow, especially a rabbit hole; sometimes it is under rocks, and has been known in a very dense furze thicket. The Sheldrake may occasionally dig its own burrow, and it is then said to be nearly circular, but I do not think that such is often the case, at least in our islands. The nest is a simple one, and consists of a little dry grass and an abundant lining of down from the bird. The eggs are from six to twelve in number, but larger clutches are on record, and in cases where they have been judiciously removed, as many as thirty have been taken from a single nest. They are creamy white in colour, smooth in texture, very brittle, and possess considerable gloss. They measure on an average 2·7 inches in length by 1·9 inch in breadth. Down lavender-gray. Incubation is performed by both male and female (but the latter sits the most), and lasts about a month. The nest is very difficult to find unless the birds are watched at morning and evening when the sitting bird is relieved by its mate. The male is seldom seen near the nest, and both birds are remarkably cautious when leaving or approaching it. Only one brood is

reared in the year, and as soon as the young are hatched they are taken by their parents to the beach.

**Diagnostic Characters.**—*Tadorna*, with the head and neck green (brown in young or first plumage), below which is a broad white collar. Length, 25 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus TADORNA.

### RUDDY SHELDRAKE.

TADORNA CASARCA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Very rare straggler on autumn migration and in winter; but many of the records of the occurrence of this species in the United Kingdom unquestionably relate to birds escaped from the semi-captivity in which the Ruddy Sheldrake is commonly found in our islands. As such I should feel disposed to class all the occurrences in summer. Among the most trustworthy instances may be mentioned the following. England: Dorset (1 example), winter, 1776; Suffolk (1 example), January, 1834; Kent (1 example, shot from a party of four), September, 1884. Scotland: Orkneys (1 example), October, 1831. Ireland: Co. Kerry (1 example), August, 1869; Shannon River (2 examples), summer, 1886. Others are reported to have been either seen or taken in Suffolk, Yorkshire, the "south of England," Caithness, Forfarshire, Waterford, and Wicklow. *Foreign*: Southern Palæarctic region; Oriental region in winter. Resident in the basins of the Mediterranean and Black Seas, but not known to breed in Europe north of the Spanish peninsula, the valley of the Danube, and South Russia; whilst to the lakes and waters of North Africa it is principally a winter visitor. To Sweden, the Baltic, West Russia, Germany, Denmark, and France, it is, as to our islands, only an accidental visitor. In Europe the Ruddy Sheldrake is mostly a resident species, but in Asia it is migratory, and there can be little doubt that the accidental wanderers to the extreme west of Europe are from this district. In Asia it breeds throughout Persia, Turkestan, and South Siberia, as far north as

Lake Baikal and the valley of the Amoor. It apparently breeds in Japan, and is a regular summer visitor to Mongolia, but to China, Burma, and India it is only known as a migrant in autumn and winter.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Ruddy Sheldrake may be taken.**—August 1st to March 1st.

**Habits.**—The range of the Ruddy Sheldrake in Europe does not extend sufficiently far north to render the bird a migratory one, but in Asia, where the climate is much colder in winter, and where the limits of its distribution extend slightly higher, this Duck is a bird of regular passage. Hume states that it winters in India in countless myriads. It begins to arrive in Cashmere and on the southern slopes of the Himalayas at the end of September, which agrees with the date of its departure from South Siberia about the middle of September. By the end of October it is generally dispersed over Northern India, and during November it reaches the southern districts. It leaves the south towards the end of March, the north a little later, and reaches its breeding grounds in Siberia again towards the end of April. The Ruddy Sheldrake migrates in enormous flocks, but these soon separate, and distribute themselves in scattered pairs throughout the country. In spring it again unites into flocks, and is then more frequently seen on lakes than at any other time of its stay in India. These gatherings disperse at the breeding grounds. The Ruddy Sheldrake is a fresh-water Duck, and a shore bird rather than a water one, spending most of its time on or near the bank. In India its favourite haunts are the broad rivers where sandbanks break the stream into numerous channels, but the bird occasionally visits fields and flooded grounds at some distance from its usual retreats. It not only swims well, but often dives when wounded, and on the ground walks with a rather graceful, sedate step in a very erect manner. The flight of this species is easy and quick when once the bird is fairly on the wing, but it rises in a laboured manner and with apparent difficulty. The wings are flapped slowly rather than beaten rapidly. The food of the Ruddy Sheldrake consists of both

animal and vegetable substances, the former, according to Hume, predominating. Of the vegetable element may be mentioned grass and sprouting corn, especially when growing near the edge of the water, water weeds of various kinds, and seeds; of animal substances, insects, the fry of fish, shrimps, small frogs, and all kinds of land and fresh-water snails. It has been said that this Sheldrake occasionally feeds on carrion in India, and consorts with Vultures; the evidence is certainly very conclusive. The usual note is a rather loud and monotonous *kark*; but the alarm note is described by Pallas as resembling the syllables *à-oung*, rendered by the Turks as *au-gout*. According to Jerdon there is a superstition in India among the natives that "the souls of erring lovers, who have loved not wisely but too well, pass into the forms of these Ducks, condemned thenceforth to pass the night, the season of their transgressions, apart, on opposite banks of some stream, each ever praying the other for permission to rejoin them, and each ever compelled sternly to refuse. 'Chakwa, shall I come?' 'No, Chakwi!' 'Chakwi, shall I come?' 'No, Chakwa!'" "This story," Hume continues, "however, I fear belongs to a more poetical age than the present, and I myself have never met with a native in Upper India who knew of it except from Europeans. Perhaps, too, the world is more virtuous, or celestial vigilance less keen, for certain it is that in these degenerate days, except in the case of very narrow rivers like the Hindon in Meerut, alike by day and night, Chakwa and Chakwi *are* to be found both on the *same* side of the water." In India the Ruddy Sheldrake, or Brahminy Duck, as it is otherwise called, is nowhere held in reverence; but in Burma it is the sacred and national bird of the natives; the Llamas of Mongolia also consider it an object of religious respect. The Ruddy Sheldrake is a remarkably wary bird, rarely allowing any one to approach it within gunshot, and owing to its restless, noisy habits, it is much disliked by the sportsman. Hume writes: "Not only do they carefully provide for their own safety, but they seem positively to take a malicious pleasure in spoiling all sport. You are working down on a lump of Fowl—a few minutes more and you will be within range. Suddenly the loud call of the Brahminy sounds, and rising out of a hollow in the sand where they have been

squatting, you see a pair waddling to the water's edge. Again and again the pair call and answer (side by side as they are, one would think that save out of sheer spite they need not shout at each other thus), then with a rapid chuckle off they go, their wings clattering as they rise like a train on an iron culvert, and with them of course go all the Fowl. Further on are a lot of Geese; you work towards them—vain hope. The ruddy wide-awakes have alighted near these now, and duly put them up before you are within a hundred yards, and sometimes a pair will thus persecute you for a couple of miles, before they finally turn up-stream to return to their proper beat." The flesh of this Duck is hard and dry, with a rank and fishy flavour, but is rendered palatable if the bird be skinned before it is cooked.

**Nidification.**—The Ruddy Sheldrake, like the preceding species, pairs for life, and the male and female are said to be tenderly attached to each other, and rarely stray far apart even during winter. At the breeding grounds in Mongolia, however, Prjevalsky states that the males often fight not only with themselves but with other species. This Sheldrake is an early breeder, beginning to lay in Persia early in May and in Dauria by the middle of that month. In Europe it is earlier still, and begins laying towards the end of April. The nest is made in various situations, but almost always in a covered site. Sometimes it is made in holes in cliffs, at others in holes and clefts in the ground, even in the middle of a corn-field; whilst holes in trees and logs, and the deserted nests of birds of prey, are also selected. Prjevalsky states that it is sometimes made in the fireplaces of houses in deserted Mongol villages; whilst it has been found amongst a colony of Griffon Vultures and near nests of the Raven, the Black Kite, the Egyptian Vulture, and other cliff-haunting birds. It is often made at considerable distances from water, but more frequently in rocks that overhang a stream or lake. But little nest is made, although the eggs usually rest amongst a soft bed of down plucked from the parent's body. The eggs are from eight to sixteen in number, more frequently the former than the latter. They are creamy white in colour, smooth in texture, and very fragile. They measure on an average 2·7 inches in length by 1·8 inch in breadth. Colour of down undescribed. It is said

that the male takes no part in incubating the eggs, but I doubt this. In the case of the young he is just as assiduous as the female. Incubation in this species lasts thirty days. The young are carried from the nest to the nearest water by their parents, but in what manner is apparently unknown, some writers asserting in the beak, others on the back, others yet again in the feet. Only one brood is reared in the year.

**Diagnostic Characters.**—*Tadorna*, with the general body colour rufous buff, and the wing coverts white. Length, 25 inches. Males in breeding plumage have a narrow black ring round the neck.

## Genus **ANAS** or **NON-DIVING DUCKS.**

Type **ANAS BOSCHAS.**

**Anas** of Brisson (1760).—The birds comprising the present genus are characterised by having the tarsus shorter than in the preceding genus, the tail graduated, and the absence of a white carpal region. The wings are long and pointed. The bill is broad, often widening towards the tip. Three toes in front webbed ; hind toe small and unlobed. Sexes different in colour.

This genus contains about sixty species and subspecies, and is almost cosmopolitan. Ten species are British, some of which breed in, and others are only visitors to, our islands.

The Non-diving Ducks are dwellers near inland waters and in fens and marshes in summer, but during their seasons of passage and in winter they are more maritime. They are birds of rapid if somewhat laboured flight, swim well, rarely if ever dive, and walk awkwardly with a waddling gait. Their notes are loud and unmusical. They subsist on both vegetable and animal substances, being practically omnivorous. They make somewhat bulky nests, lined with down, upon the ground, or in holes of trees. Their eggs are numerous, and range from buff to pale greenish in colour, unspotted and smooth. They are monogamous, and probably pair for life ; the male taking no part in the rearing of the young. They are more or less gregarious, except in the breeding season. Their flesh is esteemed for the table.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

## GADWALL.

ANAS STREPERA—*Linnaeus*.

**Geographical Distribution.**—*British*: Comparatively rare and local winter visitor to the British Islands, although many apparently pass our coasts on migration, especially in spring. Is found in small numbers in the Orkneys and Shetlands, thence down both the east and west coasts of Scotland, including many of the Hebrides. Becomes less common in England, where it occurs most frequently in the east. Fairly frequent visitor to Ireland, where it appears to be much overlooked. Breeds locally in Norfolk, originally only a pair of pinioned birds, but now their descendants together with apparently thoroughly wild birds which have been tempted to lag behind their companions in spring. A fresh-water species, and frequenting inland pools as well as those in the vicinity of the sea. *Foreign*: Circumpolar: Palæartic and Nearctic regions; Oriental region in winter. Breeds locally in Iceland. Not known to breed in Norway, but does so in the south of Sweden, and more sparingly in North Germany and the Baltic Provinces. Eastwards it ranges across Russia and Siberia to the Stanavoi Mountains, south of about lat. 60°, from east to west. In Europe it certainly breeds as far south as Spain, the valley of the Danube, the Crimea, and the Volga and Ural deltas in South Russia; whilst eastwards it breeds in Northern Turkestan, South-west Siberia, the Baikal district, and probably the valley of the Amoor. A few European birds winter in Holland, Belgium, France, and the Spanish peninsula, but the majority do so in the basin of the Mediterranean, extending into the African continent as far south as the Great

Desert, and the Nile valley to Nubia. In Asia it is known to pass Mongolia on migration, and to winter throughout India, which appears to be its grand head-quarters in Asia during the cold season, although it then visits Northern Burma, China, and Japan, but in smaller numbers. In the Nearctic region it breeds in the Northern United States, and beyond as far north as about lat.  $50^{\circ}$  to Vancouver Island in the west, to Winnipeg in the central portion, and to Nova Scotia (lat.  $45^{\circ}$ ) in the east. It winters in the Southern United States and Mexico.

**Allied Forms.**—Although the geographical area of the Gadwall appears to be discontinuous, it is not known that New World examples differ in any way from those of the Old World, which is a most interesting and remarkable fact. The Gadwall has no very near ally, certainly none of sufficient propinquity to call for notice in the present work.

**Time during which the Gadwall may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—In spite of the fact that the Gadwall nowhere breeds in the Arctic regions proper, it is a migratory bird. In Europe its periods of passage are about the same as in India. It arrives at its breeding grounds early in April, and departs in September and October for its winter quarters. Its migrations are undertaken at night, and during flight the birds keep calling to each other, probably to keep their ranks together. The Gadwall is not a coast or salt-water Duck, but prefers inland fresh waters. When once these are assured locality and extent seem of only minor importance, for mighty rivers are frequented just the same as small brooks, huge lakes equally as small pools and ponds, whilst tangled swamps with little open water in them are resorted to. As a rule the larger and more open the sheet of water the bigger the flock of birds, only small parties frequenting the smaller lakes and streams. For the most part the Gadwall is a night feeder, dozing during the day and retiring inland to feed at dusk. If much harassed the flocks seldom rest close inshore, but take up their position in the centre of the lake well out of harm's way; but sometimes the birds are fond of skulking close amongst the dense vegetation. Occasionally the Gadwall may be seen feeding

during the day, paddling about in the shallows and searching the bottom of the water, with the fore part of the body entirely under the surface and the hind-quarters bolt upright. It swims well and buoyantly, and rises from the water with a single bound at a rather acute angle, continuing for several yards before hurrying away on a horizontal course. Its flight is rapid and straight-forward, and the long, pointed wings make a peculiar whistling sound as they are beaten rapidly through the air. The note of the Gadwall very closely resembles the well-known *quack* of the Mallard, but is uttered oftener and is weaker and sharper in tone. It is a much more noisy bird than the Mallard, and whilst feeding in localities where it is not disturbed keeps up a shrill, feeble, and perpetual chatter. The present species is very sociable, and fraternises with all kinds of Water Fowl, even with Geese. It swims well and lightly, and walks on land in a rather graceful manner, sometimes running about the marshy land in quest of insects. It dives easily when wounded, but never does so whilst feeding. The food of the Gadwall consists of the seeds, leaves, and buds of rushes and other aquatic plants, wild and cultivated rice, insects and their larvæ, worms, frogs, and small fish. Hume states that small butterflies and moths are caught by this Duck. The flesh of this Duck as a rule is very good, especially in India as long as the rice lasts, but it is of poor flavour if the bird has been feeding much on an animal diet.

**Nidification.**—The Gadwall usually begins to breed in May, and the eggs are laid towards the end of that month or early in June, both in the Old World and the New World. The nest is usually well concealed amongst the vegetation on the banks of the water, but occasionally it has been met with some distance from the pool or stream. A tussock of sedge is a favourite situation, and the nest is sometimes surrounded by shallow water. It is merely a hollow in the ground strewn with dry grass and bits of dead vegetation, and warmly lined with down from the body of the female. The eggs are from six to thirteen in number, ten being an average clutch. They are buffish white or cream colour with a faint greenish tinge, very smooth in texture and somewhat glossy, and measure on an average 2·1 inches in length by 1·5 inch in breadth. Down neutral gray, with scarcely per-

ceptible white tips. Incubation, performed by the female, lasts, according to Naumann, from twenty-one to twenty-two days. Only one brood is reared in the year, and the ducklings are conveyed to the water soon after they are hatched.

**Diagnostic Characters.**—(Nuptial Plumage), *Anas*, with the alar speculum white. Length, 20 to 21 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

## PINTAIL DUCK.

ANAS ACUTA—*Linnaeus*.

**Geographical Distribution.**—*British*: Fairly common winter visitor, but breeds sparingly in Scotland and Ireland. Passes the Shetlands on migration, but winters in the Orkneys, and has occurred in every county of Scotland, but becomes rarer in the west, especially in the Hebrides. It is also far from uncommon on the west coast of England, but becomes more plentiful on the east and especially the south coasts. Rare in the north of Ireland, but south from Galway and Meath it is a regular winter visitor. Eggs of this species have been obtained by Mr. Harvie-Brown on Hysgeir, off the south coast of Skye, and I have every reason to believe that the bird breeds sparingly in the Firth of Forth. The late Mr. Hancock states that it formerly bred in the now drained Prestwick Car, in Northumberland. In Ireland, according to Sir R. Payne-Gallwey, several pairs breed at the Duck preserves at Abbeyleix, in Queen's County, and he has observed females with their broods on Loughs Mask and Corrib, in Co. Galway. It may also breed in some parts of Connemara. A fresh-water species, and often frequents inland pools as well as the coast. *Foreign*. Circumpolar: Palæarctic and Nearctic regions; Oriental and extreme north of Neotropical regions in winter. Breeds throughout the Arctic regions of Europe, Asia, and America up to about lat. 70°. In Europe it breeds much less abundantly south of lat. 60°, although it does so sparingly in North Germany, and Russia as far south as the Caucasus; whilst in Siberia it is said to breed as low as lat. 50°, which, with the exception of the south-west, is practi-





1. MALLARD.

3. PINTAIL DUCK.

2. TEAL.

cally the whole of that country south of lat. 70°. Passes down the coasts of Europe and along the great river valleys to winter in the basin of the Mediterranean, Black, and Caspian Seas. It also passes Turkestan and Mongolia on migration, and winters in Persia, India, Ceylon, Burma, China, Borneo, and Japan. In the New World it winters in all the Southern States, and in Mexico and Central America as far south as Panama.

**Allied Forms.**—None of sufficient propinquity to demand notice.

**Time during which the Pintail Duck may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Pintail Duck appears everywhere to be a migratory bird. It arrives at its summer quarters early in spring, as soon as it can be sure of finding open water, and in like manner lingers in them late in autumn. In its more southern breeding area it arrives about the middle of March, and leaves in October and November, but in the Arctic regions it makes its appearance towards the end of May, when the ice on the great northern rivers is just breaking up. Vast quantities of this Duck were observed in the valley of the Petchora by Messrs. Seebohm and Harvie-Brown, hundreds of thousands crowding the narrow belt of open water on each side of the ice in the river, and filling the air like swarms of bees. The Pintail is equally gregarious at its winter quarters, congregating in thousands in favourite localities, and it has been remarked that in India some of these large gatherings are composed entirely of males. Although this Duck breeds near fresh water, in winter and on passage it frequents the sea coast a good deal, as well as large inland sheets of water. In India Hume states that its favourite haunts are sheets of comparatively open water studded here and there with patches of long-leaved water plant (*Sagittaria*), which grows to a height of several inches above the surface, amongst which the bird can hide and sleep in safety. The flight of the Pintail is very rapid, and the wings make a peculiar swishing sound as they beat the air. It is always a shy and wary bird, and almost invariably flies right away to other haunts after being fired at once or twice. As they usually sit close when on the water a punt gun often thins their ranks

considerably, even at long range. The Pintail swims well and looks remarkably graceful in the water, but it is not known to dive much when wounded; on the ground they walk freely, usually with long neck outstretched and tail raised. Pintail feed at night principally, and towards sunset may be observed in the shallows, with the fore half of their bodies entirely submerged and their long tails bent downwards parallel to the water. One or two birds of the flock are generally on the look-out for approaching danger whilst their comrades are so searching for food. Sometimes stubbles and grass-fields are resorted to for the purpose of feeding, and mud-flats, as soon as they are left bare, or nearly so, are frequented. The food of the Pintail consists of grass and the leaves and shoots of aquatic plants, insects of all kinds, worms, and land and water shells, especially the small and fragile species; grain and wild rice are also eaten in great quantities. Hume states that next to the Mallard the Pintail is the best Duck for the table in India, but the same remarks do not always apply to its flesh when killed in this country. The Pintail is not a very noisy bird, and during the day rarely utters a sound, except a very low chattering, which may be heard amongst a flock whilst feeding. When alarmed they utter a soft *quack* much less strident than that of the Mallard, but audible for a long distance. The call-note is described by Naumann as a low *kah*, and during the love season the drake utters a deep *clück*, preceded by a hiss and followed by a low grating note.

**Nidification.**—According to latitude, and consequent state of the season, the eggs of the Pintail are laid early in May or early in June. The breeding grounds of this species are situated on the Arctic tundras near water of some description, or, in lower latitudes, on the margin of lakes and ponds, or in swamps and marshes. The nest is usually made on a dry bit of ground amongst shrubs or coarse vegetation, and is composed of dead grass, withered sedges and rushes, and dry leaves, lined warmly with down mingled with a few curly feathers from the flanks of the female bird. The eggs are from six to ten in number, pale buffish green in colour, smooth in texture, but with little gloss. They measure on an average 2·15 inches in length by 1·5 inch in breadth. Down sooty brown distinctly tipped

with white, but not so conspicuously as that of the Wigeon. Only one brood is reared in the year. Incubation lasts from twenty-three to twenty-seven days.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the upper breast white (adult male); with the tail feathers brown obliquely barred with white (adult female). Length, 24 to 28 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

## WIGEON.

ANAS PENELOPE—*Linnaeus*.

