U. S. National Museum), although described by Mr. Ridgway as "identical in coloration with *C. p. parellina*," we find upon examination is not to be told from specimens of *indigotica* from farther north as regards coloration, and is closely approached by some of them in size.

Carnegie Museum, Pittsburgh, Pa.

# FIELD STUDIES OF THE ANATIDAE OF THE ATLANTIC COAST.

# BY LUDLOW GRISCOM \*

# SUBFAMILY FULIGULINAE.

This subfamily is at first very puzzling to the student because, for the group as a whole, there are hardly any generalizations without exceptions. The build, however, is much more stocky than in the Anatinae. The head is frequently rounded, and always stouter than in Mergansers. The neck is short except in the Canvasback, Old Squaw, Eiders, and Scoters, and then it is much thicker than in other ducks. The wing is very broad at the base, narrowing much more rapidly to a point than in Anatinae. In the Ruddy Duck this is carried to an extreme, so that the wing appears almost round in flight. The wing beats are much more rapid than in Anatinae, the wing arcs shorter. The flocking habits are also subject to variation. The members of the genus Marila fly either in dense clouds or else strung out in lines at right angles to the direction of flight. The Eiders and Scoters flock like Mergansers, as does also the Old Squaw. The other species rarely gather in flocks of any size and then exhibit no peculiar formation. With the exception of the Golden-eye and possibly Marila. the species of this subfamily rise from the water less steeply than the Anatinae, and alight more awkwardly. As a rule Marila, the Golden-eye and Bufflehead fly high; the Old Squaw, Eiders, Scoters and Ruddy Duck just above the water. There is, generally, a difference in the bill of the Anatinae and

<sup>\*</sup> Concluded from Vol. XXXIX, p. 530.

Fuligulinae when they are not too far away. It is usually shorter in the latter, much less expanded at the tip and deeper at the base.

Although there are many minor differences in this group, as already pointed out, nearly all the species have two or more of the characters given above, so that they can be recognized at long distances. These ducks are the most abundant in the Eastern United States, nearly all preferring the ocean or large bodies of water and rarely occurring in other places. All dive for their food, which the *Anatinae* rarely or never do.

### 16. Marila americana—Redhead.

At close range on the water the male of this species is easily recognized by the brick-red head and upper neck. At any distance it is easily separable from the Canvasback by the profile of the bill and forehead which rises gradually from the nostril to the crown of the head in the latter, but shows an abrupt rise at the feather line in the Redhead. This applies to both sexes. The female appears very much like a female Scaup, but lacks the white around the bill, is generally paler, and has no conspicuous white stripe in the wing.

In flight the absence of white in the wing is conspicuous at close range, and is discernible in good light a half mile away. At a great distance Redheads mixed with Scaups can be picked out by their slightly larger size and more slender build. When such a flock is flushed the Redheads usually mount high, the top stratum of birds almost always being this species. Under these circumstances the Canvasback appears much larger, and in good light the white back gleams like snow, visible at times for two miles. The peculiar profile of the Canvasback is also discernible at a surprisingly great distance.

The female Redhead, when feeding and feeling quite serene is loquacious. She quacks like a half choked Black Duck according to Eaton, but to me it sounds like a growl, and might be represented by the syllables r-r-r-r-whâ, r-r-r-r-whâ, given rather deliberately in pairs. It is easily imitated. The male is usually silent.

#### 17. Marila valisineria—Canvasback.

Means of distinguishing this species from the Redhead and the Scaups have already been briefly discussed under the Redhead. The profile of the bill and head give it, at a distance, the effect of having the wings placed far aft, which can be used to distinguish it from the other members of the genus two miles away. The larger size is also apparent when the three species are together. At great distances, in fact, the Canvasback looks more like a Merganser than anything else, but differs in the stouter body and the position of the body in flight already described under the Mergansers.

The characters mentioned apply equally well to both sexes. The student, however, should not attempt to distinguish these birds at a great distance, and should use only the profile of the head and bill as a means of identification unless thoroughly familiar with all three species.

#### 18. Marila marila—Scaup Duck.

#### 19. M. affinis—Lesser Scaup Duck.

Enough has been said already to distinguish these species from the Redhead and Canvasback. Any student with the proper knowledge beforehand