**Geographical Distribution.**—*British*: Common winter visitor to the British Islands, frequenting inland swamps and waters as well as the coast. Many pass our coast lines on passage to still more southern haunts, and return along them in spring, so that the bird is most abundant generally in autumn. Frequents all parts of the United Kingdom suited to its requirements. A few remain behind to breed in Scotland, and frequent for this purpose Ross, Sutherland, Caithness, Cromarty, and the Orkneys and Shetlands. The nest does not yet appear to have been met with in the Hebrides. In Ireland it is said to have nested in Antrim, Armagh, Tyrone, and Mayo Counties, but recent information is wanting. Although supposed to have bred in Norfolk, there is no actual proof of the fact. *Foreign*: Palæarctic region, more southerly in winter; Oriental region, and extreme western and eastern confines of Nearctic region in winter. Breeds throughout Arctic Europe, and Asia south of the Arctic Circle. Under ordinary circumstances its southern breeding range is lat. 60°; south of which it is only known to nest in exceptional conditions. These conditions appear to exist in France, Germany, Denmark, Bohemia, and the valley of the Danube in Europe, and in the Baikal basin in Asia, in all of which localities it is known to breed. It is said to breed in the Faroes, and certainly does so in Iceland; and is an accidental visitor to Greenland, and to the Atlantic coasts of North America; whilst on the eastern limits of its range it occasionally wanders across Behring Strait, where it has from time to time been found on the Pacific coast from Alaska to Cali-

fornia. It passes through Central Europe on migration, and winters on the coasts of Holland, Belgium, France, and Spain, and throughout the basins of the Mediterranean, Black, and Caspian Seas, ranging as far south as Abyssinia in the east and Madeira in the west of the African Continent. The Asiatic birds pass through Turkestan and Mongolia on migration, and winter in India, Burma, Borneo, China, and Japan.

**Allied Forms.**—*Anas americana*, the New World representative of the Wigeon, a "British" species, and dealt with fully in the following chapter.

**Time during which the Wigeon may be taken.**—August 1st to March 1st (to March 15th in Essex).

**Habits.**—The autumn migration of the Wigeon commences in the British Islands towards the end of September, and birds continue to arrive upon our coasts through October and the first half of November. The return migration begins in March, and lasts until the end of April. The Wigeon arrives at its Arctic haunts just as the ice is breaking up and winter is making way for summer. In the valley of the Petchora this Duck arrived simultaneously with the break-up of the ice, on the nineteenth of May, but further east in the valley of the Yenesay it was much later, not appearing until the 6th of June, at which date the general summer thaw had commenced. Hume states that the Wigeon seldom arrives in India before the end of October, and leaves again in March and April. Whilst on migration, and in its winter quarters, the Wigeon is a very gregarious bird, and even in the breeding season is remarkably social, and consorts with various other Ducks that frequent the same districts for nesting purposes. Whilst in the British Islands the Wigeon is principally a coast bird, frequenting bays, lochs, and estuaries, and occasionally visiting large sheets of fresh water in the vicinity of the sea. In India, however, this Duck is found on inland waters, but even here is most abundant on the coast, choosing by preference estuaries and creeks where the water is brackish. It is also very erratic in its choice of a haunt, being absent from some districts and present in others during different years. The flight of the Wigeon is swift and powerful, but not very loud, and often the bird will glide down from a considerable height to the water on arched and motionless wings,

beating them rapidly just as it drops on the surface as if to break the force of the contact. It also swims well, and is very adept at diving when pursued if wounded. This species is also seen a good deal on land, walking about the turfy banks of the water. They are rather shy and wary birds, evidently gifted with great powers of scent and hearing, and approached most successfully up wind. The note of the Wigeon is very characteristic, and not easily confused with that of any other British Duck. I describe it as a wild and loud *mee-ow* or *wee-ow*; other writers as *mĕĕ-yōō* or *whĕĕ-yoŭ*. My experience is certainly different from that of Naumann, who states that this species utters a cry like that of the Shoveller as it rises. A note sounding like *kr-r* is said also to be occasionally uttered. The food of this species consists of grass, buds, leaves, and shoots of various aquatic plants, grass wrack, insects, shrimps, and mollusks. The bird feeds by day in some districts, by night in others, and both by night and day in localities where it is much harassed. In India, Hume states that the Wigeon is more of a grass-eater than any other Duck. The flesh of this bird varies a great deal in quality, depending on the food which has been lately eaten. British individuals are considered to be more palatable than those shot in India.

**Nidification.**—The principal breeding grounds of the Wigeon are the wild districts, partly scrubby forest, partly swamp, studded with lakes and pools and intersected with rivers and streams—the border land, in fact, between the bare tundra and the limit of the growth of trees. The nests are made in May and June, according to locality, and are usually well concealed near the waterside, but sometimes a considerable distance from it, either among the long coarse grass and other vegetation or beneath the shelter of a bush. They are placed on the ground and made of dry grass and dead aquatic vegetation, rather deep, and warmly lined with down and a few feathers. The eggs are from six to ten or even, in rare instances, twelve in number, and are creamy white in colour, sometimes buffish white. They measure on an average 2·2 inches in length by 1·5 inch in breadth. Down sooty brown with distinct white tips. According to Naumann, incubation lasts from twenty-four to twenty-five days. When leaving the nest the female carefully covers the eggs with down. Only one

brood is reared in the year, and the young are deserted as soon as they are able to fly.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the back and flanks vermiculated with black on a white ground, and the median wing coverts white (adult male) ; grayish brown above, buffish white below, alar speculum grayish brown, bill small and blue, tipped with black (adult female). Length, 18 to 20 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

### AMERICAN WIGEON.

ANAS AMERICANA—*Gmelin.*

**Geographical Distribution.**—*British:* Very rare and accidental visitor; its claim to rank as a “British” species being supported by most unsatisfactory evidence. It is with no small amount of hesitation that I have included this species in the present work, and my chief reason in doing so is to stimulate the interest of British sportsmen, and to put them on the *qui vive* in case examples chance to visit our islands. That this bird does so from time to time is far from improbable; but until we have more positive proof than that forthcoming, every careful student must feel dubious of its claim to rank as an accidental wanderer to our shores. The evidence is as follows: Leadenhall Market (1 example, which may have been captured on the Continent and consigned with other fowl to London), winter of 1837-38; Coast of Essex (1 example, not confirmed by any recognised authority), January, 1864; Devonshire (1 example, not confirmed by any recognised authority), April, 1870. Scotland: Banffshire (1 example, not preserved, and entirely unauthenticated), January, 1841. Ireland: Strangford Lough, Co. Down (1 example, not preserved, and recorded by Thompson on hearsay evidence), February, 1844 (*Conf. Thompson, B. of Ireland, iii. p. 112*). One example is said to have occurred in France; and Mr. Howard Saunders records a specimen as being in a collection of birds at St. Michael’s, in the Azores. This, together with the fact that the bird wanders to the Bermudas and is rarely or never kept in captivity in our islands, is confirmatory evidence of its accidental occurrence in them. *Foreign:* Nearctic region, more southerly

in winter ; northern limits of Neotropical region in winter. Breeds in the Arctic regions of America from Alaska to the Hudson Bay basin, as far north as lat.  $70^{\circ}$ , and probably as far south as Winnipeg. Passes the Northern States, both inland and along the coast, on migration, and winters in the Southern States, Mexico, the West Indies, and Central America.

**Allied Forms.**—*Anas penelope*, the Old World representative of the American Wigeon, a British species, and dealt with fully in the preceding chapter.

**Time during which the American Wigeon may be taken.**—August 1st to March 1st.

**Habits.**—The habits of the American Wigeon are not known to differ in any very important particular from those of its Palæarctic congener. In the Southern United States, where it is extremely common during winter, it is known to sportsmen by the name of "Bald-Pate." Like its Old World ally, it is said to frequent inland localities as well as the coast, and visits rice-fields and rivers. Its note is described as a low whistle, but probably it has others which resemble those of the Common Wigeon. Its food is composed of vegetable and animal substances, notably the succulent weed *vallisneria*, and rice. The flesh of this bird is said to be excellent.

**Nidification.**—The nest of the American Wigeon is placed on the earth amongst trees and bushes in swampy districts, but always on a dry bit of ground, and is made of dry grass, leaves, and other vegetable refuse, and lined with plenty of down and a few feathers plucked from the breast or flanks of the female. The eggs are from six to twelve in number, creamy white in colour, and measure on an average 2.2 inches in length by 1.5 inch in breadth. Down apparently the same as that of the Common Wigeon. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the back and flanks vermiculated with black on a claret-coloured ground, with the axillaries nearly uniform white, slightly mottled at the tip, and with a green stripe on the side of the head reaching from the eye to the neck (adult male) ; with a rich black alar speculum and nearly white axillaries (adult female). Length, 19 to 20 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

### COMMON TEAL.

ANAS CRECCA—*Linnaeus*.

**Geographical Distribution.**—*British*: Common resident, and breeds in all suitable localities throughout the British Islands, but becomes more abundant in the northern districts. The residents are largely increased in number during autumn, not only by birds passing our islands on passage, but by individuals that remain all the winter. Frequents the coasts during winter as well as inland swamps and waters. *Foreign*: Palæarctic region, more southerly in winter; Oriental region in winter. Summer visitor to and breeds in Iceland. Breeds throughout Arctic Europe and Asia as far north as lat.  $70^{\circ}$ , but south of the Arctic Circle (lat.  $66\frac{1}{2}^{\circ}$ ) it becomes more local and rare. South of that limit, however, it breeds in the Azores and Madeira, very sparingly in South Europe, but more freely in Holland, Denmark, Germany, and Southern Scandinavia. During winter it is generally distributed throughout the more temperate and southern portions of Europe, and Northern Africa, as far south as the Canaries in the west, and Abyssinia in the east. It also winters in considerable numbers in the basins of the Black and Caspian Seas. The Asiatic birds pass through Turkestan, Mongolia, and the Amoor valley on migration (a few remaining to breed), and winter in Persia, India, Ceylon, Burma, China, and Japan. This Teal has been known to stray across Behring Strait into Alaska, where it has been captured in June; whilst on the east of America it occasionally visits Greenland, and the eastern coasts between Labrador and North Carolina.

**Allied Forms.**—*Anas carolinensis*, the Nearctic representa-

tive of the Common Teal, a "British" species, and dealt with fully in the following chapter. *A. glaucitans*, an inhabitant of Eastern Siberia, wintering in Japan, China, and East India. Distinguished from the Common Teal by the absence of chestnut on the head.

**Time during which the Common Teal may be taken.**—August 1st to March 1st.

**Habits.**—Although a great many Teal are practically resident in the British Islands, this Duck is by far the most common and widely dispersed in winter, when its numbers are increased by migratory individuals from more northern and colder latitudes. With us this Duck begins to arrive in September, and continues to do so through the following month. In India, where it is one of the commonest Ducks during the cold season, they begin to appear in September in the north, but the heaviest flights arrive during October, whilst further south they are not observed until the north-east monsoon in November. They leave most parts of India about the end of April, although a few are seen even in May. In the valley of the Petchora, Teal arrived on the 18th of June with the general smash-up of the ice on the river and the melting of the snow; in the Yenesay district its arrival was also coincident with the thaw. The Teal is much more partial to reed-fringed pools and small lakes than to the mud-banks and estuaries of the coast. In India, Hume remarks that they may be met with anywhere, on fresh water, of course, either on the village pond, in the marshy corner of a broad, on large lakes, or on sluggish rivers and dancing upland streams. The Teal is by no means a shy bird, yet it is very fond of skulking amongst the tall aquatic vegetation, remaining close until flushed by dogs or men. It is a gregarious bird, especially just previous to and on migration. In India bunches of from ten to thirty are most frequent, but much larger gatherings are on record, especially during Flight. As a rule the smaller the pond or lake, the fewer in number the birds will be. The flight of the Teal is rapid, and the bird has considerable command over itself in the air, often escaping the swoop of a Falcon with a sudden dip or twist. This Duck has also a way of dropping suddenly into cover again soon after being flushed. It swims

well and lightly, but never dives unless wounded, and even then makes but poor attempts to do so. The Teal is most frequently seen on the water, but occasionally it walks about the banks with a waddling gait, and may be often observed standing on one leg with its head drawn in, or even buried beneath the scapulars. The Teal is both a day and night feeder where left unmolested, but in districts where it is much disturbed it varies its time, and obtains most of its sustenance at night. Under these circumstances, especially if the flock be fairly large, the birds spend the day on some large sheet of water, and retire at night to the marshes and small ponds to feed. They usually change their quarters towards sunset, and as they follow certain routes backwards and forwards, afford fairly good sport on flight. The Teal obtains most of its food, either whilst floating in the shallows, from time to time turning upside down in true orthodox Duck fashion, or when paddling round the weedy margin of the water. This food consists of grass, and seeds, shoots, roots, and leaves of aquatic plants; grain, rice, insects and their larvæ, small mollusks, and worms. The usual alarm note of the Teal is a rather weak but shrill *quack*, but the call-note, which may be heard incessantly as the pair of birds swim to and fro, is a harsh Rail-like *crick*. The flesh of the Teal is excellent for the table. In India great numbers of these birds are kept in confinement and fattened for food, especially by the Anglo-Indians whom a hard fate condemns to residence in the sultry Plains during the hot season.

**Nidification.**—The breeding season of the Teal in the British Islands commences early in May, but is a month or more later in higher latitudes. In the Arctic regions this Duck makes its nest in similar localities to those selected by the Wigeon; but with us it is usually placed amongst the dense vegetation, brambles, sedge, heather, or coarse grass, growing by the waterside, but occasionally some distance from it. It is made on the ground, of dry grass, leaves, broken sedge, and reeds, and warmly lined with down from the female. The eggs are from eight to ten in number, in rare instances up to fifteen, and vary from creamy white to buffish white, sometimes with a faint greenish cast. They measure on an average 1·7 inch in length by 1·3 inch in

breadth. Down small and uniform dark brown without any white tips. Incubation, performed by the female, lasts from twenty-one to twenty-two days. Only one brood is reared in the year, but if the first clutch of eggs be taken others will be laid. The old Teals are much attached to each other, and I should say undoubtedly pair for life. The male Teal assumes a brown moulting dress like allied species.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the mantle vermiculated, with a green band on the sides of the neck, reaching to the eye, with the head chestnut, and with the breast white spotted with black (adult male); with the alar speculum black, and the wing under seven inches long (adult female). Length, 13 to 16 inches.

## AMERICAN TEAL.

ANAS CAROLINENSIS—*Gmelin*.

**Geographical Distribution.**—*British*. Very rare abnormal visitor to the British Islands. The claim of this species to rank as "British" rests on the following recorded occurrences. England: Hampshire (1 example of doubtful authenticity), about 1838; Yorkshire (1 example), November, 1851; Devonshire (1 example, the most satisfactory of the three), November, 1879. *Foreign*: Nearctic region, more southerly in winter; extreme northern limit of Neotropical region in winter. Breeds in the Arctic regions of America, from the Aleutian Islands and Alaska in the west to Greenland in the east. Passes the Northern States and Southern Canada on spring and autumn passage, but in these localities a few remain to breed and a few remain to winter; it also visits the Bermudas occasionally in autumn. It winters in the Southern States, Mexico, the West Indies, and Central America.

**Allied Forms.**—*Anas crecca*, the Palæarctic representative of the American Teal, a British species, dealt with fully in the preceding chapter.

**Time during which the American Teal may be taken.**—August 1st to March 1st.

**Habits.**—The American Teal is not known to differ in its habits in any important respect from the Common Teal. It is migratory in the higher and colder latitudes, sedentary in warmer districts, as the Old World Teal is with us. The haunts it frequents are very similar, both in summer and winter. Its flesh is highly esteemed for the table.

**Nidification.**—The breeding habits of the American Teal,

the situation and materials of the nest, the period of incubation, the number of eggs are all similar in every important respect to those of the Palearctic species. The eggs are the same creamy white colour, and measure on an average 1·8 inch in length by 1·3 inch in breadth. Down undescribed, but probably precisely similar to that of the Common Teal, seeing that the females of the two species are entirely alike in colour.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the mantle vermiculated, with a green band on the sides of the neck reaching to the eye, with the head chestnut, and with a broad white crescent on each side of the breast (adult male); similar in every external character to the female of the Common Teal (adult female). Length, 14 to 15 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

## GARGANEY.

ANAS CIRCIA—*Linnaeus*.

**Geographical Distribution.**—*British*: Rare and exceedingly local visitor on spring and autumn migration, a few remaining behind in spring to breed in suitable localities. Rarer in Scotland than in England, only accidental in the Orkneys and Shetland, and entirely unknown in the Outer Hebrides. Breeds regularly, and it is said in increasing numbers, in Norfolk, less commonly in Suffolk, and perhaps in a few of the southern English counties. It used formerly to breed in Cambridgeshire and Huntingdonshire, and in Prestwick Car in Northumberland, but the reclamation of its favourite haunts has driven it to seek nesting places elsewhere. Said by Sir R. Payne-Gallwey to be the rarest of the ordinary Ducks and practically confined to the southern portion, where it has been met with very early in spring and even in winter. *Foreign*: Southern Palæarctic region; Oriental region in winter. Rare visitor to the Faroes and Iceland, and only known to have occurred twice in Norway. Breeds in Denmark, Sweden, the Baltic Provinces, Finland, and North-western Russia as far as Archangel. Breeds throughout Central and Southern Europe (although rare in Portugal), the Caucasus, and, eastwards, through Turkestan, and the extreme south of Siberia, probably to the valley of the Amoor. It winters in the basin of the Mediterranean, Black, and Caspian Seas, extending southwards as far as Egypt and Arabia. The Asiatic birds appear to winter in India, Burma, and China (a few lingering to breed in these countries), many parts of the Malay Archipelago, and in Japan.

**Allied Forms.**—*Anas discors*, one of the two representative

American species, which having occurred in our islands forms the subject of the following chapter. *A. cyanoptera*, the second representative species of the New World. An inhabitant of Western America from the Columbia River to Chili, Buenos Ayres, and the Falkland Islands; of only accidental occurrence in the Eastern States. Distinguished from the Garganey by having the under tail coverts black, and by the uniform chestnut head and neck.

**Time during which the Garganey may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The aversion of the Garganey to cold is marked very decidedly in several ways. In the first place, its geographical area nowhere extends into an Arctic climate; and, secondly, its migrations are performed much earlier in autumn and later in spring than those of most if not all other Palæarctic Ducks. These remarks apply as much to the individuals breeding in Europe as to those breeding in Asia, where the climate is much more severe than with us. The Garganey leaves the northern limits of its range in Europe long before winter, and in India it is the earliest Duck to arrive in autumn, large flights appearing towards the end of August, slowly reaching the southern districts in October and November. It lingers in India until the end of April or early May, beginning to leave the southern portions of that country in March. The Garganey is decidedly a fresh-water species with us, but in its winter quarters in India and other places it is more maritime, frequenting creeks and estuaries as well as inland waters. Whilst on passage, and in its winter haunts, the Garganey is gregarious, forming into flocks of from a dozen to a hundred individuals, which as they invariably keep well together, afford most effective shots for the swivel gun. In India the Garganey affects by choice the rather large broads and swamps where plenty of aquatic herbage grows, shunning bare lakes, rivers, and small ponds. It is neither a very wild nor a very wary species, and approached more easily in a punt than most other Ducks. It rises quickly from the water and its flight is rapid and strong, but almost silent, although when large flocks of birds pass directly overhead a very distinct *swishing* sound is produced. When flushed

from dry ground, however, its first movements are rather clumsy and laboured. It not only swims lightly, sitting well out of the water, but dives readily when wounded. The food of the Garganey is chiefly of a vegetable nature inland, but on the coast an animal diet is more usual. It consists of the buds, leaves, shoots, seeds, and roots of various aquatic plants, and in India of rice, both wild and cultivated; insects and their larvæ, frogs, worms, mollusks, and crustaceans. The Garganey is for the most part a night feeder, and at such times it has been known to visit rice-fields in such numbers as to destroy acres of the crop in a few hours. The call-note of the Garganey is a harsh *quack*, and is common to both sexes; but during the breeding season the drake makes a harsh Rail-like *crick*. It is not a garrulous bird when in flocks. The flesh of this Duck is not very palatable, even when the bird has been obtained under the most favourable conditions as to diet.

**Nidification.**—The Garganey is a rather late breeder for a southern species, and its eggs are seldom laid before the end of April or the first half of May. The nest is placed in a great variety of situations, very often in places similar to those selected by the Teal. It is as often as not some distance from water, and has been found in open forests and amongst growing corn. Usually it is built on the ground amongst tall, thick grass or sedge, or in low heath. The nest is made of dry grass, dead rushes, leaves, and other vegetable refuse, warmly lined with down. The eggs are from eight to fourteen in number, and vary from cream-white to buffish white in colour. They measure on an average 1·8 inch in length by 1·35 inch in breadth. Down tufts small and brown with long white tips. Incubation, performed by the female, is said by Naumann to last from twenty-one to twenty-two days. Only one brood is reared in the year, and the female takes the entire charge.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the mantle unvermiculated, with the wing coverts blue, and with the under tail coverts white spotted with dark brown (adult male); with no metallic alar speculum, and the wing about 7 inches long (adult female). Length, 15 to 16 inches.

## BLUE-WINGED TEAL.

ANAS DISCORS—*Linnaeus*.

**Geographical Distribution.**—*British*: Another dubious species which I include in this volume with considerable hesitation. Its claim to rank as “British” rests on a single occurrence, and even about this there has been considerable confusion. The late Mr. Gray in his “Birds of the West of Scotland,” states that the example in question was killed in January, 1863; but Mr. Gibson, in recording the same specimen in the *Naturalist* for 1858, avers that it was obtained “a few weeks ago” in that year. The latter date appears to be the correct one. This example, a male, was obtained in Dumfriesshire by a Mr. Shaw. It passed through the hands of a local bird-stuffer into the collection of Sir William Jardine, and is now in the Edinburgh Museum. Other alleged occurrences have been recorded, but in every case identification has been found to be wrong. *Foreign*: Central and southern Nearctic region, more southerly in winter; extreme northern limits of Neotropical region in winter. Breeds from the Atlantic to the Pacific, south of lat. 60°, but becomes more local west of the Rocky Mountains. Southwards its breeding range extends to Florida and Mexico as far as the northern tropic. The northern birds pass south in autumn, crossing the Bermudas as well as the mainland, and winter in Mexico, the West Indies, and the northern portions of Central America.

**Allied Forms.**—*Anas circa*, a British species, and dealt with fully in the preceding chapter. *A. cyanoptera*, an inhabitant of the Nearctic region. Distinguished from the Blue-winged Teal by its uniform chestnut head and neck.

**Time during which the Blue-winged Teal may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The habits of the Blue-winged Teal are not known to differ in any important respect from those of allied species already described.

**Nidification.**—In its nidification the Blue-winged Teal resembles its congeners; the nest, site, number of eggs, are all similar in every respect. The eggs are creamy white in colour, and measure on an average 1·9 inch in length by 1·3 inch in breadth. Down apparently undescribed.

**Diagnostic Characters.**—(Nuptial plumage), *Anas*, with the under tail coverts black, with a white crescent between the eye and the bill, and with the shoulders or wing coverts blue (adult male); with a green speculum, and dull blue shoulders (adult female). Length, 16 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

### SHOVELLER.

ANAS CLYPEATA—*Linnæus*.

**Geographical Distribution.** — *British*: Fairly common winter visitor to the British Islands, but practically resident in many localities, and is found both inland and on the coast. Becomes rarer in Wales and in the southern and western districts of England, and the west of Scotland, being very rare in the Outer Hebrides and on the Orkneys, and appears never to have visited the Shetlands. Its recorded breeding places are as follows. England: Shires of Dorset, Kent, Hertford, Cambridge, Norfolk, Lincoln, Nottingham, Huntingdon, Stafford, York, Durham, Northumberland, and Cumberland. Wales: no reliable data. Scotland: Kirkcudbright, East Lothian, Dumbarton, Argyle, Elgin, Ross, and Sutherland, and the island of Tiree, one of the Hebrides. Ireland: Queen's County, Galway (Lough Derg on the Shannon), Co. Dublin, Co. Antrim. During winter also the Shoveller is much more frequent in the south of Ireland than the north. *Foreign*: Circumpolar, northern Nearctic and Palæarctic regions, more southerly in winter; Oriental and extreme northern limits of Neotropical regions in winter. Breeds throughout the subarctic regions of Europe, Asia, and America, from about the latitude of the Arctic Circle south to lat. 50°. Below this latitude it becomes more local, and not so abundant during the breeding season, although it nests in small numbers in the west Palæarctic region as far as the African shores of the Mediterranean, and in the east Palæarctic region as far south as Turkestan and Mongolia; whilst in the Nearctic region it breeds very sparingly in the north of the United States. Its winter

quarters in Europe are the basin of the Mediterranean and North Africa as far south as the Great Desert, and Abyssinia; in Asia are Persia, India, Ceylon, China, and Japan; in America are the Southern States, the West Indies, Mexico, and Central America south to Panama.

**Allied Forms.**—None of sufficient propinquity to call for notice. Representative species occur as follows: *Anas platalea*, Neotropical region; *A. capensis*, Ethiopian region; *A. rhynchotis*, *A. variegata*, Australian region.

**Time during which the Shoveller may be taken.**—August 1st to March 1st.

**Habits.**—The migration of the Shoveller to our islands from more Arctic latitudes commences in September and continues through October to November. The return journey commences in April and lasts well into May, and in some countries continues right through the latter month into June. It was first noticed in the valley of the Petchora, near the Arctic Circle, by Messrs. Harvie-Brown and Seebohm on the 19th of June; and by the latter gentleman one day earlier in the valley of the Yenesay, in the same latitude. These dates are late even for the Arctic regions, and the species was probably overlooked upon its first arrival. It arrives at its winter quarters in India towards the end of October and the beginning of November, and leaves during April and May. Its migrations are almost invariably performed during night, and the bird does not appear to congregate in very large parties for the purpose. Although the Shoveller occasionally visits the low-lying coasts, it is a thorough fresh-water species, and loves to frequent lakes and large sheets of water, ponds and slow-running rivers. In our islands it is certainly a shy, suspicious bird, keeping well out in the centre of the water if human intruders be lurking about; but in India it is one of the tamest of Ducks. Hume states that in the North-West Provinces it may be met with in pairs on almost every village pond, even those of the filthiest description, little more than cesspools, being frequented until scarcely a drop of liquid filth remains as the hot season approaches. Here on these ponds it is often as tame as the domestic Ducks, and when

approached merely waddles into the water and swims out from shore, seldom rising until fired at, and then if missed usually returning after a circle or two in the air. The Shoveller is not very gregarious, and even when a flock is congregated on some certain favoured pool the birds are usually scattered about in pairs or in very small groups. This Duck almost constantly keeps to shallow water close inshore, only swimming further out when alarmed, and may usually be seen dabbling about in the mud, or with head and neck under the surface seeking for food. The peculiar habit of a pair of birds feeding whilst swimming round in circles with their heads in the centre is graphically described from personal observation by Professor Newton. Sometimes they may be seen standing on the bank preening their plumage, or dozing with their head twisted round and nearly buried in the dorsal plumage. This species walks in the usual waddling manner, but the body is carried rather erect, and sometimes the bird runs rather quickly. It swims fairly well, but rarely dives, and only when wounded. From the nature of the locality in which most of its food is obtained, the very shallow water, the Shoveller rarely turns upside down to feed; it has no need to do so. The Shoveller very often associates with other Ducks, but owing to its partiality for small muddy pools it is most frequently seen by itself. The flight of this species when once the bird is fairly launched is rapid and powerful, but it rises heavily and slowly from the water. The food of the Shoveller consists of grass, grain, shoots, buds, leaves, and roots of aquatic herbage, insects of all kinds and their larvæ, mollusks, frogs, small fish, in fact anything and everything edible. As Hume justly remarks, in some localities it would be difficult to say what this bird will *not* eat. Much of its food is obtained in the shallow water as it moves its broad spatulated bill from side to side, sifting every likely and unlikely bit of mud. It is both a day and night feeder, but obtains most of its food after dusk, leaving in many cases the haunts it has frequented during the day and flying for some considerable distance to places where its staple fare is abundant. The call-note of the Shoveller is a harsh *quack*; a lower guttural note is uttered during flight. It is

a remarkably silent bird, always apparently too intent on feeding to *talk*. Its flesh is of very variable quality, depending a good deal on the diet of the bird.

**Nidification.**—The Shoveller is a rather late breeder, and even in our islands its eggs are not laid until the middle of May or later, whilst in more northern latitudes they are not laid before June or even early in July. The breeding grounds of the Shoveller are situated amongst lakes and swamps where plenty of aquatic vegetation grows on the banks, and where shallow water or sluggish streams choked with weed furnish plenty of feeding places. The nest is generally made on a bit of dry ground amongst the tall grass and sedge or heath, and is simply a hollow into which a little dry grass, sedge, and a few dead leaves are collected, and warmly lined with down and feathers plucked from the female. The eggs are from seven to fourteen in number, nine or ten being an average clutch. They are pale buffish white with a faint tinge of olive-green, fine in texture, and with some little gloss. They measure on an average 2·0 inches in length by 1·5 inch in breadth. Down tufts moderate in size, neutral dark gray with pale centres and very conspicuous white tips. Incubation, almost invariably performed by the female, lasts, according to Naumann, twenty-one to twenty-three days, but Tiedemann gives twenty-eight days as the period. The male Shoveller has been found sitting on the eggs in at least one well-authenticated instance. The young are usually able to fly a month after they are hatched, but until then they are assiduously tended by the female. Only one brood is reared in the year, but, as is often the case, if the first eggs are taken others are laid.

**Diagnostic Characters.**—*Anas*, with the bill twice as wide at the tip as it is at the base. Length, 20 inches.

Family ANATIDÆ.  
Subfamily ANATINÆ.

Genus ANAS.

## MALLARD.

ANAS BOSCHAS—*Linnaeus*.

**Geographical Distribution.**—*British*: Commonest species of fresh-water Duck, and generally distributed throughout the British Islands, breeding in every part suited to its needs, including the Orkneys and Shetlands, the Hebrides and Ireland. Much rarer in the extreme north of Scotland during winter; otherwise it is even more widely dispersed at that season, then extending to the Channel Islands, and its numbers are largely increased by migrants from more northern regions. It frequents the coasts as well as inland swamps and waters. *Foreign*: Circumpolar, Palæarctic, and Nearctic regions; Oriental and Neotropical regions in winter. Breeds throughout Europe south of the Arctic Circle, but only sparingly in the basin of the Mediterranean; and throughout Asia, south of that limit (but only locally and in small numbers) to Cashmere and probably Mongolia. In the Nearctic region it breeds from the Arctic Circle southwards to the United States. Its winter range in Europe extends to North Africa, as far south as Madeira, the Canaries, and the Azores (where a few pairs are said to breed) in the west, and to Nubia in the east. In Asia it is found during that season in Persia, Northern India, China, and Japan; and in America, in the Southern States, Mexico, the West Indies, and the extreme northern portion of South America.

**Allied Forms.**—*Anas obscura*, an inhabitant of the north-eastern portion of the Nearctic region, more southerly in winter. Differs from the Mallard in being much duller in colour, both sexes resembling the female of that species.

**Time during which the Mallard may be taken.**—August 1st to March 1st.

**Habits.**—The Mallard is the commonest species of Duck in the British Islands, and may be met with almost everywhere according to season. Its usual haunts are secluded ponds, lakes, reservoirs, brooks, slow-running rivers, marshy moors and commons, and broads, mud-flats, salt marshes, drains and sluices. Except in the extreme northern and colder portions of its range, the Mallard is a resident, but its numbers are largely increased in our islands during winter, arriving in October and November. The same may be said of India, where, although enormous numbers breed in Cashmere, it is a winter visitor to the rest of the country, arriving at the end of October and leaving by the end of March or early in April. Although not very gregarious in India, where it is usually met with in parties of from three to ten, in other parts of the world, as for instance in our islands, it may frequently be observed in very large flocks, composed principally of migratory individuals and often accompanied by Wigeon and Pintails. The Mallard does not frequent deep water much, unless when alarmed. It is fond of the shallows, where it can feed whilst paddling round the margin, and where the water is not too deep for it to reach the muddy bottom with its bill as it turns upside down, keeping its hind quarters erect by incessant motion of the feet as if in the act of swimming. Few birds fly more rapidly than this species; Macgillivray computed its flight at probably a hundred miles per hour. The wings are beaten rapidly and make a whistling sound. As the bird rises from the water it flies in an oblique direction for some distance, but the angle with the level of the water is seldom very acute, either as the bird leaves or regains it. The Mallard swims well and lightly, but it never dives in quest of food, only when wounded or in playful chase of its mate or companions. For the most part this species is a night feeder, and that is the time selected not only for its migrations, but for its many wanderings across country in quest of fresh haunts. It may, however, often be seen feeding during the day. The Mallard is almost omnivorous; to mention the various substances on which it has been proved to feed would be to catalogue almost everything that a bird can eat. In its greedy quest

this Duck often wanders far from the water, visiting stubbles, the open parts of forests, meadows, and even gardens. Its vegetable diet may be said to range from grain and grass to acorns; its animal diet from insects to fish. The note of the Mallard is the all-familiar *quack*; but in the pairing season both sexes utter sounds impossible to express on paper. This Duck is remarkably wary and well able to take care of itself in the British Islands; but in India it is said to be less wary and suspicious, allowing a near approach. Many Mallards and other Ducks are caught by the natives of India in a very ingenious manner. The fowler enters the pool and covers his head with a gourd or basket, then carefully walks under water towards the unsuspecting birds, the gourd apparently floating along the surface. As soon as he reaches the Ducks they are adroitly pulled under one by one, killed at once by a sharp twist of the neck, and slung into a cord worn round the waist. A skilful man will sometimes capture as many as twenty Ducks during one trip. Sometimes the skin of a Pelican is used instead of a gourd.

**Nidification.**—The Mallard is an early breeder, in England commencing to lay in March or early April, but a month or six weeks later in Scotland. Further north, of course, the bird is later, not beginning to lay until June in Finland, for instance; but in Cashmere it is also late, laying in May and the first half of June. I am of opinion this species pairs for life, and the duck and drake are considerably attached to each other even in winter. The nest is built in a variety of situations, and not by any means always in the neighbourhood of water. I have seen the nests in open parts of the forest on ground covered with bracken and studded with clumps of thorn-trees, and also on the barest ground under heather on small islands in the Highland lochs. Occasionally it is built in the deserted nest of a Crow or a Rook, under the shelter of a wall of peat, in a boat-house, in a hollow tree-trunk, or on the top of a pollard; more frequently in a field of corn or a hedge bottom. Very often it is made amongst long coarse grass and sedge by the waterside. The nest is usually made in a hollow scraped in the ground and filled with dry grass, bracken, leaves, or any vegetable refuse easily obtainable, and warmly lined with down and a few small feathers from the breast

and flanks of the female. The eggs are from eight to sixteen in number, twelve being an average clutch. They vary in colour from pale buffish green to greenish buff, are fine and smooth in texture, and with a faint gloss. They measure on an average 2·3 inches in length by 1·6 inch in breadth. Down tufts large and neutral gray with very faint white tips. The female covers her eggs carefully whenever she leaves them ; and if flushed usually flies close to the ground for some distance, hiding herself as soon as possible. She alone performs the task of incubation, which lasts from twenty-six to twenty-eight days. The drake takes no share whatever in bringing up the brood, only one being reared in the season, and is never seen near the nest. When surprised with her ducklings the female sometimes feigns lameness, and devotedly remains by her brood even in the presence of dogs. Numbers of nests of this Duck may be found close together ; I have seen three within as many yards on one small islet. I have never observed any polygamous tendency in this species.

**Diagnostic Characters.**—*Anas*, with the predominating colour of the alar speculum purple. Length, 21 to 24 inches. Original species from which the domestic Duck has descended.

## Family ANATIDÆ.

### Subfamily FULIGULINÆ or DIVING DUCKS, EIDERS AND MERGANSERS.

The birds included in the present subfamily are distinguished from their allies by having a pendent lobe or membrane attached to the hind toe, and the tarsus scutellated anteriorly. All the species contained in this group habitually dive for their food, and are marvellously adept under water. Sexes generally different in colour. Moults similar to that of the Non-diving Ducks, single in females, partially double in males.

This subfamily is composed of about forty species, divisible into some half-dozen genera. Principally Palæarctic, Nearctic, and Neotropical, one Ethiopian and three Australian. Only known in the torrid zone during winter or on passage.

## Genus **FULIGULA** or **DIVING DUCKS**.

Type **FULIGULA CRISTATA**.

**Fuligula** of Stephens (1824).—The birds comprising the present genus are characterised by having the bill broad and flat, furnished with lamellæ, not with saw-like teeth, with the rectrices soft and pliable; and with no patches of emerald green on the head. The former characters separate them from the Mergansers and the Spine-tailed Ducks (non-British), whilst the latter character diagnoses them from the Eiders. The wings are rather short but pointed; tail somewhat variable in shape and in number of feathers. The bill is rather short, and in some species swollen or tuberculated at the base. Three toes in front webbed; hind toe moderate and lobed.

This genus is composed of about twenty-five species, which are mostly distributed in the Nearctic, Neotropical, and Palæarctic regions; two are southern Neotropical, one Ethiopian, and one New Zealand. Twelve species are British.

The Diving Ducks frequent maritime as well as more inland waters, but are most commonly distributed on salt water during winter, though some frequent fresh water always. They are birds of rapid yet somewhat laboured flight; swim and dive with marvellous skill, but walk clumsily. They make their nests, lined with down, either in the ground or in holes in trees, and their numerous eggs range from buff to olive-brown and green in colour. They are monogamous; more or less gregarious in winter.

Family ANATIDÆ.  
Subfamily *FULIGULINÆ*.

Genus *FULIGULA*.

### RED-CRESTED POCHARD.

*FULIGULA RUFINA*—(*Pallas*).

**Geographical Distribution.**—*British*: Rare winter visitor to the British Islands, chiefly to England. Perhaps fifty examples have been either obtained or seen in the United Kingdom; of these no less than eighteen were observed in a single flock on the Thames, near Erith. Most frequently observed in the district lying between the Thames and the Humber, especially Norfolk, which has contributed some eight or nine examples. Odd birds have been obtained as far west as Devon, Cornwall, and Pembroke, and as far north as Northumberland. One example is recorded from Scotland (Argyllshire, January, 1862), and one from Ireland (Co. Kerry, January, 1881). *Foreign*: South-western Palæarctic region; Oriental region in winter. Of only accidental occurrence in the Baltic Provinces, Pomerania, Poland, Denmark, Holland, Belgium, France, and Switzerland. Breeds locally in the Spanish peninsula, chiefly in the east, in the Balearic Islands, Sardinia, Sicily, Italy, Central and Southern Germany, the valley of the Danube, and Southern Russia. South of the Mediterranean it breeds on the lakes of Northern Africa, but becomes very rare in the east. In Asia it breeds in Turkestan and North Persia. Rare winter visitor to the extreme east of the Mediterranean. The birds breeding in Turkestan and Persia pass through Afghanistan on migration, and winter in India.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Red-crested Pochard may be taken.**—August 1st to March 1st.

**Habits.**—In the warm districts of the Mediterranean basin the Red-crested Pochard is a resident, but further east in the much more rigorous climate of Russian Turkestan it is a migrant, and in autumn retires southwards to India to spend the winter. These two countries are its greatest head-quarters; nowhere else is it so abundant. Its migrations into India begin towards the end of October, and gradually the bird spreads south through November, not reaching the extreme limits until early in December. It leaves the most southerly districts towards the end of March, and the northern provinces during the first half of April. The Red-crested Pochard is a thorough fresh-water Duck, and haunts by preference still deep broads and lakes where the bottom is full of weed and the shore covered with coarse grass, sedge, and rushes. It also frequents the wide, slow-running reaches of rivers where plenty of submerged weeds grow near the shore. Hume states that it sometimes pays fleeting visits to any streamlet pool whilst on passage. At its winter quarters it is decidedly gregarious, usually forming into flocks of from ten to thirty birds, but sometimes they congregate thousands strong on very large sheets of water. This Duck is remarkably shy and wary, taking wing the moment danger threatens, and is considered by those sportsmen who have had much experience with it to be the most troublesome fowl to work. Very rarely flocks composed entirely of males have been seen, but as a rule the sexes congregate indiscriminately. The flight of this Pochard is strong and rapid, but the bird is slow to get under weigh, and flies rather heavily. The rustle made by the rapid beats of its short wing is a very characteristic rushing sound, enabling the experienced sportsman to identify the bird as it passes overhead in the darkness. The Red-crested Pochard is perhaps most at home in the deep water where it dives for its food, disappearing from time to time with remarkable speed, and with a pertinacity unsurpassed. It obtains most of its food by diving, and rarely visits land to feed, although Hume remarks that he has sometimes met with it walking about the banks a few yards from the water's edge, searching for insects and grazing. Although it may be constantly seen feeding by day, much of its food is obtained at night, and many birds start off at dusk to visit localities where food is more plentiful than in the

haunts they affect in the daytime. It is at night, too, that they chiefly move from place to place, as is proved by the frequency that they are killed by the flight shooter. The food of this beautiful Duck is principally composed of the roots, stems, leaves, and juicy rhizomes of aquatic plants, arrow-grass, sagittarias and horn-worts; but insects and their larvæ, worms, mollusks, frogs, fish spawn, and occasionally small fish are eaten. The Red-crested Pochard is most active in search of food early in the morning, but during the great heat of the Indian day they frequently float out into the centre of the water to sleep, and here they are usually very quiet. The call-note of this species is a deep grating *kurr*; but the males in addition now and then utter a whistling cry, both on the water and during flight. The flesh of this Duck varies considerably in quality for table purposes, probably a good deal owing to diet.

**Nidification.**—The breeding season of the Red-crested Pochard commences late in April or early in May in some localities, not before June in others. The nest is rarely made far from the water, and an island covered with flags and other aquatic vegetation is selected where possible. It is made amongst the herbage on the ground, of dead rushes, leaves, and other vegetable refuse, and lined with a warm bed of down from the female's breast. Nests found by Canon Tristram in Algeria are described as being like that of the Coot, but not so large. The eggs are from seven to ten in number, and described by Mr. Salvin as "a most brilliant fresh green colour when unblown; the contents were no sooner expelled, and the egg dry, than the delicate tints were gone, and their beauty sadly diminished." They are grayish olive after being in collections for some time, and measure on an average 2·3 inches in length by 1·6 inch in breadth. Down tufts apparently undescribed. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the head and upper neck chestnut, and the bill vermilion (adult male); with the axillaries white, with no white alar speculum, and with the head and neck yellowish white speckled with black (adult female). Length, 20 to 22 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

### WHITE-EYED POCHARD.

FULIGULA NYROCA—(*Güldenstädt*).

**Geographical Distribution.**—*British*: Rare and irregular straggler on spring and autumn migration, most frequently met with in the eastern counties of England. Norfolk heads the list with upwards of a score examples; others have been obtained in Suffolk, Cambridgeshire, Nottinghamshire, and Yorkshire. Northumberland, Cumberland, and Lancashire, Dorset, and Devon, can each claim an example; Radnorshire another; and Oxfordshire no less than four. There are two occurrences on record for Scotland, and four for Ireland. *Foreign*: Southern Palæarctic region; parts of Oriental region in winter. Of only accidental occurrence in the Canaries, Denmark, and the Baltic Provinces. Breeds throughout Europe in suitable localities as far north as Holland, Germany, and in Russia up to Moscow, Kazan, and Ekaterinburg. Only found in summer in the northern portions of this area, but resident in the basin of the Mediterranean (although it is not known to breed in Egypt), Black and Caspian Seas, its numbers being increased in winter. In Asia, Finsch is the only authority for the occurrence of this species in Siberia, where he states positively that he saw it as far north as the Arctic Circle, in the valley of the Obb. It breeds, however, throughout Turkestan and Cashmere, and most probably in Mongolia and Mantchooria north to the Amoor. Many of these Asiatic birds pass through Afghanistan on migration and winter in India and Northern Burma; others pass that season in Northern China and Japan. I have myself examined examples of this bird sent from Japan by Messrs. Blakiston and Pryer; but

Mr. Saunders, for some unknown reason, appears dubious over its occurrence in these islands.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the White-eyed Pochard may be taken.**—August 1st to March 1st.

**Habits.**—The movements of the White-eyed Pochard are almost exactly similar to those of the preceding species. Like that bird the present Duck is sedentary in the warm climate of the Mediterranean basin, but migratory further east in the colder regions of Turkestan. In Cashmere it is chiefly a resident, but to the remainder of India it is a well-known and abundant winter visitor, arriving towards the end of October and leaving in March and April. Its haunts are very similar to those of the Red-crested Pochard, moderately deep broads and lakes where weeds abound, and occasionally rivers and ponds. Hume states that in India it is very seldom seen in open water, clinging to the cover of the reeds and rushes, but certainly in other parts of the world it may as often as not be observed far out from shore in the exposed portions of its haunt. It is also loth to rise from its retreats, skulking close among the aquatic vegetation until compelled by the advancing boat to rise. Its flight is moderately quick, the bird rising with considerable effort, invariably against the wind, and very often after flying in a straight course for a little way dropping suddenly into cover again. This Duck is not seen much on land, and its waddling gait is said to be even more clumsy than that of its congeners. The water is the home of the White-eyed Pochard, and there it swims well and quickly, and dives, according to Hume, with Satanic speed. "Indeed," he writes, "what becomes of them is often a puzzle; the instant that, wounded, they touch the water, they disappear, and not unfrequently that is the last you see of them; at most they only rise once or twice, and then disappear for good. It is a waste of time to pursue them; if they do rise give them instantly a second barrel." In India this Duck is not very gregarious, the flocks, even when large, being scattered about here and there among the cover, never rising *en masse* but individually or in twos and threes as the birds may chance to be flushed. In

Egypt, however, the very reverse is the case. There Captain Shelley observed them in vast compact flocks, keeping to the centre of the lake, and the noise made by their beating wings and pattering feet striking the water as they rose, was audible for a distance of two miles! The White-eyed Pochard obtains most of its food by diving and bringing up the weeds to the surface, where they are eaten. Sometimes it remains under the surface for nearly two minutes, but when feeding half that time is the usual period. Occasionally it feeds on the surface, picking at the floating weed or the insects and shells clinging to the leaves. It is for the most part a day feeder, and where plenty of food is available seldom wanders from its haunts; in districts, however, where the water is not very well stocked, it starts off at dusk to better quarters, but this appears to be quite exceptional. The food of this Duck is composed principally of vegetable substances, aquatic plants, seeds of grass, rushes, and sedge; but insects and their larvæ, small mollusks, shrimps, worms, grubs, and even tiny fish are eaten. The note of this Pochard is described as a harsh *kirr kere kirr*, invariably uttered as the bird rises startled from the cover. The flesh of the White-eyed Pochard is said by Hume to be very inferior; but Isby, on the other hand, informs us that it is excellent. Either this is purely a matter of taste, or difference in the food of the bird.

**Nidification.**—The White-eyed Pochard is a late breeder in the extreme eastern and southern portions of its range, not laying before June; but in Spain and Central Europe it is at least a month or five weeks earlier. The nest is usually made among the reeds and rushes at the margin of the pool, either on land, or more or less floating on masses of rotten fallen vegetation or drifting weed. Occasionally, however, it is built on a tuft of sedge or rush; and it has been found carefully concealed in a bush several feet from the ground. It is made of dry rushes, sedge, and other vegetable refuse, the finer materials being used for the interior, which is again lined with down and a few feathers from the body of the female. The eggs are from eight to fourteen in number, ten being an average clutch, and are pale creamy brown, a delicate *café au lait* hue, faintly tinged with green. They

are smooth and fine in texture, but show little gloss, and measure on an average 2·1 inches in length by 1·49 inch in breadth. Down tufts rather small and very dark brown; but Lord Lilford, I notice, describes it as "brownish white" in a nest from which the female was shot in Southern Spain. Incubation, performed by the female, is said by Favier to last thirty days; Naumann affirms twenty-two to twenty-three days. It is not known that more than one brood is reared in the year.

**Diagnostic Characters.** — (Nuptial plumage), *Fuligula*, with the head, neck, and upper breast rich chestnut, with a white alar speculum, and with the bill dark lead-blue or bluish black (adult male); with a white alar speculum, with the head and neck pale chestnut, and with the under tail coverts and axillaries white (adult female). Length, 16 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

## POCHARD.

FULIGULA FERINA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Common winter visitor, but many remain in spring to breed in our islands. Abundant in Scotland, including the Orkneys and Shetlands, but rarer in the Outer Hebrides. Breeds very locally in South Perthshire and in Fifeshire. Equally common in Ireland in winter, and has been known to breed in the counties of Sligo, Antrim, and Tipperary. Commonly distributed in England between autumn and spring, and breeds in Lancashire, the East Riding of Yorkshire, Norfolk, some of the midland counties, and Dorset. *Foreign*: West-Central Palæarctic region; parts of Oriental region in winter. Accidental in the Faroes, Iceland, and Scandinavia. Breeds across Europe and Asia from the British Islands in the west to Lake Baikal in the east, as far north as Lake Ladoga, and as far south as the Caucasus in Europe, but in Asia not further north than Lake Baikal, southwards to North-western Mongolia and the lakes and swamps of South-western Siberia. Great numbers of the European birds winter in the basin of the Mediterranean; and it is said that a few used to breed in Spain and Algeria. The Asiatic birds pass Turkestan on migration, and winter in Asia Minor, Persia, Afghanistan, India, and China. It was observed by Przevalsky on migration in South-eastern Mongolia, and occurs accidentally in Japan.

**Allied Forms.**—*Fuligula Americana*, an inhabitant of the Nearctic region, considered by some authorities to be of doubtful distinctness, but by others to be worthy of specific rank. Distinguished from the Pochard by having the back grayer in colour,





1. POCHARD.

2. COMMON EIDER.

3. GOOSANDER.

by its unvermiculated white belly, reddish purple gloss on the neck, and by having no black at the base of the bill. The world-famous Canvasback (*F. vallisneria*) of North America is somewhat closely allied to the Pochard.

**Time during which the Pochard may be taken.**—August 1st to March 1st (March 15th in Essex).

**Habits.**—The Pochard is best known as a winter visitor to the British Islands, arriving in October and leaving in March and April. These dates also correspond very well with the bird's arrival in and departure from India, although it is a few weeks later in the extreme southern limits of its distribution there. Although met with commonly enough in our islands on the coast in winter, in other localities it is almost exclusively confined to fresh water during that season. In India it prefers reedy meres and broads of moderate depth, where there is a considerable breadth of open water. Here it congregates in vast flocks, often covering acres of water in extent. Like its congeners the Pochard is a thorough water bird, spending most of its time swimming and diving. It is comparatively rarely seen on land, where it walks in an awkward, waddling manner, but in the water it is the embodiment of easy grace, swimming rapidly, if rather low, diving with as much skill as a Grebe or an Auk, or chasing its companions in sportive mood under and above the surface. Its flight is rather quick when once the bird gets fairly under weigh, but at first its movements are rather slow and laboured, and it rises with some apparent difficulty, against wind if possible, the wings making a very characteristic rustle as they rapidly beat the air. The Pochard feeds both by day and by night, but perhaps the most regularly and persistently during the latter. As is usual with many other species of Duck, a considerable flight is often undertaken at dusk by birds frequenting waters where food is not very plentiful to waters better stocked. This Pochard obtains the greater part of its food by diving and bringing up masses of weeds which are eaten after they are brought to the surface. It is principally a vegetable feeder, and water weeds and marine plants its favourite fare. It also eats considerable numbers of insects, worms, small fresh-water shells, and young frogs; and when frequenting the coast, crus-

taceans and mollusks. Shot from fresh water the Pochard is excellent for the table, but birds killed on the coast are rarely palatable, owing to the stronger nature of their food. The note of this Pochard is a rather loud and harsh *kurr*.

**Nidification.**—The breeding season of the Pochard in our islands is in May, and fresh eggs may be obtained all through that month and the first half of June; further south they are nearly a month earlier still. The nest is always near fresh water, amongst the coarse grass and sedge and flags growing round the margins of pools and lakes, and in many instances is a floating structure, built on a mass of fallen vegetation many yards from shore, in moderately deep water, or in a tuft of sedge surrounded by shallow water. The nest is made of dry grass, sedge, broken rushes and flags, or any other aquatic vegetable refuse that may chance to be readily available, warmly lined with down and a few feathers from the body of the female. The eggs are from eight to twelve, or even fourteen in number, ten being an average clutch, and are greenish gray in colour. They measure on an average 2·4 inches in length by 1·7 inch in breadth. Down tufts large, grayish brown in colour, with dull white centres. When the female leaves the nest she carefully covers the eggs; and to her alone is left all care of the brood.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the head and neck chestnut, and the lower back and scapulars white vermiculated with black (adult male); with the axillaries white, with a varying amount of white vermiculations on the upper parts, and with no white alar speculum (adult female). Length, 17 to 19 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

## SCAUP.

FULIGULA MARILA—(*Linnæus*).

**Geographical Distribution.**—*British*: Common winter visitor confined to the coasts and estuaries, where it is widely distributed. Least common in the Hebrides, and rare on the south coasts of Ireland. Occasionally seen in summer in the Shetlands and other parts of Scotland. The very circumstantial account of this species breeding on Loch Leven, by Mr. A. C. Stark, published in the *Proceedings of the Royal Physical Society of Edinburgh* (vii. p. 203), and quoted by Mr. Saunders in his *Manual of British Birds* (although afterwards corrected in his appendix), turns out to be a myth, there being no doubt whatever that the Tufted Duck had been confused with and mistaken for it!  
*Foreign*: Circumpolar, northern Palæarctic and Nearctic regions, more southerly in winter; parts of Oriental region in winter. Breeds in the Faroes and still more commonly in Iceland. Breeds throughout the Arctic regions of Europe and Asia from the Atlantic to the Pacific as far north as lat.  $70^{\circ}$ , and at high elevations on the mountains of South Scandinavia. In America it breeds as far north as lat.  $70^{\circ}$  from east to west, but not lower than the Hudson Bay Territory. The European birds winter on the coasts of the Baltic, those of the southern German Ocean, not so commonly on the Spanish coasts and the basin of the Mediterranean, but becoming more frequent in the Black Sea and on the south coasts of the Caspian. In North-east Africa it has been met with as low as Abyssinia. The Asiatic birds appear to winter in Persia, North-western India, the Lake Baikal district, China, Formosa, and Japan. The American birds winter on the great

lakes and rivers of the interior as well as on the Atlantic and Pacific coasts of the United States, down to Mexico and Central America.

**Allied Forms.**—*Fuligula affinis*, a small race confined to the Nearctic region (measuring  $1\frac{1}{2}$  inches less in length of wing than large European birds, and three-quarters of an inch less than small ones) of very doubtful distinctness. As the two forms intergrade, and as their geographical area on the American continent is the same, the most that can be claimed for them is a subspecific distinction.

**Time during which the Scaup may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Scaup begins to arrive on the most northerly coasts of the British Islands in September, but is nearly a month later in the south. The return migration begins in March and lasts through April into May, the Scaup being among the last of the migratory Ducks to leave our coasts. In the Arctic regions it arrives with the break-up of the ice towards the end of May, or early in June. The Scaup during winter is for the most part a dweller on or near the sea, resorting to quiet bays and estuaries, especially where a considerable amount of mud is exposed at low tide. It may, however, be frequently met with on fresh inland waters at that season, and in summer is fond of lakes and wild, swampy districts. During winter this Duck often congregates into large flocks, and associates with various other species, notably with Wigeon and Pintail; whilst in summer it still remains very sociable and gathers into parties to feed. Like all its allies it is an accomplished diver, and spends most of its time on the water, where it swims well and rather high, but if alarmed it slowly sinks much lower. As a rule it prefers to dive rather than to fly in avoiding pursuit. When flushed it rises slowly and with considerable splashing effort, but when once well up it progresses with considerable speed, its short, quickly-beating wings making a whistling or rustling sound. The call-note of this Duck is a most harsh and discordant *scaup*, but an equally hoarse and grating *kurr* is uttered especially during flight or under sexual excitement. The food of the Scaup, which is mostly obtained by diving, consists of

mollusks, crustaceans, and great quantities of marine weeds growing in the haunts the bird frequents. Probably in summer it is more of a vegetable than an animal nature. Sometimes when diving for food the Scaup will remain under the surface for quite a minute. The Scaup feeds a good deal at night, and like most other Ducks that habitually do so, it passes regularly from its usual haunts to its feeding grounds.

**Nidification.**—The breeding season of the Scaup commences in May in some localities where the climate is open, but a month later in the colder regions of Northern Europe and Asia. It is most probable that this Duck pairs for life, as all the winter it may be noticed swimming in pairs, and even the large flocks are made up of about equal numbers of ducks and drakes. The nest is made by the waterside among willows and junipers, or on a bank where the ground is clothed with sedge tufts and various species of the order Ericaceæ, or bilberries, cranberries, and the like. In Iceland Proctor found it among large stones near the water's edge. The nest is made in a hollow in the ground of dry grass, bits of sedge, and withered leaves, warmly lined with down as the eggs are deposited. The usual number of eggs is eight or nine; but where several females lay in the same nest, as is sometimes the case, Dr. Kruper found as many as twenty-two. They are pale greenish gray, and measure on an average 2·6 inches in length by 1·7 inch in breadth. Down tufts large, dark brown in colour, with pale centres. Only one brood is reared in the year, the female taking all charge.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the crown and neck metallic green and purple, and the lower back and scapulars white vermiculated with black (adult male); with a white alar speculum and axillaries, and with a varying amount of white vermiculations on the upper parts (adult female). Length, 18 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

## TUFTED DUCK.

FULIGULA CRISTATA—(*Leach*).

**Geographical Distribution.** — *British*: Fairly common winter visitor to most of the low-lying coasts as well as to many inland waters. Breeds locally throughout the British Islands, and in numbers which are steadily increasing in many districts. British breeding area—England: Nottinghamshire (Newstead, Clumber, Rainworth, Welbeck, and Rufford), Norfolk, Sussex, Dorset, Hertfordshire, Shropshire, Yorkshire, Lancashire, and Northumberland. Scotland: Roxburghshire, Perthshire, Kinross-shire, and Aberdeenshire. Ireland: Loughs Neagh and Beg, and in some parts of Co. Monaghan. *Foreign*: Palæarctic region; parts of Oriental region in winter. Said to breed sparingly in the Faroes, and to have occurred in Greenland. In Europe the regular breeding area of this species reaches little if any above the Arctic Circle, although the bird has been obtained in Scandinavia up to lat.  $70^{\circ}$ . Southwards it breeds in all suitable localities to about lat.  $50^{\circ}$ . Eastwards its regular breeding area scarcely reaches the Arctic Circle in the west, although the bird has been obtained in the valley of the Yenesay up to lat.  $68^{\circ}$ ; whilst on the Pacific coast it drops down to lat.  $62^{\circ}$ . Breeds throughout Southern Siberia; the Asiatic birds wintering in Japan, China, and India. The European birds winter in South Europe and Northern Africa as low as Abyssinia.

**Allied Forms.**—*Fuligula collaris*, an inhabitant of the Ne-arctic region, and the New World representative. Distinguished from the Tufted Duck by its much shorter crest, chestnut collar, and pale gray instead of white speculum.

**Time during which the Tufted Duck may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—During its sojourn in our islands the Tufted Duck is for the most part a coast bird, those that frequent inland waters being the resident individuals that breed with us, or birds that have been enticed by them. The Tufted Duck makes its appearance in the British Islands towards the end of October or early in November, and remains until the following March or April. They arrive at their Arctic haunts with the thaw and leave in September and October. Their arrival in and departure from India is at about the same time as in England. The principal haunts of this Duck with us are the low-lying coasts, especially in the neighbourhood of mud-banks and estuaries. In India it prefers large sheets of water with plenty of weed at the bottom and plenty of reeds and rushes round the margin. Odd pairs and small parties also frequent the smaller ponds where food and cover are suitable; but the large flocks of this bird that congregate in that country in the cold season, sometimes ten thousand strong, are invariably found on the extensive sheets of water. The Tufted Duck migrates at night, generally in large flocks, and on passage will often pay a fleeting visit to some lake or pool *en route*. It is also nocturnal in its habits, seeking most of its food at night, in this country, but, curiously enough, Hume remarks that they are day feeders in India. The flight of this Pochard is rapid and well sustained, smooth and easy, but the rapidly-beaten wings make a characteristic rustling sound. In rising the bird strikes the water with its feet something like a Coot, so that when a large flock takes wing together the splashing can be heard for a long distance. It swims well and rapidly, sitting rather low in the water, and, of course, dives with marvellous speed and skill, sometimes remaining below for a minute or more. During the day the Tufted Duck usually keeps well out from shore, often sleeping and preening its plumage whilst in the centre of the lake. It rarely visits land, and always tries to evade pursuit by diving if possible; and Hume states that after a gun has been fired, he has seen a large flock of several hundred birds dive simultaneously as if moved by a common

impulse ! The Tufted Duck is not a very noisy bird, especially during winter, but occasionally utters a harsh *kurr-kurr* as it rises alarmed from the water. The food of this species consists of aquatic insects, worms, grubs, lizards, frogs, spawn, and small fish ; whilst the roots, stems, leaves, and buds of water plants are also eaten. After having fed inland chiefly on vegetable diet, the flesh of this Duck is by no means unpalatable, but birds shot on the coast are rank and fishy in flavour.

**Nidification.**—The breeding season of the Tufted Duck commences about the middle of May in some localities, the end of May or early in June in others. Its favourite breeding grounds are on the banks of meres and lakes, and in marshy districts full of small ponds. This Duck may probably pair for life, as in districts where the fact can be observed the duck and drake swim and fly in company for the greater part of the year. The nest is either built amongst the rushes, in the centre of tufts of sedge, in long, coarse grass, or under a stunted bush, always, however, near the water. It is merely a hollow in which is arranged a little dry grass or other vegetable refuse, and lined with plenty of down from the female. The eggs are usually eight or ten in number, sometimes several more are found. They are greenish buff, smooth in texture, and rather polished, and measure on an average 2'3 inches in length by 1'6 inch in breadth. Down tufts small, dark grayish black with obscure pale centres. But one brood is reared in the year, and the female takes sole charge of the young. Incubation lasts from twenty-five to twenty-eight days.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the crown and neck metallic green and purple, with a conspicuous crest, and with only dust-like traces of vermiculations on the upper parts (adult male) ; with white axillaries and alar speculum, and with dark brown unvermiculated head, neck, and upper parts (adult female). Length, 16 to 17 inches.

Family ANATIDÆ.  
Subfamily *FULIGULINÆ*.

Genus *FULIGULA*.

### BUFFEL-HEADED DUCK.

*FULIGULA ALBEOLA*—(*Linnæus*).

**Geographical Distribution.**—*British*: Very rare straggler. Its claim to rank as “British” rests on the following evidence. England: Norfolk (1 example), winter, 1830; Yorkshire (1 example), winter, 1864-65. Scotland: Aberdeenshire (1 example), January, 1865; Loch Strathbeg (1 example), no date. Ireland: although there is some evidence that this species has visited Ireland, nothing can be stated positively until an example is secured. *Foreign*: Northern Nearctic region; more southerly in winter. Breeds throughout Arctic America up to the limit of forest growth, and as far south as Maine and Wisconsin. It winters in the United States, California, the West Indies, and Mexico. It occasionally visits the Bermudas on passage, and has occurred in Greenland on the east, and Behring Island on the west.

**Allied Forms.**—None nearer than *Fuligula glaucion* and allied races, a British species, and dealt with fully in the following chapter.

**Time during which the Buffel-headed Duck may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—So far as they are known, the habits of the Buffel-headed Duck resemble very closely those of its near ally, the Golden-eye. Like that species it is much attached to inland waters, and only appears to seek the sea when its other retreats are sealed by ice. It flies well and strongly, swims quickly, and dives with such astounding speed that in some localities it is

known by the name of "Spirit Duck." Its note is a somewhat grating and feeble *kurr*. The food of this species consists of the buds, roots, stems, and leaves of aquatic plants, worms, mollusks, crustaceans, etc. Most of this is obtained by diving. In winter this Duck usually consorts in small flocks, but sometimes gathers into greater numbers during severe weather when its feeding grounds are more restricted.

**Nidification.**—According to latitude and climate the breeding season of the Buffel-headed Duck begins in May or June. Like the Golden-eye it breeds in hollow trees, sometimes as many as twenty feet from the ground. No particular species of tree seems selected; all that is desired is a suitable hole. No nest is made, and the eggs are laid on the decayed powdered wood at the bottom of the hole, which is, however, eventually lined with down, plucked from the body of the female. They are from six to ten in number, and pale greenish gray in colour. They measure on an average 2.0 inches in length by 1.45 inch in breadth. Although several observers have been very careful to inform us that the nest hole contained a quantity of down, none of them have deemed it sufficiently important to describe it; it probably resembles that of the Golden-eye. Whether the male takes any share in domestic duties is unknown, as is also the period of incubation.

**Diagnostic Characters.** — (Nuptial plumage), *Fuligula*, with the axillaries brown, and with a large white patch on the side of the head, commencing behind the eye (both sexes). Length, 14 to 15 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

### GOLDEN-EYE.

FULIGULA CLANGULA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Common winter visitor to the coasts and inland waters of the British Islands, including the Orkneys and Shetlands, but in the Outer Hebrides it is perhaps less numerous. Equally common in Ireland, both inland and on the coast. The statement that this bird has bred in a hollow tree in Sutherlandshire is still unconfirmed, as is also Saxby's opinion that it bred in the Shetlands. *Foreign*: Circumpolar, northern Palearctic and Nearctic regions, more southerly in winter; small portion of Oriental region in winter. Rare in the Faroes, and only recently proved to inhabit Iceland. Breeds throughout the Arctic and subarctic regions of Europe and Asia as far north as the limit of forest growth. In Europe it breeds as far south as Northern Germany, Pomerania, and the Caucasus; in Asia it does so throughout Siberia south of the limits already given. During winter it visits the coasts of Western Europe and the basin of the Mediterranean, but is very rare on the southern shores. The basin of the Black and Caspian Seas are also winter quarters of this species. The birds breeding in Siberia pass Mongolia on migration (although those inhabiting the Baikal basin are said to be resident, and many remain to winter in Mongolia), and spend the cold season in Turkestan, Upper India, China, and Japan. In the Nearctic region it breeds in British North America and Alaska, up to the limit of forest growth, and winters in the Southern States, Mexico, and parts of the West Indies.

**Allied Forms.**—The Nearctic Golden-eyes have been

separated from the Palæarctic individuals by American ornithologists under the name of *Fuligula glaucion americana*, because they are said to be a trifle larger. Whether this race is worthy of subspecific rank is yet by no means proved. *F. islandica*, an inhabitant of much the same area in the Nearctic region as *F. glaucion*, but extending to Greenland and Iceland. Distinguished from the Golden-eye by having the white on the sides of the head, extending in the form of a crescent in front of the eye: females and young birds are indistinguishable from those of the Old World species. This species has been included in the British list on the faith of a *female* example, said to have been shot at the mouth of the Derwent! There is no evidence whatever to confirm this.

**Time during which the Golden-eye may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Golden-eye is certainly more addicted to fresh water than the sea, and so long as its inland haunts remain open it remains upon them; continued frost sends it to the coast, where it is most partial to low-lying muds and estuaries. This Duck arrives on the British coasts and inland waters about the middle of October and remains with us until the following April, although immature birds have been noticed as late as the end of May. Prjevalsky found small numbers of these birds wintering on Lake Hanka, on the open part of the river Sungatch in Mongolia (N. lat. 44°); but late in March and early in April they become very plentiful. At the large lake of Koko-Nor (N. lat. 37°), situated at an elevation of 10,000 feet, they arrived on the 4th of March and became numerous towards the middle of the month; whilst at Dalai-Nor (in N. lat. 43°) they arrived at the end of March and early in April, congregating on those parts of the lake that were free from ice. The migration south in autumn takes place in September and October. Stoliczka observed numbers at Lake Sirikul, on the Pamir, at an elevation of 10,000 feet, in May, when most of the water was covered with ice. From these facts it will be gathered that the Golden-eye is a hardy species, apt to linger in its favourite haunts until the frosts seal them and stop its food supplies, and returning

as soon as open water is to be found. The Golden-eye is not a very gregarious bird, and its flocks are generally small, but in restricted feeding areas it is apt to congregate in larger numbers. Like all its congeners it dives with wonderful skill, swims well and lightly, but is apt to sink its body lower when alarmed. Its flight is strong and rapid, and the bird usually strikes its feet in the water several times until fairly off, especially when there is no wind; then, however, it is seen to get up with little effort. The wings as they rapidly beat the air make a peculiar rushing whistling sound, hence the bird's specific name of *clangula*. This Duck almost invariably seeks to escape sudden danger by diving and appearing again at a much safer distance. It is ever a vigilant bird, and even when a small flock is busy feeding, they never all dive together, one or two remaining on the surface to watch over the rest. The Golden-eye does not visit the land much, and there its waddling gait is clumsy and awkward enough; it spends most of its time on the water. At its breeding grounds, however, it frequently perches on trees, probably because it makes its nest in holes in their limbs and trunks. The note of the Golden-eye is a low, croaking *kurr*, uttered during flight as well as when at rest. The food of this species, which is mostly obtained by diving, consists of small fish, crustaceans, testaceous mollusks, insects, and various aquatic weeds and plants. Its flesh is not only dark in colour but unpalatable.

**Nidification.**—The breeding season of the Golden-eye begins soon after the ice breaks up in its Arctic and subarctic haunts towards the end of May, and the eggs are laid from that date onwards until near the end of June. It is very probable that this Duck pairs for life and uses the same nesting site annually. The eggs are laid in holes of trees, often as much as twenty-five feet from the ground, although Naumann asserts (probably where suitable holes cannot be found) that this Duck frequently makes its nest amongst rushes and other aquatic vegetation, and on the top of a pollard, either near the water or at some considerable distance from it. When in a hole, no nest is made beyond a warm and plentiful lining of down and a few feathers plucked from the body of the parent. It should be remarked that the

Golden-eye never attempts to bore a hole for itself, but selects one ready for the purpose, often the deserted nest of a Black Woodpecker. The Lapp and Finnish peasants are in the habit of placing boxes and hollow trunks for this bird to breed in, and from which they regularly and judiciously remove the eggs. The partiality of this bird for a nesting site near a waterfall or quick-flowing stream has been noticed by several observers. The eggs are usually from ten to thirteen in number, but exceptionally as many as nineteen have been found. They are bright grayish green, smooth in texture, and somewhat glossy, and measure on an average 2·3 inches in length by 1·6 inch in breadth. Down tufts moderate and pale lavender-gray in colour, with paler and obscure centres. The young are conveyed to the water one by one, pressed between the female's bill and her breast. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the head and upper neck metallic green, with a white patch at the base of the bill, not extending above the eye, and with the scapulary region striped with white (adult male); with the axillaries brown, with a white alar speculum, and with the under tail coverts white (adult female). Length, 16 to 19 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

## HARLEQUIN DUCK.

FULIGULA HISTRIONICA—(*Linnæus*).

**Geographical Distribution.**—*British*: Very rare and accidental straggler to the British Islands. Out of a score or more examples recorded as “British,” only about half-a-dozen have withstood the test of a searching inquiry into their antecedents (*Conf.* Prof. Newton, *Ibis*, 1859, p. 162, and J. H. Gurney, *Rambles of a Naturalist*, p. 263). The claim of this species to rank as “British” rests on the following what appears to be thoroughly reliable evidence. Scotland: Lewis (?) (2 examples, recorded by Montagu in 1802, and presented to Mr. Sowerby, by whom they were figured in his *British Miscellany* in 1806); Aberdeenshire (1 example), 1858, a male in full adult plumage. England: Yorkshire (1 trustworthy example, found dead in the autumn of 1862, and 2 others with no date, which are not worthy of credence); Northumberland (3 seen, 2 secured, both young males), December, 1886. *Foreign*: Eastern Palæarctic and Nearctic regions. Probably a Nearctic species that has only comparatively recently extended its range into the Old World. Resident in Iceland, and breeds in Greenland, south of the Arctic Circle. Breeds across the North American Continent from about the Arctic Circle south to lat. 45°. Thence it is a resident in the Aleutian Islands, and probably breeds in Kamtschatka, the Stanavoi Mountains, the valley of the Amoor, and the Baikal district. The evidence of the occurrence of this species further west is extremely meagre and unsatisfactory. Sabanæeff states that it breeds in the Ural and Yaroslav; Eversmann records it also from the Ural, and Nordmann from Finland. It is said by

Hencke to be rare in summer near Archangel, and a single example has been obtained off the coast of Sweden. The birds breeding in Eastern Siberia draw south in winter to the Kurile Islands and Northern Japan; those breeding in America visit the Great Lakes and the Middle States during that season.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Harlequin Duck may be taken.**

—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The migrations of the Harlequin Duck are not very regular or extended, and the bird appears to winter as far north as it can find open water. During summer it is for the most part an inland species attached to fresh water, but at the approach of winter it wanders seawards, and is then principally observed in the sheltered bays and inlets of rocky coasts. In summer this Duck lives in scattered pairs, but in winter it congregates on the sea in considerable flocks. It swims well and is a most accomplished diver, some of its aquatic gambols being remarkably beautiful, as it floats amongst the surf like an Eider, or darts through the waterfalls in sportive play or in quest of food. As is usual with these diving Ducks the present species always tries to evade pursuit by darting under the surface, and, when alarmed, sometimes sinks its body so low that little more than the head is exposed to view. Notwithstanding it flies well and rapidly, with wings beating the air so quickly as to make a characteristic whistling sound. The note of this Duck appears to be undescribed, except on hearsay evidence; but most reliable authorities agree that the bird is remarkably silent at all times. It is said to be a rather tame and confiding species, numbers being easily killed. The food of the Harlequin Duck consists of insects, both marine and fresh-water, crustaceans, mollusks, and small fish. This Duck does not appear to be much of a vegetable feeder, although some naturalists assert that it eats various aquatic plants and weeds. Its flesh by some authorities is said to be excellent, by others the reverse, doubtless owing to the nature of the food on which it has been living previously to being killed.

**Nidification.**—The breeding season of the Harlequin Duck

commences towards the end of May or early in June, at the beginning really of the short Arctic summer. Its breeding haunts are said to be on the banks of rivers, and the nest to be placed on the ground close to the water. Only the most meagre details have been recorded, even by observers who profess to have seen the nest, and that and the down are, so far as I can learn, absolutely undescribed. The eggs are said to be from eight to ten in number; they are creamy white in colour, smooth, and rather glossy. They measure on an average 2·2 inches in length by 1·7 inch in breadth. The broods and their parents in some cases apparently keep together all the winter; but it is not known whether the drake takes any share in bringing the young to maturity.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with a metallic purple alar speculum, and the scapulary region striped with white, and with broad white crescentic bands across the lower neck and breast (adult male); with the axillaries gray, with the under tail coverts dark brown, with a white spot on the forehead and another behind the eye, and with the bill less than 1·5 inch in length (adult female). Length, 14 to 17 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

## LONG-TAILED DUCK.

FULIGULA GLACIALIS—(*Linnæus*).

**Geographical Distribution.**—*British*: Fairly common winter visitor. Only sparingly distributed round the English coasts, especially on the west and south. In Ireland it is equally uncommon, being rare in the south, and of irregular appearance in the west and north. Becomes most numerous in Scotland, both on the east and west, and in the Orkneys and Shetlands, examples having been met with in summer in the latter locality. Throughout the Hebrides it is a well-known and at times even abundant species. Sometimes visits us in unusual numbers, during exceptionally severe weather in the North Sea basin. *Foreign*: Circumpolar, northern Palæarctic and Nearctic regions; more southerly in winter. Breeds throughout the Arctic zone above the limits of forest growth, and in a similar climate at high elevations in Scandinavia, in Iceland, and perhaps the Faroes. Its northern range appears to extend as high as land is known, and possibly reaches the North Pole. Winter migrations are not very extended, but at that season it visits the Faroes, the Baltic, the North Sea basin, and much more rarely that of the Mediterranean Sea, where it has occurred on the Italian lakes and on the coasts of the Adriatic. Eastwards it visits, during winter, the Caspian Sea, Lake Baikal, North China, and Japan; whilst on the American Continent it is found at that season as far south as the Great Lakes and the Northern United States.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Long-tailed Duck may be**

**taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—Of all the Arctic Ducks none are more thoroughly Arctic than the present handsome species. It is late to arrive in British waters, and is seldom seen off even our northern coasts before November, later still in the south. It leaves us in April and reaches its Arctic haunts with the opening of the northern waters. Like most of its congeners it is gregarious in winter, but the flocks that frequent our seas are seldom very large; even in summer it is to a certain extent sociable, and numbers of nests may be found within a small area of suitable ground. Whilst with us it keeps principally to the sea, often wandering long distances from land, only approaching the shore during stormy weather, when it shows a decided preference for creeks and inlets on a wild, rocky coast. It is rarely or never seen on inland fresh water during winter, although in summer its favourite retreats are the northern lakes, often at some considerable distance from the sea. The flight of this Duck is remarkably quick and graceful, the long tail making the bird look very elegant as it careers along with wings beating the air so rapidly as to be almost invisible. It dives with even greater speed, so quickly as often to dodge the shot from a modern breech-loader, and under water it darts about and goes for long distances like a Grebe or an Auk, appearing far out of danger. The note of the Long-tailed Duck cannot easily be confused with that of any other species. It is a loud, clear cry of several syllables, the middle one being the longest and the loudest, rendered by some authorities as *cow-cōw-w-ie*, *col-gōh'-y*, or *cal-loo-oo*; whilst in some parts of Scotland the sportsman has made a free translation of it into "coal-an-can'le-licht." The food of this species consists of small mollusks, crustaceans, insects, minute marine animals, and the buds, roots, and leaves of various water plants and weeds. Most of this is obtained whilst the bird is diving.

**Nidification.**—The great breeding grounds of the Long-tailed Duck are on the Arctic tundras of the Old World and the barren grounds which extend from beyond the limit of forest growth to the frozen ocean in the New World. Here its haunts are the pools and lakes, often those studded with islands. Odd

pairs are scattered up and down the small pools, whilst the larger sheets of water are the haunt of perhaps a dozen or twenty pairs. The breeding season commences at the end of May or early in June, and fresh eggs may be obtained throughout the latter month and the first half of July. The nest is usually placed in some sheltered nook, often among willow and birch scrub, in the drifted rubbish left by the floods when the big northern rivers break up in spring, or among long grass. An island is usually selected when available in the lake or pool. The nest is merely a hollow among the herbage, plentifully lined with down and a few feathers from the body of the female. The eggs are from seven to twelve in number, eight or nine being an average clutch. They are pale buffish green or greenish buff in colour, smooth, and with some gloss, and measure on an average 2·1 inches in length by 1·5 inch in breadth. Down tufts small, warm brown in colour, and without any white tips. Period of incubation unknown. It is a noteworthy fact that the drake of this species assists the duck in bringing up the young, moulting much earlier than is usual in this group into his post-nuptial plumage, and remaining in this garb until the brood can fly. During the breeding season this Duck is very tame and most unwilling to take wing, generally swimming out into the centre of the large lakes for security. When the brood of ducklings is menaced, the female tries to get her offspring to follow her out into the open water, and is said to display great anxiety for their safety. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the prevailing colour of the head and neck white (but with an oval patch of brown on each side of the latter), with the tail (of 14 feathers) white, except the two central feathers, which are black and about 5 inches longer than the rest, and with the scapulary region striped with white (adult male); with the axillaries brown, with the sides of the head white, and the sides of the neck brown (adult female). Length, 22 to 26 inches inclusive of tail in male.

Family ANATIDÆ.  
Subfamily *FULIGULINÆ*.

Genus FULIGULA.

### COMMON SCOTER.

FULIGULA NIGRA—(*Linnæus*).

**Geographical Distribution.**—*British*. Common winter visitor, especially on the eastern coasts, from the Shetlands and Orkneys to the mouth of the Thames, in all suitable districts, and thence round the southern coast of England, although not in such vast numbers. Comparatively speaking it is much less common on our western coast line, the flat shores of Lancashire and the Solway district being its chief head-quarters. It is most abundant in the north of Ireland, becoming more sparingly distributed in the west and south. Small numbers of immature non-breeding birds frequent the British coasts during the summer, and a few pairs of adults are known to breed in the north of Scotland, in Caithness, Sutherland, and Ross-shire. This Duck is recorded (*Science Gossip*, 1891, p. 256) as having bred on the Earnly Marshes, near Chichester, but further confirmation of the fact is much to be desired. *Foreign*: Northern and western Palæarctic region; more southerly in winter. It breeds in the Arctic regions of Europe and Western Siberia, from Iceland to the Taimyr peninsula, as far north as lat. 74°, and as far south as the Arctic Circle, and in a few localities at high elevations below it where similar climatic conditions prevail. It is found during winter in the Baltic and the basin of the North Sea, exceptionally as far south as the Azores, and only very sparingly in the Western Mediterranean as far as Italy. It was said by Pallas to visit the Black Sea, and is reputed to be common in the Caspian Sea, whilst it has been obtained on the coasts of Palestine during winter.

**Allied Forms.**—*Fuligula nigra americana*, an inhabitant in summer of the Kurile Islands and Arctic America eastwards to Hudson Bay, and in winter of Japan, the Pacific coast of America to Southern California, the Great Lakes, and the Atlantic coast as far south as the Gulf of Mexico. The American form of the Common Scoter, only subspecifically distinct. May be distinguished from the Common Scoter by having the tubercle at the base of the bill orange-yellow instead of black. This form should be looked out for on the British coasts, especially in autumn.

**Time during which the Common Scoter may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The Common Scoter is one of the best known, and one of the most common Ducks to be found on and off the British coasts during winter. In some parts its vast flocks literally blacken the water, and may be observed far away from land during moderately calm weather. No Duck is more gregarious or more exclusively marine in its habits. The great autumn migration of this species begins in September and lasts through October in our islands, but many old birds are said to arrive in the Baltic during August. The return flight commences in April and lasts well into May. The line of migration is taken across country as well as along the coast, and though this Duck certainly migrates in flocks, these appear to break up into pairs as soon as the breeding grounds are reached. This, however, only applies to adults, for the immature birds do not appear to breed during their first spring, but to continue all the summer in the vast flocks they journeyed in from the south. These keep for the most part to the sea, hanging about the Arctic islands and the deltas of the great northern rivers. An immense flock, estimated at ten thousand strong, was observed by Messrs. Seebohm and Harvie-Brown in the middle of July, circling over the Golievsky Islands in the delta of the Petchora. Flocks of non-breeding Scoters also frequent our coasts all the summer as previously remarked. The Scoter is rather a late bird of passage in spring, and was not observed in the valley of the Petchora until the 1st of June. This Duck is just as proficient a diver as its congeners, and swims

with equal power ; on the land it is rather clumsy, waddling with an awkward gait, but in the air it is more at home, and flies with great speed. The note of this Scoter is a harsh *kurr*, but in the pairing season the drake is said to modulate it into a more musical cry, syllabled by Faber as an oft-repeated *tu*, that of the female at this season, according to the same authority, being a grating *re-re-re*. The food of this species consists of mollusks, crustaceans, and insects, and in summer the leaves, roots, and buds of weeds and aquatic plants. Its flesh is fishy in flavour and unpalatable.

**Nidification.**—The Common Scoter is a late breeder, even in the comparatively temperate climate of Iceland not beginning to lay before the middle of June, and in Arctic Russia not until the end of that month or early in July. The favourite breeding grounds of this Duck are the lakes on the northern tundras and the banks of the rivers, at no great distance from the sea, especially in localities where dwarf willow and birch scrub is abundant. An island in the lake or river is selected where choice of such a situation admits. The nest is merely a hollow, in which is placed a little dry grass, sprigs of heath, withered leaves, or other such-like refuse, and warmly lined with down from the body of the female. The eggs are six to nine in number and pale grayish buff in colour, smooth, and with little gloss. They measure on an average 2·5 inches in length by 1·8 inch in breadth. Down tufts large, brownish gray in colour, with pale centres. Only one brood is reared in the season, of which the female apparently takes the entire charge.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the entire plumage bright black (adult male) ; with the axillaries brown, with the under tail coverts dark brown, with the culmen 1·5 inch or more in length, and with no alar speculum (adult female). Length, 20 to 21 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus FULIGULA.

### VELVET SCOTER.

FULIGULA FUSCA—(*Linnaeus*).

**Geographical Distribution.** — *British*: Regular winter visitor, but much less common than the preceding species. Occurs sparingly on the south and east coasts of England, chiefly in those localities frequented by the Common Scoter, becomes more frequent on the east coast of Scotland, but is decidedly rare in the Shetlands. Much less common round the western coasts of Scotland, and said to be rare in the Outer Hebrides. Rare and local in the west of England and chiefly mixed with the common species. Rare in Ireland, chiefly met with at sea off the east and south coasts. According to the late Mr. Booth a few pairs may possibly breed in the north of Scotland, but no direct evidence is yet forthcoming. *Foreign*: Northern Palæarctic region; more southerly in winter. Breeds in the Arctic and subarctic regions of Europe and Asia from the Atlantic to the Pacific, as far north as lat. 69°, and as far south as the Baltic Provinces in the west and lat. 55° in the east. Winters in the basin of the North Sea, occasionally wandering as far south as Spain and the Mediterranean and Black Seas. To Turkestan, Dauria, and Mongolia it is a visitor on passage, and in winter it is found in the basin of the Caspian and on the coasts of Japan and China, at least as far south as Shanghai. Has once been obtained in Alaska and once in Greenland.

**Allied Forms.**—*Fuligula fusca velvetina*, an inhabitant in summer of Arctic America from west to east, and in winter of the Great Lakes and the Atlantic and Pacific coasts as far south as the Gulf of Mexico and Lower California. The American

form of the Velvet Scoter, only subspecifically distinct. May be distinguished from the Velvet Scoter by the absence of the black lines on the bill which extend from the nostrils to the nail on each side in that form. This race should be looked out for on the British coasts, especially in autumn.

**Time during which the Velvet Scoter may be taken.**

—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The habits of the Velvet Scoter do not differ in many important respects from those of the allied Common Scoter. It is, however, a bird more addicted to inland waters, and even during winter, although commonly met with at sea, often far from land, wanders up rivers and estuaries and visits lakes. Its breeding grounds also are as a rule situated at greater distances from the sea, and the nest is not unfrequently made a long way from any water at all. The flight of this Scoter is rapid and well-sustained, but except on migration the bird is loth to take wing, and almost invariably seeks to elude danger by diving. In the water it is extremely active, not only swimming well, but diving with amazing speed, and going not only to a considerable depth in quest of food, but for a long distance to escape an enemy, appearing again well out of harm's way. It is seldom seen on land, and there its gait is waddling and clumsy, even for a Duck. In more favoured winter quarters there is no doubt that the Velvet Scoter congregates in large flocks, but in our seas it is rare to see more than a small company together, and is usually met with in odd birds or scattered pairs among flocks of the much more abundant Common Scoter. It appears in British waters and takes its departure about the same time as the preceding species, although odd (and probably immature) birds sometimes linger with us throughout the summer. The food of the Velvet Scoter consists principally of mollusks, crustaceans, and small fish in winter, but in summer there can be little doubt that vegetable substances, such as aquatic weeds, are eaten. Its note is said not to differ very much from that of the preceding species, and is a grating *kurr*.

**Nidification.**—The Velvet Scoter is a late breeder, even for an Arctic species, and its eggs are not laid until the very end of

June or early in July. It appears to separate into pairs as soon as the breeding grounds are reached, and the duck and drake keep close company until the eggs are laid, after which the latter leaves his mate to incubate them and to take all care of the brood. The nest is made amongst scrub or coarse tundra vegetation, either near a lake or river, or some dry part of the moor away from either. The nest is merely a hollow, often under some small stunted bush, into which a little dry grass, dead leaves, or other vegetable refuse is placed, and finally lined with down and a few feathers from the body of the female. The eggs are eight or nine in number and pale grayish buff in colour, smooth, and with little gloss. They measure on an average 2·8 inches in length by 1·9 inch in breadth. Down tufts larger than those of the Common Scoter, brown, with a slight tinge of gray, and with indistinct pale centres. Only one brood appears to be reared in the season.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the entire plumage black, shot with purple and green, except a white alar speculum, and a small white spot behind the eye (adult male); with the axillaries brown, with the under tail coverts dark brown, with a white alar speculum, and with the bill 1·5 inch or more in length (adult female). Length, 21 to 22 inches.





1. BLUE-WINGED TEAL.  
2. AMERICAN WIGEON.

3. SURF SCOTER.  
4. SNEEW.

5. TUFTED DUCK.

Family ANATIDÆ.  
Subfamily *FULIGULINÆ*.

Genus FULIGULA.

### SURF SCOTER.

FULIGULA PERSPICILLATA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Rare straggler in winter, and known to be such for upwards of fifty years. First recorded by Blyth in 1838, from a somewhat doubtful example sent in the flesh to Mr. Bartlett, which may or may not have been captured in this country in a wild state. The other evidence of this bird's claim to rank as "British" is as follows—England: Cumberland (1 example), August, 1856; Yorkshire (1 example), October, 1860; Lancashire (1 example), December, 1882; Dorset (2 examples), winter, 1851, December, 1853; Cornwall (1 example), no exact date; Scilly Isles (2 examples), September, 1865, October, 1867. Ireland: Belfast Lough (2 examples, 1 shot), September, 1846; Co. Dublin (1 example), October, 1880; Co. Cork (1 example), November, 1888. Scotland: Edinburgh Co. (1 example), spring, 1852; Stornoway, Outer Hebrides (1 example), winter, 1865; North Shetland (1 example, said to have been seen by Mr. Dunn), June, 1847; Orkneys, apparently the most favoured locality of this species in its erratic visits (5 examples secured, many others seen and identified), March, 1866, February, 1876, 1872, October, 1880. *Foreign*: Northern Nearctic region; more southerly in winter. Breeds in the Arctic and subarctic regions of America from the Atlantic to the Pacific, as far north as lat. 70°, and as far south as lat. 50°. In winter it strays down the Pacific coasts as far as Lower California; inland it is found at that season on the Great Lakes; whilst on the Atlantic coasts it extends as far as Florida, and occasionally the Bermudas and Jamaica. Rare

straggler to Greenland and the Faroes, and has occurred on the coasts of Heligoland, Scandinavia, Germany, and France, and inland as far as Switzerland.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Surf Scoter may be taken.**—August 1st to March 1st; otherwise by authority of owner or occupier of land.

**Habits.**—The migrations and habits of this Nearctic Scoter very closely resemble those of the preceding species. Its grand summer quarters are in the Arctic and subarctic regions of British North America. From the most northerly of these it begins to retire early in September, and as the autumn and winter advances it slowly works south, not only along the coast, but across country by way of the great lakes and river valleys, as it appears to be as much at home on inland waters, so long as they are open, as the sea. In April it begins to migrate north again, and reaches its highest Arctic haunts as the ice is breaking up and summer is bursting with startling suddenness over the wild, lone land. It is just as gregarious as its allies, not only on migration and in winter, but in summer also; for as soon as the females have scattered up and down the breeding grounds and gone to nest, the males flock once more, and apparently keep gregarious until the following spring. The flight of the Surf Scoter is strong and rapid, but the bird is said to rise with difficulty from the water. It is an expert and rapid diver, keeps principally to the water, where it swims equally well, and ever seeks to evade pursuit by diving out of reach of its enemies. It is not much of a land bird, and walks in a clumsy, waddling manner. The note of this bird is not known to differ from that of its allies, and the female is said to utter a hoarse cry as she rises startled from the nest. As is the case with both the other British Scoters, but more especially with the Common Scoter, many immature and non-breeding birds stay behind in their winter quarters, where they keep in large flocks. The food of the Surf Scoter, obtained almost entirely by diving, consists of mollusks, crustaceans, and small fish. It is not known whether this bird is a vegetable feeder in summer; but there can be little

doubt that to a certain extent this is the case. Great flocks of this bird almost blacken the sea, and look like mud-banks in the distance, congregating in certain favoured haunts during winter, often in company with other Ducks, but as its flesh is fishy and unpalatable it is not much sought after by American sportsmen, by whom it is known in some districts as "Surf Coot," "Spectacled Coot," or "Skunk-headed Coot."

**Nidification.**—The favourite breeding grounds of the Surf Scoter are the lake-studded northern tundras, and the banks of the winding rivers that join them into a more or less swampy paradise for aquatic birds. It is a late breeder, like its allies, laying towards the end of June or early in July. The nest is made near the water, in many cases amongst scrub and coarse vegetation; but MacFarlane found one concealed under the drooping lower branches of a stunted pine-tree, and others have been observed in similar situations. It is merely a hollow in the ground, lined with any vegetable refuse that may chance to be near, and with an abundance of down from the body of the female. The eggs are from five to eight in number, pale grayish buff in colour, smooth, and with little gloss. They measure on an average 2·3 inches in length by 1·65 inch in breadth. Down tufts, so far as I am aware, still undescribed. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Fuligula*, with the entire plumage glossy black, except a broad patch of white on the forehead and another on the nape (adult male); with the axillaries brown, with the under tail coverts dark brown, with the frontal feathers extending about an inch beyond those at the side of the bill, and with the white nape patch indistinctly defined (adult female). Length, 21 inches.

## Genus **SOMATERIA** or **EIDERS**.

Type **SOMATERIA MOLLISSIMA**.

**Somateria** of F. Boie (1822). The birds comprising the present genus are best characterised by having the scapulars long and falcated, and the head marked with emerald green. Unfortunately, these distinctions only apply to males, and the following character must also be added to distinguish the females: feathers on the forehead and on the sides of the bill projecting in triangular patches nearly or quite as far as the nostrils. The wings are moderately long; the tail is short and consists of fourteen feathers. The bill is swollen and elevated at the base, extending on to the forehead; nostrils small and oval. Three toes in front webbed; hind toe moderate and lobed.

This genus contains six species and subspecies which are confined to the northern portions of the Palæarctic and Nearctic regions. Three species are British, one of which is a common resident in, and two are accidental visitors to, our islands.

The Eiders are dwellers exclusively on rocky coasts. They are birds of somewhat slow and laboured yet powerful flight; they swim and dive well, but walk clumsily. They subsist on crustaceans, marine insects, and shell-fish. Their notes are harsh and grating. They make slovenly nests, which are lined with down, upon the ground, and their eggs are numerous and green of various shades, unspotted. They are monogamous, but the male takes no share in family duties. They are more or less gregarious and social at all seasons.

Family ANATIDÆ.  
Subfamily *FULIGULINÆ*.

Genus SOMATERIA.

### STELLER'S EIDER.

SOMATERIA STELLERI—(*Pallas*).

**Geographical Distribution.**—*British*: Very rare straggler to the British Islands in autumn and winter. The very slender claim of this species to rank as “British” is based on the following occurrences—England: Norfolk (1 example), February, 1830. Shot at Caistor, near Yarmouth, a nearly adult male, formed the subject of the illustration in Yarrell’s *British Birds* and now preserved in the Norwich Museum; Yorkshire (1 example), August, 1845. Shot on the sea off Filey Brigg, a male assuming nuptial plumage, and now in the collection of Lord Scarsdale. *Foreign*: North-eastern Palæarctic region, and possibly the extreme north-west of the Nearctic region; more southerly and westerly in winter. The exact breeding range of this species is very imperfectly known. It has been found breeding in Kamtschatka, the islands round about Behring Strait, the Aleutian Islands, the delta of the Lena, the Taimyr peninsula, the coast of Russian Finmark, and in the Varanger Fjord. In winter it is found in Northern Norway, in the Baltic, in the Sea of Okhotsk, and on the coasts of the Kurile Islands. During this season it has been observed in Denmark, Heligoland, North Germany, and France.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Steller’s Eider may be taken.**  
—August 1st to March 1st.

**Habits.**—But little has been recorded of the habits of Steller’s Eider. The bird appears, however, very closely to resemble

its congeners in its economy, being eminently a sea Duck and almost sedentary, only wandering in winter from its usual haunts to the nearest open water. The adults probably live in pairs through the summer, but immature individuals remain in parties at that period ; whilst in autumn both old and young become more or less gregarious. The food is not known to differ from that of allied species, and is obtained in a similar manner. Its note is undescribed, but Von Middendorff states that the female when flying from the nest uttered a rattling cry.

**Nidification.**—The only particulars concerning the breeding habits of Steller's Eider, obtained from personal observation, appear to be those published by Von Middendorff, who met with this Duck breeding in some numbers on the Taimyr peninsula, the most northerly continental land on the entire globe. The eggs are apparently laid early in July, or at the very end of June. The nests were made on the tundra, and were merely deep hollows in the moss-clothed ground, lined with quantities of down plucked from the females. The eggs range from seven to nine in number, and are pale buffish green in colour, smooth, but with little gloss. They measure on an average 2.35 inches in length by 1.55 inch in breadth. Down tufts apparently undescribed. But one brood is reared in the year. The females are said to sit closely, and, as is usual with the Eiders, the drakes swim about in the neighbourhood of the nests, and probably join their mates when they leave the eggs and retire to the water to feed.

**Diagnostic Characters.**—(Nuptial plumage), *Somateria*, with the back black and the falcated scapulars white on the inner and bluish black on the outer webs (adult male) ; with the alar speculum purplish blue, enclosed between two white bars (adult female). Length, 18 to 20 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus SOMATERIA.

### COMMON EIDER.

SOMATERIA MOLLISSIMA—(*Linnaeus*).

**Geographical Distribution.**—*British*: Rare straggler in winter to the southern portions of the British Islands, including the west, east, and south coasts of England, and all the coasts of Ireland. Breeds from the Farne Islands locally northwards to the Orkneys and Shetlands, and along the west coast of Scotland, including the Outer Hebrides and St. Kilda, as far south on the mainland as Inverness-shire. *Foreign*: Northern and western confines of Palæarctic region, and northern and eastern confines of Nearctic region; more southerly in winter. Breeds on the shores of the Kara Sea, Franz Josef Land, Spitzbergen, Jan Mayen, the coasts of Norway and Denmark, the Faroes, Iceland, and Greenland up to lat  $81\frac{1}{2}^{\circ}$ , thence across Baffin Bay and Davis Strait, along the coast of the mainland and on the islands in the Arctic Ocean as far east as Banks Land and the Coppermine River. Wherever the winters are sufficiently severe to seal the water it draws southwards, and is then found in the Baltic, the basin of the North Sea, and the English Channel, and in the New World as far south as the coast of Maine. It is said very exceptionally to wander as far south as the Mediterranean, and has been recorded on doubtful authority from the Swiss lakes.

**Allied Forms.**—*Somateria mollissima dresseri*, an inhabitant in summer of Labrador and Newfoundland, drawing south in winter as far as the coast of Maine. Only subspecifically distinct, and of doubtful distinctness. A mere local race said to differ from the Common Eider by having the feathers on the forehead prolonged in a narrow line only half as far as those on the side of the

bill, instead of almost as far. *S. v-nigrum*, an inhabitant of the coasts of East Siberia, the islands of Behring Sea, and the coast of Alaska. The Pacific representative of the Common Eider, closely allied but apparently specifically distinct. Differs from the Common Eider in being a larger bird, and in having a very distinct V-shaped mark on the throat, in this particular showing a close affinity with the King Eider.

**Time during which the Common Eider may be taken.**

—August 1st to March 1st.

**Habits.**—This beautiful Duck is probably the most maritime of its family, and, except in the breeding season, spends nearly all its time on the sea. So closely is it attached to the sea, so thoroughly “sea-faring” in its habits, that it rarely flies overland at all except to its nest, and prefers to follow a winding coast line rather than to cross even the narrowest of promontories. The Eider is practically a sedentary species, only wandering south a little way from its summer haunts either in quest of food or in prolonged severe and stormy weather. It loves the wild, rock-bound coasts, especially where plenty of precipitous islands occur and the shore line is broken up into sheltered bays and fjords. Sometimes it may be seen standing on the rocks close to the water’s edge, but usually it keeps well out to sea, and even sleeps on the water. At all times it is more or less gregarious, although never congregating into the vast flocks that many other sea Ducks do. It is generally observed in parties, in summer and winter alike, for the drakes swim in company whilst the ducks are incubating on shore, and when the latter come to the sea to feed all join into a scattered company. In summer the female Eiders are remarkably tame and confiding, but in winter they are wary enough, and at all times of the year the males are difficult birds to approach. The food of the Eider consists of minute marine insects, crustaceans, and shell-fish, especially mussels and small crabs. Most of this food is obtained by diving, the bird being remarkably expert at this, descending to considerable depths and remaining a long time under the surface. The Eider loves to draw shorewards with the flowing tide, and to swim just outside the breakers. It is most interesting to watch this bird swim clean through each mighty wave just before it turns over and breaks upon the beach.

It may be watched gradually swimming towards the land in some sheltered bay, feeding as it comes, until the very edge of the breakers is reached. If alarmed, instead of diving, it usually swims quickly out from shore, and when still further pursued or fired at, instantly takes wing, rising from the water at once and with little splash or fuss. So far as my experience extends the Eider is a day feeder, and during the breeding season at any rate passes the night on land. I never met with this bird at sea during the night amongst the coasts where it was breeding in considerable numbers, although Auks were common enough; still it is abroad and feeding by dawn. The flight of this Duck is, as a rule, not very quick, the wings being beaten very regularly; but on occasion the bird can fly with astounding speed, as I have on many occasions learnt to my own humiliation. The Eider is a remarkably silent bird, its usual note being a not very loud *kurr*, but in the breeding season the drake makes a cooing noise when paying court to his mate, accompanying it with a bobbing motion of the head, usually as he swims round and round her, guarding her from the attentions of rivals. The Eider is not very social, and seldom mingles with other fowl. Its flesh, as I can testify from experience, is not unpalatable *when* prepared by a skilful cook.

**Nidification.**—In our islands the small flocks of Eiders begin to break up more distinctly into pairs towards the latter end of March, but the eggs are seldom laid until the middle or end of May, and in the Arctic regions not before the end of June. The nest, wherever possible, is built on a small uninhabited island, a rocky one by preference, moderately level, but covered with plenty of marine vegetation. In some places it is made among ruins, where the fallen masonry offers snug sites; at others it is on the top of the cliffs, or among the long heather of the hillsides that slope to the sea. I have seen it at the very top of cliffs several hundred feet in height on the Island of Doon, in the St. Kilda group. Usually it is not very far from the water, but reliable instances are on record where it has been discovered several miles from the sea, and at an elevation of one thousand feet above the level of the sea. The nest is generally made amongst sea campion or coarse grass, but often in a crevice of low rocks, or on a ledge of the same. It is usually a bulky, well-made

structure, composed of dry grass and bits of other marine herbage, sometimes twigs of heather, and is well and warmly lined with down plucked from the body of the female, gradually accumulated as the eggs are laid. The eggs are six or seven in number, sometimes eight, and vary in colour from cream gray to grayish green, smooth and wax-like in texture, but with little gloss. They measure on an average 3·1 inches in length by 2·0 inches in breadth. Down tufts moderate, and varying from brownish gray to grayish brown with obscure pale centres. This down is the highly-prized article of commerce, used for stuffing quilts and other purposes, and valued, when cleaned, at about twenty shillings per pound. Each Duck produces about four ounces of down in the season. In Greenland, Iceland, and in some parts of Norway the birds are regularly farmed for this product. (Further particulars of this industry may be obtained in my work entitled, *Stray Feathers from many Birds*, p. 21.) Incubation, performed entirely by the female, lasts twenty-eight days. When the young are hatched the mother soon conveys her brood to the sea, carrying them in many cases one by one in her bill. Here the old bird will often take one or more of her ducklings on her back to rest and sleep, sinking her body low in the water to allow the little creature more easily to mount. Only one brood is reared in the year. The male does not desert the female after the eggs are laid. He never comes near the nest, but is usually not far away on the sea close by, and when his mate leaves the eggs to feed he invariably joins her. I should remark that the Eider is gregarious during this period, and numbers of nests may be seen almost side by side, in some cases two females sharing the same nest. As soon as the young are reared the birds quit the land, and undergo their annual change of plumage for the most part out at sea.

**Diagnostic Characters.**—(Nuptial plumage), *Somateria*, with the upper back, mantle, and falcated scapulars white (adult male); with the feathers on the forehead only extending about half as far as those on the side of the upper mandible (adult female). Length, 25 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus SOMATERIA.

## KING EIDER.

SOMATERIA SPECTABILIS—(*Linnæus*).

**Geographical Distribution.**—*British*: Accidental straggler to the British Islands, and so frequently observed during summer as to suggest its possibly breeding within our limits. Has been seen and obtained in various localities from Plymouth to the Orkneys and Shetlands. Rarer in Ireland, where only four instances of its occurrence are on record. Has been observed at the Farne Islands in summer; and I met with two pairs during June at St. Kilda. *Foreign*: Circumpolar, extreme northern Palæ-arctic and Nearctic regions; more southerly in winter. Breeds on the islands off the coast of Northern Siberia, Nova Zembla, Franz Josef Land, probably Spitzbergen, Greenland, and the islands and coasts of Arctic America, perhaps as far north as land extends. More or less accidental visitor in winter to the coasts of Norway, the Baltic, Denmark, Holland, and France, to the Faroes, Iceland, Labrador, New Jersey, the Great Lakes, and California.

**Allied Forms.**—None more closely allied than the Eider Duck and its representative forms, treated of in the preceding chapter.

**Time during which the King Eider may be taken.**—August 1st to March 1st.

**Habits.**—The King Eider, although it resembles the Common Eider very closely in its general habits, is not quite such an exclusively marine species, and is occasionally found on fresh water, yet only, so far as I can determine, such vast expanses as the Great Lakes in North America. It is almost if not quite as

sedentary as the Common Eider, and does not wander far beyond the limits of open water during winter. Most of those that do straggle south at that season are immature birds. It is just as gregarious, perhaps more so, inasmuch as Ross often met with large flocks of adult males and others of adult females with their young in the open Atlantic. In its food, note, and mode of progression in the air and the water it does not differ in any important respect from the Common Eider. I had the good fortune to meet with the King Eider during my prolonged visit to St. Kilda in the summer of 1884, and made the following note respecting its habits, which I transcribe verbatim from my paper on the birds of these islands contributed to the *Ibis*: "Ornithologists will read with pleasure that the King Eider frequents St. Kilda. I first became aware of this interesting fact when trying to stalk the Common Eiders in the bay. For two hours I lay concealed behind a huge boulder, watching the little party of Ducks that were swimming just outside the breakers. Two of the pairs were King Eiders. In spite of all my efforts, both on this and subsequent occasions, I failed to secure an example. They were not more than seventy yards away from me several times, so that I had every opportunity of observing them; and on more than one occasion I carefully scanned them through a powerful glass. They mingled freely with the Common Eiders, and did not differ in any perceptible degree in their habits. It was a pretty sight to watch these rare and charming birds sporting in the heaving waves, the males and females swimming side by side. As the mighty rollers broke upon the shore the birds dived through the bright green wave just before it turned over. They were busy feeding on the small animals which were disturbed by the breaking waves. They floated light as corks on the heaving sea, now high up exposed to view, then deep down in the trough of the waves. As soon as they caught a glimpse of me they quickly swam further from shore. Every day they might be observed in one particular part of the bay; and I have not the slightest doubt that they were nesting on the precipitous island of Doon. Of course the natives did not distinguish them from the Common Eider; and they take but little interest in them, for they tell me the male Eider is the only bird of St. Kilda that they are unable

to snare." I am pleased to be able to record that my opinion respecting the breeding of the King Eider in these islands is shared by others of much wider experience of the ornithology of this district than myself. Mr. John A. Harvie-Brown, the gentleman so frequently alluded to in these pages relative to the habits of some of the least known of the species, says in *epistolâ*: "I shall be glad if you succeed in getting undoubted King Eiders. Personally, I believe they breed on the Dun [Doon] every year."

**Nidification.**—The King Eider breeds even later than the Common Eider, probably because its summer range nowhere reaches quite so far to the south, and extends more to the north. Its eggs are laid during the first half of July. It appears to arrive at its most northerly breeding stations in flocks towards the end of June. The nests are made on islands as well as on the coasts of the mainland, and are placed in similar situations to those of the Common Eider. The nest is merely a depression in the ground, which may or may not contain a little vegetable refuse, but is always warmly lined with down from the body of the female by the time the full number of eggs is deposited. The eggs, so far as is known, are six in number and pale greenish gray in colour, smooth in texture, and with little gloss. They measure on an average 2·6 inches in length by 1·75 inch in breadth. Down tufts similar in every respect to those of the preceding species. Only one brood is reared in the year. The habits of this Eider during the nesting period and after the young are reared do not differ from those of allied species.

**Diagnostic Characters.**—(Nuptial plumage), *Somateria*, with the upper back white and the falcated scapulars black, and with a black stripe on each side of the throat meeting on the chin, forming a V-shaped mark (adult male); with the feathers on the forehead extending beyond those on the side of the bill (adult female). Length, 24 inches.

## Genus **MERGUS** or **MERGANSERS**.

Type **MERGUS MERGANSER**.

**Mergus** of Linnæus (1766).—The birds comprising the present genus are characterised by having a straight, slender, narrow bill, furnished on both upper and lower mandible with saw-like lamellæ. The wings are moderately long. The nostrils are lateral and central. The tarsus is short; three toes in front, webbed; hind toe moderate and lobed.

This genus contains four species which are distributed through the northern portions of the Palæarctic and Nearctic regions, and one species is an isolated resident in the Neotropical region. Four species are British, one of which breeds commonly, one rarely in our islands, and the other two are accidental visitors.

The Mergansers frequent both inland waters as well as maritime districts. They are birds of rapid, if laboured flight, and swim and dive with wonderful skill, but on the land they walk clumsily. Their notes are loud and unmusical. They subsist on fish, crustaceans, mollusks, and shell-fish. They make rude nests, which are lined with down, on the ground or in holes of trees. Their eggs are numerous, and white, cream colour, or olive-gray, and unspotted. They are monogamous and probably pair for life. They are more or less gregarious, except in the breeding season, although social tendencies are even then observable.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus MERCUS.

## GOOSANDER.

MERGUS MERGANSER—*Linnaeus*.

**Geographical Distribution.**—*British*: Fairly common winter visitor to the British Islands, both inland and on the coast. Rare in the Orkneys and Shetlands, but more frequent on the east and west coasts of Scotland, especially the latter. Tolerably common on the eastern shores of England, but rarer on the south and west. Rare in Ireland, although in the severe winter of 1880-81 an unusual visitation took place, and examples were obtained in all parts of the island. Breeds sparingly in Scotland, in Sutherlandshire, Argyllshire, North Perthshire, and a few other localities in the Highlands. *Foreign*: Palæarctic region; northern limits of Oriental region in winter. Breeds in Iceland and Denmark, and throughout Scandinavia, but does not winter north of the Arctic Circle. Eastwards it is found during summer in Pomerania, and Russia as far north as the Arctic Circle, and as far south as lat. 50° in the Ural and Volga districts. In Asia it breeds throughout Siberia south of the Arctic Circle, and in a similar climate at high elevations in Turkestan, and the Himalayas up to 10,000 feet above the level of the sea. Winters on the coasts and inland waters of Central and Southern Europe, but rarely crosses to the African side of the Mediterranean. It is also found at this season in the Black Sea, on the lower lands of Turkestan, Northern India, Mongolia, China, and Japan.

**Allied Forms.**—*Mergus merganser americanus*, an inhabitant of the Nearctic region, breeding from about lat. 42° as far north as the limit of trees, and in winter of the United States, and occasionally the Bermudas. The American representative

of the Goosander, and only subspecifically distinct. Typical examples may be distinguished from the Goosander by having a narrow black bar across the greater wing coverts.

**Time during which the Goosander may be taken.**—August 1st to March 1st.

**Habits.**—During winter the Goosander with us is for the most part a coast bird, showing a preference for sea lochs and the quiet bays of a rocky shore, such as are so common on the west of Scotland, but it may also be met with in estuaries, as well as on broads and inland lakes. In Lower India, however, it is almost exclusively confined during the cold season to rivers, and those where the bed is rocky or sandy are preferred to others which flow over clay or alluvial soil. It is a hardy bird, and lingers in its summer haunts until the waters are frozen, not leaving the pools and streams of the Himalayas until December, and quitting its southern retreats again in March. The same remarks apply to the individuals breeding at elevations of from 8,000 to 11,000 feet in Central Asia; they linger until driven down by the ice sealing their favourite haunts. The Goosander is a remarkably agile bird in the water, swimming and diving with wonderful skill. When going down-stream it sits high on the water, but when swimming against the current its body is kept low, so that the oar-like feet may work to the best advantage. It is capable of diving to a great depth, and remains under water for as much as two minutes at a stretch. It flies well and with great speed, but rises from the surface with difficulty, flapping along for several yards before it gets clear into the air. The Goosander does not spend much of its time on shore, but when gorged with food it will often sit and bask, like a Cormorant, on some rock rising out of deep water, resting with its body upright and with its wings half expanded. It seldom rests far from the water's edge, and when disturbed wriggles forward with its breast almost touching the ground, in a very Diver-like manner. It is a wary bird, much more so than the Red-breasted Merganser. The note of this species is a harsh *karr*, but on the whole it is a remarkably silent bird. The Goosander feeds almost exclusively on fish ranging from two to six inches in length, but aquatic insects, mollusks, and shell-fish are eaten, and the remains of vegetable substances have been

found in its stomach. Most of these creatures are obtained by diving, and sometimes when feeding in flocks the entire party of birds will dive simultaneously, although it is more usual to see several individuals on the surface, as if acting as sentinels to the rest. The flesh of this Duck is rank and fishy, and most unpalatable.

**Nidification.**—The favourite breeding grounds of the Goosander are open, swampy forests in which there are plenty of lakes and rock-bound streams and rivers. It is a somewhat early breeder, laying towards the end of April in the British Islands and in Denmark, and a month or six weeks later in Finland. Dybowsky states that it arrives at its breeding grounds near Lake Baikal by the middle of April, which is early for that cold region, and remains until December. The Goosander, wherever it can obtain one, prefers a hole in a tree, but in sparsely-wooded districts a cleft or hole in a rock or cliff not far from the water is used instead. It has been known to breed in an old nest of a Crow, or in the top of a pollard. According to Selby, Dresser, Dybowsky, and others, the nest is sometimes made on the ground amongst grass, but this must be highly exceptional, if the observers named were not actually in error in identifying the species. In Finland the Goosander readily avails itself of boxes or hollow logs placed in the trees by the peasants, and submits very patiently to the daily removal of its eggs to the number sometimes of a score. The nest of this bird is slight, little more than the dust and refuse at the bottom of the hole selected, but warmly lined with plenty of down before the eggs are incubated. The eggs are from eight to twelve in number, creamy white in colour, smooth in texture, and with a satin-like gloss. They measure on an average 2·7 inches in length by 1·8 inch in breadth. Down tufts large and uniform grayish white. Incubation lasts twenty-eight days. The young are carried to the nearest water one by one in the bill of the parent, and until they are considerably advanced towards maturity do not stray far from the shallow water. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Mergus*, with the head (crested) and upper neck black, shot with green and

purple, and with the lower neck and the whole of the underparts pure white, with a rosy tinge on the breast and belly (adult male); with the head (crested) and upper neck pale chestnut, and with the wing varying from 9·5 to 10·25 inches in length (adult female). Length, 25 to 28 inches (male); 22 to 25 inches (female).

Family ANATIDÆ,  
Subfamily FULIGULINÆ.

Genus MERGUS.

### RED-BREASTED MERGANSER.

MERGUS SERRATOR—*Linnaeus*.

**Geographical Distribution.**—*British*: Common resident in the north, but only a winter visitor in the south. Generally distributed along the English coasts and, in smaller numbers, on the inland waters, during winter; breeds throughout Scotland in all suitable districts, both inland and on the coasts, north to the Orkneys and Shetlands, and west to the Outer Hebrides and St. Kilda. Generally distributed in Ireland, both inland and on the coast, and breeds most abundantly on the wild, broken coast of the west. *Foreign*: Circumpolar, northern Palæarctic and Nearctic regions; more southerly in winter. Breeds in Greenland, Iceland, the Faroes, and throughout Scandinavia; thence across the basin of the Baltic and Russia, as far north as the Arctic Circle, and south to the Volga and Ural districts in lat. 50°. Eastwards it ranges across Siberia south of the Arctic Circle to the Pacific, but is not known to breed in Turkestan or the Himalayas. Its summer range in America extends a little lower, and during that season it ranges from about lat. 45° north to the Arctic Circle, from the Pacific to the Atlantic. During winter it is found on the inland waters and coasts of Central and Southern Europe as far south as the Mediterranean, but only accidentally on the African coast. It is also common at this season in the Black and Caspian Seas, in Turkestan, China, and Japan; whilst on the American Continent it ranges throughout the United States, and occasionally visits the Bermudas.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Red-breasted Merganser may be taken.**—August 1st to March 1st.

**Habits.**—Our resident Red-breasted Mergansers are considerably increased in numbers in autumn by migratory individuals from higher latitudes, which return again in spring. A considerable southern movement also takes place among the birds breeding in Scotland and the north-west of Ireland, many of the former straying to English waters. Although common enough in many comparatively inland districts, I should say that the favourite haunts of this species are on the coast, and that it is far more partial to marine localities than the preceding species. It loves a wild, rocky coast full of secluded bays and lochs and fjords, and studded with islands, and may frequently be observed where streams and rivers flow into the sea or loch. During winter it is gregarious, and flocks of varying size may then be met with at sea, or during rough weather, congregated in the sheltered bays and fjords. A long-continued spell of rough weather on the coast often drives this bird to inland waters and exceptional haunts. By the end of March most of these flocks are dispersed and the birds are in pairs at their usual breeding places. It is a shy and wary species, but owing to the rough nature of the banks of its favourite waters it may be easily stalked and watched. I know of few prettier sights than a pair of these Mergansers swimming all unsuspecting of danger in some quiet sea-loch. They swim side by side in the deep water close in-shore, and from time to time dive and reappear some distance further on. Then, perchance, they paddle in the shallows, or stand upon a rock an inch or two below the surface and preen their plumage, standing very upright, like a Cormorant or a Diver. In the pairing season I have often witnessed the aquatic gambols of these birds, the drake chasing the duck through the water or diving after and churning the calm sea into bubbles and foam for a considerable area. The Merganser feeds principally by day, and will fly with great regularity to certain spots, timing its arrival to a nicety just when the rocks are beginning to be exposed by the ebbing tide, and remaining as long as the deep pools, in which many fish are stranded, remain isolated. It flies almost invariably in spring and early summer in pairs, sometimes one bird several yards behind the other, but always

in company. The flight of this species is rapid and straightforward, the wings, which are beaten very quickly, making a whistling sound. It rises from the water in a rather laboured manner, often flapping along the surface for several yards before getting well on the wing; but during a high wind I have noticed it start up from the sea almost at once. It swims well, but sits low in the water, and dives head first like a Cormorant, descending to considerable depths, and often remaining under the surface for a minute or more. The note of this bird is aptly described by Naumann as a guttural *kurr*, uttered most frequently during flight. The food of the Red-breasted Merganser consists largely of fish, but crustaceans and small crabs are also eaten; and I have known this bird feed on limpets and whelks which the Oystercatchers had only partly devoured. This food is mostly obtained by diving, and it will be remarked that each capture is almost invariably brought to the surface to be eaten, the bird drinking and often rising three parts out of the water and flapping its wings after doing so. The flesh of this bird is fishy in taste and unpalatable. Be this as it may, I knew an old Highlander who used to swear by a fat Merganser, which he partly boiled first and then baked or roasted! This bird always tries to elude pursuit by diving—at least, such is my experience—both when in pairs and in flocks, only taking wing when the chase has evidently become too hot.

**Nidification.**—In the British Islands the breeding season of the Red-breasted Merganser begins in May, and the eggs are laid during the latter half of that month and the first half of June; but in more northern latitudes they are about a month later. This bird can scarcely be called gregarious during the breeding season, although many pairs may nest within a comparatively small area, especially in places where suitable sites are scarce. I should say they are distributed in more or less scattered pairs, each keeping much to itself. An island is preferred for a nesting-place, but where such is not available a quiet part of the mainland is chosen. All the nests that I have seen, and I have seen a good round number, were situated on rocky islets, except one, and that was on a portion of the shore which became an island at high water. The nest is usually made under

a rock or bank ; but rabbit burrows and crevices in walls are sometimes selected, and it is even placed among heather and furze, at no great distance from the water in our islands, but often some distance from the sea in wooded localities in other countries. The nest is scanty and in many cases is dispensed with altogether, the eggs lying on the ground until sufficient down accumulates to protect them. When a nest is made, it is merely a hollow into which a little dry grass and dried leaves are placed, finished off with a warm lining of down from the body of the female. The eggs are from eight to twelve in number and olive-gray of various shades in colour, smooth in texture, and with some little gloss. They measure on an average 2·6 inches in length by 1·7 inch in breadth. Down tufts large, pale brownish gray in colour, with obscure pale centres and tips. Incubation, performed entirely by the female, lasts twenty-eight days. Sometimes she sits very closely, but generally slips off at the first sign of danger and goes right away at once. The male is never seen at the nest, but he is generally stationed on the sea close by, and joins his mate when she leaves her eggs to come and feed ; whilst as soon as the young brood are abroad he retires to moult. The young soon take to the sea with their mother, and are remarkably active both in swimming and diving. Only one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Mergus*, with the head (crested) and upper neck black, shot with green and purple, with the lower neck and upper breast buff streaked with black, with black margins to the white feathers on the sides of the breast, and with the flanks strongly vermiculated with grayish black (adult male) ; with the head (crested) and upper neck pale chestnut, and with the wing varying from 8·25 to 9 inches in length (adult female). Length, 24 to 26 inches (male) ; 22 to 23 inches (female).

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus MERGUS.

## HOODED MERGANSER.

MERGUS CUCULLATUS—*Linnaeus*.

**Geographical Distribution.**—*British*: Rare and irregular straggler to the British Islands in winter. Several of the alleged occurrences of this species are unworthy of credence, but the reliable evidence on which its claim to be regarded as “British” is founded may be briefly summarised as follows—England: Norfolk (2 examples), winter of 1829, about year 1838. Wales: Menai Straits (1 example), winter of 1830-31. Ireland: Co. Kerry, Dingle Bay (1 example), about year 1840; Co. Meath (1 example), no data; Co. Cork, Cork Harbour (2 examples), December, 1878; Co. Kerry (1 example), January, 1881; Co. Sligo (1 doubtful example, not preserved), winter, 1880-81. *Foreign*: Northern Nearctic region; more southerly in winter. Breeds in Arctic and north temperate America from the Atlantic to the Pacific, as far north as the Arctic Circle, and as far south as about lat. 45°. During winter it visits most parts of the United States, extending its winter area to Mexico and the West Indies. It occasionally visits the Bermudas, but is not known to occur in Greenland, Iceland, or any part of Continental Europe.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Hooded Merganser may be taken.**—August 1st to March 1st.

**Habits.**—The Hooded Merganser does not differ in its habits and economy from its congeners in any known important

particular. It is perhaps more of an inland species than the preceding bird, attached to fresh water during summer like the Goosander, but resorting to the coasts in winter, where it prefers a deeply indented rocky shore to the more open sea. It is gregarious during the latter season, although the flocks are never very large, and not only frequents the sea, but visits inland waters, especially flooded tracts of country. Like its allies it is an accomplished diver, obtaining most of its food under the surface. It also flies with great speed, but is clumsy enough on land, shuffling along in an awkward manner with its breast touching the ground, or nearly so. The food of this Merganser is composed almost exclusively of fish, but crustaceans and various kinds of aquatic insects are also sought. It is said to be a shy, wary bird, preferring to elude pursuit by diving rather than flying, and so expert at this as to disappear very often at the flash of the gun, and rising again uninjured far out of range. The note of this species does not differ from that of allied birds. During winter the Hooded Merganser sometimes associates with other Ducks, and in our islands has been observed to do so with its ally, the Red-breasted Merganser.

**Nidification.**—The breeding grounds of the Hooded Merganser are lake and river districts where plenty of trees occur; in this respect it exactly resembles its two allies, the Smew and the Goosander. The nest is made in a hole of a tree or in a hollow fallen log. The eggs are at first laid on the powdered wood, but gradually a thick warm bed of down accumulates, plucked from the body of the female. The eggs are from five to eight in number, pure white in colour, smooth in texture, and remarkably rotund; the latter shape, it may be remarked, is very prevalent among birds nesting in holes where space is limited. They measure on an average 2·1 inches in length by 1·7 inch in breadth. Down tufts moderate and very pale gray in colour. The female performs the task of incubation, which is said to last thirty-one days. She then conveys her brood to the water in her bill one by one, where they are remarkably active, swimming and diving with ease. It is not known that more than one brood is reared in the year.

**Diagnostic Characters.**—(Nuptial plumage), *Mergus*, with

the head and upper neck black, ornamented with a very conspicuous crest, white margined with black, and with two black crescentic marks on each side of the breast (adult male); with the head (crested) and upper neck uniform brown, and the underparts below the neck uniform white (adult female). Length, 17 to 19 inches.

Family ANATIDÆ.  
Subfamily FULIGULINÆ.

Genus MÆRGUS.

## SMEW.

MÆRGUS ALBELLUS—*Linnæus*.

**Geographical Distribution.**—*British*: Rare and irregular winter visitor to the British Islands, where, as one might naturally expect from the peculiarities of its normal geographical area, it is most frequently observed on our eastern seaboard. Adult males are nothing near so frequently observed as young males and females, and these are pretty generally dispersed along the south and east coasts of England and the east coast of Scotland. On the west of England and Scotland, including the Hebrides, it is much rarer. In Ireland it is also of rare and irregular appearance, principally in the north and central districts. *Foreign*: Northern Palæarctic region, more southerly in winter; extreme north of Oriental region in winter. Breeds in Russia as far west as Finnish Lapland, as far north as the Arctic Circle, and as far south as the Gulf of Finland in the west, and to the valleys of the Kama and Lower Volga in the east. Thence it may be traced across northern Siberia south of the Arctic Circle (some authorities say the limit of forest growth) to the shores of the Pacific. During migration or in winter it is an accidental wanderer to the Scandinavian coasts (both the Atlantic and the Baltic), but it is not known to visit the Faroes and Iceland. It is also found at this season along the coasts and on the inland waters of Central, Western, and Southern Europe, as far south as Morocco and the Mediterranean. It also visits the Black and Caspian Seas at this season. On migration it crosses Turkestan, Southern Siberia, and Mongolia, and winters in Northern India, China, and Japan.

**Allied Forms.**—None of sufficient propinquity to call for notice.

**Time during which the Smew may be taken.**—August 1st to March 1st.

**Habits.**—The Smew is certainly the least maritime of the Mergansers, although it is most frequently met with on the coasts, and not inland, during its winter visits to the British Islands. Here, as elsewhere in the southern limits of its winter area, young birds are most frequent, confirming the oft-expressed opinion of several ornithologists that birds of the year wander further south as a rule than the adults. The Smew remains in its usual haunts as long as the water remains free from ice, and even in the exceptionally severe climate of Asia it is a bird of late passage. Hume states that even in Upper India it does not arrive until November, and that it leaves equally early in spring, most having left the country by the end of March. Not only so, but its appearances are rare and irregular, and mostly confined to immature individuals. Like all its allies it is a very gregarious bird during winter, and lives in flocks of varying size up to thirty or forty individuals. Its favourite haunts in India are large rivers and lakes, but it occasionally frequents smaller sheets of water. Where its haunts are extensive it usually remains the entire winter sedentary, but in the more restricted waters it is more restless, and generally deserts them altogether if much sought by the gunner. It is a wary bird, keeping well out from shore in the open water, and even when diving a few individuals remain on the surface to watch for danger. This it usually seeks to evade by swimming quickly away, its body low in the water, and when fired at dives at once, and reappears well out of range. The flock, after having dived *en masse*, come up in scattered order, but each bird swims to a converging point, and all are soon bunched together again. If hard pressed the birds rise and circle in the air, again dropping perhaps several miles away. The Smew is said to be ever a restless, active bird, swimming to and fro and diving at intervals. It rarely visits land, and even sleeps upon the water. Its flight is quick but almost silent, and the bird rises out of the water with little effort or splash. The Smew is a most accomplished diver, and according to Hume its movements under water are even more rapid than those of the Cormorants or Grebes. The wings are used in diving, and the birds frequently go to a great

depth, and remain under water for a minute at a time. The food of this Duck is composed principally of small fish, but frogs, aquatic insects, and crustaceans are also eaten. The bird is not known to eat anything of a vegetable nature. The note of the Smew is described as a harsh *kurr*, but it is a remarkably silent bird in its winter quarters. Jerdon states that it utters an oft-repeated bell-like call, probably at its breeding grounds, because this peculiar note has won for it the name of Bell Duck in Northern Asia. The flesh of this species is rank and unpalatable.

**Nidification.**—The breeding grounds of the Smew are situated in the swampy forest districts of the Arctic regions where lakes and streams abound, where big swamps, studded with pools, connected by streams, and surrounded by trees form a pleasant relief to the monotony of the northern forests. It is a rather late breeder, not laying until July or the very end of June. The nest is placed either in a hollow fallen log, or in a hole in the trunk of a tree or broken stump. The first eggs are laid on the powdered wood at the bottom of the hole, but as the clutch is completed a plentiful lining of down is added, plucked from the body of the female. The eggs are from seven to eight in number, creamy white in colour, smooth in texture, and with some gloss. They measure on an average 2·0 inches in length by 1·47 inch in breadth. Down tufts moderate and very pale grayish white. The female usually conveys her brood to the nearest water in her bill. Only one brood is reared in the year, and it would appear that the duck and her young, or at least the young, keep company during the winter.

**Diagnostic Characters.**—(Nuptial plumage), *Mergus*, with the head (crested) and neck white, except a large spot between the eye and the bill, and another on each side of the nape, where they meet, which are black shot with green (adult male); with the feathers of the forehead, crown, and nape (the latter elongated into a crest) chestnut, and with a large black patch between the eye and the bill (adult female). Length, 17 to 18 inches (male); 15 to 17 inches (female).

## INDEX.

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- Ægialitis*, 116  
*Ægialitis hiaticula*, 116, 120, 124, 127  
*Ægialitis hiaticula major*, 120, 125  
*Ægialitis minor*, 117  
*Ægialitis minor jerdoni*, 117  
*Ægialitis placidus*, 117  
*Ægialitis semipalmata*, 120, 124, 125  
*Ægialitis vocifera*, 127  
*Ægialophilus*, 129  
*Ægialophilus asiaticus*, 133  
*Ægialophilus cantianus*, 129, 130  
*Ægialophilus cantianus dealbatus*, 131  
*Ægialophilus cantianus minutus*, 130  
*Ægialophilus cantianus nivosus*, 131  
 American Golden Plover, 145  
 American Pectoral Sandpiper, 275  
 American Stint, 282  
 American Teal, 386  
 American Wigeon, 380  
*Anas*, 367  
*Anas acuta*, 372  
*Anas americana*, 377, 380  
*Anas boschas*, 367, 397  
*Anas capensis*, 394  
*Anas carolinensis*, 382, 386  
*Anas circa*, 388, 391  
*Anas clypeata*, 393  
*Anas crecca*, 382, 386  
*Anas cyanoptera*, 389, 391  
*Anas discors*, 388, 391  
*Anas gloctians*, 383  
*Anas obscura*, 397  
*Anas penelope*, 376, 381  
*Anas platalea*, 394  
*Anas rhynchotis*, 394  
*Anas strepera*, 368  
*Anas variegata*, 394  
 Anatidæ, 314, 315, 326, 356, 401  
 Anatinæ, 356  
*Anser*, 327  
*Anser albifrons*, 336, 339, 342  
*Anser albifrons minutus*, 336, 339, 342  
*Anser brachyrhynchus*, 331, 333  
*Anser cinereus*, 327, 335, 340  
*Anser cinereus rubrirostris*, 336  
*Anser cygnoides*, 331  
*Anser gambeli*, 339, 342  
*Anser hyperboreus*, 328  
*Anser hyperboreus nivalis*, 328  
*Anser segetum*, 330, 333  
*Anser segetum serrirostris*, 331  
 Anseriformes, 314  
 Anserinæ, 326  
 Asiatic Golden Plover, 142  
  
 Baillon's Crake, 68  
 Bar-tailed Godwit, 236  
 Bartram's Sandpiper, 202  
 Bean Goose, 330  
 Bernacle Goose, 350  
*Bernicla*, 344  
*Bernicla brenta*, 344, 345, 348  
*Bernicla brenta glaucogaster*, 345, 348  
*Bernicla canadensis*, 351  
*Bernicla leucopsis*, 350  
*Bernicla nigricans*, 345, 348  
*Bernicla ruficollis*, 353  
 Bewick's Swan, 320  
 Black Grouse, 37  
 Black-tailed Godwit, 240  
 Blue-winged Teal, 391  
 Bonaparte's Sandpiper, 266  
 Brent Goose, 345  
 Broad-billed Sandpiper, 272  
 Buff-breasted Sandpiper, 292  
 Buffel-headed Duck, 419  
  
*Caccabis*, 51  
*Caccabis petrosa*, 52  
*Caccabis rufa*, 51, 52  
*Caccabis saxatilis var. chukar*, 52  
*Caccabis saxatilis var. magna*, 52  
 Capercaillie, 32  
 Caspian Sand Plover, 133  
 Charadriidæ, 109, 165, 248  
 Charadriiformes, 98, 109, 111  
 Charadriinæ, 111  
*Charadrius*, 134  
*Charadrius fulvus*, 139, 142, 145  
*Charadrius fulvus americanus*, 139, 142, 145  
*Charadrius helveticus*, 147  
*Charadrius morinellus*, 135  
*Charadrius pluvialis*, 134, 138, 142, 145  
*Charadrius veredus*, 135

- Columba, 2  
 Columba cenas, 2, 6  
 Columba casiotis, 3  
 Columba eversmanni, 6  
 Columba intermedia, 9  
 Columba livia, 9  
 Columba palumbus, 3  
 Columba rupestris, 9  
 Columbidae, 1  
 Columbiformes, 1  
 Common Avocet, 172  
 Common Coot, 84  
 Common Crane, 90  
 Common Curlew, 182  
 Common Eider, 443  
 Common Oystercatcher, 177  
 Common Pratincole, 162  
 Common Redshank, 225  
 Common Sandpiper, 208  
 Common Scoter, 431  
 Common Sheldrake, 358  
 Common Snipe, 305  
 Common Stilt, 167  
 Common Stone Curlew, 113  
 Common Teal, 382  
 Common Whimbrel, 186  
 Corn Crane, 61  
 Coturnix, 55  
 Coturnix communis, 55, 56  
 Cream-coloured Courser, 158  
 Crex, 60  
 Crex bailloni, 68  
 Crex carolina, 65  
 Crex parva, 71  
 Crex porzana, 65  
 Crex pratensis, 60, 61  
 Curlew Sandpiper, 259  
 Cursorius, 157  
 Cursorius gallicus, 157, 158  
 Cursorius gallicus var. bogolubovi, 158  
 Cursorius rufus, 159  
 Cursorius somalensis, 158  
 Cygninae, 315  
 Cygnus, 316  
 Cygnus bewicki, 318, 320  
 Cygnus immutabilis, 323  
 Cygnus musicus, 316, 317, 320  
 Cygnus olor, 323  
  
 Demoiselle Crane, 94  
 Dotterel, 135  
 Dunlin, 262  
 Dusky Redshank, 228  
  
 Eastern Turtle Dove, 16  
 Ereunetes, 244  
 Ereunetes griseus, 245  
 Ereunetes griseus scolopaceus, 245  
 Ereunetes pusillus, 244, 258  
 Ereunetes taczanowskii, 246  
 Eskimo Whimbrel, 190  
  
 Fulica, 83  
 Fulica americana, 85  
 Fulica atra, 83, 84  
 Fulica cristata, 85  
 Fuligula, 402  
 Fuligula affinis, 414  
 Fuligula albeola, 419  
 Fuligula americana, 410  
 Fuligula clangula, 421  
 Fuligula collaris, 416  
 Fuligula cristata, 402, 416  
 Fuligula ferina, 410  
 Fuligula fusca, 434  
 Fuligula fusca velvetina, 434  
 Fuligula glacialis, 428  
 Fuligula glaucion, 419, 422  
 Fuligula glaucion americana, 422  
 Fuligula histrionica, 425  
 Fuligula islandica, 422  
 Fuligula marila, 413  
 Fuligula nigra, 431  
 Fuligula nigra americana, 432  
 Fuligula nyroca, 406  
 Fuligula perspicillata, 437  
 Fuligula rufina, 403  
 Fuligula vallisneria, 411  
 Fuligininae, 401  
  
 Gadwall, 368  
 Galliformes, 17, 22  
 Gallinula, 78  
 Gallinula chloropus, 78, 79  
 Gallinula galatea, 80  
 Gallinula nesiotis, 80  
 Gallinula pyrrhorrhoea, 80  
 Gallinula tenebrosa, 79  
 Gallulininae, 78  
 Garganey, 388  
 Glareola, 161  
 Glareola melanoptera, 163  
 Glareola orientalis, 163  
 Glareola pratincola, 161, 162  
 Golden-eye, 421  
 Golden Plover, 138  
 Goosander, 451  
 Gray Lag Goose, 335  
 Gray Phalarope, 194  
 Gray Plover, 147  
 Great Bustard, 100  
 Greater Ringed Plover, 120  
 Great Snipe, 302  
 Green Sandpiper, 215  
 Greenshank, 231  
 Gruidae, 88  
 Gruiformes, 88  
 Grus, 89  
 Grus cinerea, 89  
 Grus communis, 90  
 Grus virgo, 94  
  
 Hæmatopus, 176

- Hæmatopus osculans*, 177  
*Hæmatopus ostralegus*, 176, 177  
 Harlequin Duck, 425  
*Himantopus*, 166  
*Himantopus brasiliensis*, 168  
*Himantopus leucocephalus*, 168  
*Himantopus leucocephalus picatus*, 168  
*Himantopus melanopterus*, 166, 167  
*Himantopus melas*, 168  
*Himantopus mexicanus*, 168  
 Hooded Merganser, 459  
 Hooper Swan, 317
- Jack Snipe, 310
- Kentish Sand Plover, 130  
 Killdeer Plover, 127  
 King Eider, 447  
 Knot, 254
- Lagopus*, 23  
*Lagopus albus*, 23, 27  
*Lagopus leucurus*, 24  
*Lagopus mutus*, 24  
*Lagopus mutus var. hemileucurus*, 24  
*Lagopus mutus var. rupestris*, 24  
*Lagopus scoticus*, 27  
 Lapwing, 151  
 Lesser Snow Goose, 328  
 Lesser White-fronted Goose, 342  
*Limosa*, 235  
*Limosa fedoa*, 237  
*Limosa hudsonica*, 241  
*Limosa melanura*, 235, 240  
*Limosa melanura melanuroides*, 241  
*Limosa rufa*, 236  
*Limosa rufa uropygialis*, 237  
 Little Bustard, 103  
 Little Crane, 71  
 Little Ringed Plover, 117  
 Little Stint, 278  
 Long-tailed Duck, 428
- Macqueen's Bustard, 106  
 Mallard, 397  
 Marsh Sandpiper, 234  
*Meleagrinx*, 23  
*Mergus*, 450  
*Mergus albellus*, 462  
*Mergus cucullatus*, 459  
*Mergus merganser*, 450, 451  
*Mergus merganser americanus*, 451  
*Mergus serrator*, 455  
 Mute Swan, 323
- Numenius*, 181  
*Numenius arquatus*, 181, 182  
*Numenius arquatus lineatus*, 183  
*Numenius borealis*, 190  
*Numenius hudsonicus*, 187  
*Numenius longirostris*, 183  
*Numenius minutus*, 190  
*Numenius phæopus*, 186  
*Numenius phæopus variegatus*, 186  
*Numenius tahitiensis*, 187  
*Numidinae*, 23
- Odontophorinae*, 23  
*Œdicnemus*, 112  
*Œdicnemus crepitans*, 112, 113  
*Œdicnemus crepitans indicus*, 113  
*Œdicnemus senegalensis*, 114  
*Otididæ*, 98  
*Otis*, 99  
*Otis dybowskii*, 100  
*Otis houbara*, 106  
*Otis macqueeni*, 106  
*Otis tarda*, 99, 100  
*Otis tetrax*, 103
- Pallas's Sand Grouse, 19  
 Partridge, 48  
*Pavoninae*, 23  
*Perdix*, 23, 47  
*Perdix*, 47  
*Perdix barbata*, 48  
*Perdix cinerea*, 47, 48  
*Perdix cinerea var. robusta*, 48  
*Phalaropus*, 193  
*Phalaropus fulicarius*, 193, 194, 199  
*Phalaropus hyperboreus*, 195, 198  
*Phalaropus wilsoni*, 195, 199  
*Phasianidæ*, 22, 41  
*Phasianinae*, 23  
*Phasianus*, 41  
*Phasianus colchicus*, 41, 42, 46  
*Phasianus elegans*, 46  
*Phasianus mongolicus*, 46  
*Phasianus mongolicus var. insignis*, 46  
*Phasianus mongolicus var. shawi*, 46  
*Phasianus torquatus*, 46  
*Phasianus torquatus var. decollatus*, 46  
*Phasianus torquatus var. formosanus*, 46  
*Phasianus torquatus var. vlangalii*, 46  
*Phasianus versicolor*, 46  
 Pheasant, 42  
 Pink-footed Goose, 333  
 Pintail Duck, 372  
 Pochard, 410  
 Ptarmigan, 24  
*Pteroclidæ*, 17  
 Purple Sandpiper, 268
- Quail, 56
- Rallidæ*, 59  
*Ralliformes*, 59  
*Rallinae*, 60  
*Rallus*, 74  
*Rallus aquaticus*, 74, 75  
*Rallus indicus*, 75  
*Recurvirostra*, 171

- Recurvirostra americana*, 173  
*Recurvirostra avocetta*, 171, 172  
*Recurvirostra rubricollis*, 173  
 Red-breasted Goose, 353  
 Red-breasted Merganser, 455  
 Red-breasted Snipe, 245  
 Red-crested Pochard, 403  
 Red Grouse, 27  
 Red-legged Partridge, 52  
 Red-necked Phalarope, 198  
 Ring Dove, 3  
 Ringed Plover, 124  
 Rock Dove, 9  
 Ruddy Sheldrake, 362  
 Ruff, 205  
*Sanderling*, 288  
 Scaup, 413  
*Scolopacinae*, 248  
*Scolopax*, 295  
*Scolopax æquatorialis*, 303  
*Scolopax australis*, 302  
*Scolopax gallinago*, 305  
*Scolopax gallinago wilsoni*, 305  
*Scolopax gallinula*, 310  
*Scolopax major*, 302  
*Scolopax megalala*, 302  
*Scolopax minor*, 296  
*Scolopax rochussenii*, 297  
*Scolopax rusticola*, 295, 296  
*Scolopax sabinii*, 306  
*Scolopax saturata*, 297  
 Shoveller, 393  
 Smew, 462  
 Sociable Lapwing, 155  
 Solitary Sandpiper, 218  
 Somateria, 440  
*Somateria mollissima*, 440, 443  
*Somateria mollissima dresseri*, 443  
*Somateria spectabilis*, 447  
*Somateria stelleri*, 441  
*Somateria v-nigrum*, 444  
 Spotted Crane, 65  
 Steller's Eider, 441  
 Stock Dove, 6  
*Streptopelia*, 249  
*Streptopelia interpres*, 249, 250  
*Streptopelia melanocephalus*, 250  
 Surf Scoter, 437  
*Syrhaptes*, 18  
*Syrhaptes paradoxus*, 18, 19  
*Syrhaptes thibetanus*, 19  
*Tadorna*, 357  
*Tadorna casarca*, 362  
*Tadorna cornuta*, 357, 358  
 Temminck's Stint, 285  
 Tetrao, 31  
*Tetrao kamtschaticus*, 33  
*Tetrao mlokosiewiczii*, 37  
*Tetraoninae*, 23  
*Tetrao tetrix*, 37  
*Tetrao urogallus*, 31, 32  
*Tetrao urogalloides*, 33  
*Totantinae*, 165  
*Totanus*, 201  
*Totanus bartramii*, 202  
*Totanus calidris*, 201, 225, 228  
*Totanus flavipes*, 220, 223  
*Totanus fuscus*, 228, 231  
*Totanus glareola*, 220, 223  
*Totanus glottis*, 228, 231, 234  
*Totanus guttiferus*, 232, 234  
*Totanus hypoleucus*, 208, 214  
*Totanus macularius*, 208, 212, 213  
*Totanus melanoleucus*, 223  
*Totanus ochropus*, 215, 218  
*Totanus pugnax*, 205  
*Totanus solitarius*, 215, 218  
*Totanus stagnatilis*, 232, 234  
*Tringa*, 253  
*Tringa acuminata*, xv, 275  
*Tringa acuminata pectoralis*, 275  
*Tringa alpina*, 262  
*Tringa alpina pacifica*, 263  
*Tringa arcnaria*, 288  
*Tringa canutus*, 253, 254, 266  
*Tringa crassirostris*, 255, 260  
*Tringa fuscicollis*, 260, 266  
*Tringa maritima*, 268  
*Tringa maritima couesi*, 269  
*Tringa maritima ptilocnemis*, 269  
*Tringa minuta*, 278, 282  
*Tringa minuta ruficollis*, 278, 282  
*Tringa platyrhyncha*, 272  
*Tringa rufescens*, 292  
*Tringa subarquata*, 259  
*Tringa subminuta*, 279, 282  
*Tringa subminuta minutilla*, 279, 282  
*Tringa temminckii*, 285  
 Tufted Duck, 416  
 Turnstone, 250  
 Turtle Dove, 13  
 Turtur, 12  
*Turtur auritus*, 13  
*Turtur ferrago*, 13  
*Turtur isabellinus*, 13  
*Turtur orientalis*, 13, 16  
*Vanellus*, 150  
*Vanellus cristatus*, 150, 151  
*Vanellus gregarius*, 155  
*Vanellus leucurus*, 155  
 Velvet Scoter, 434  
 Water Rail, 75  
 White-bellied Brent Goose, 348  
 White-eyed Pochard, 406  
 White-fronted Goose, 339  
 Wigeon, 376  
 Woodcock, 296  
 Wood Sandpiper, 220  
 Yellow-legged Sandpiper, 223

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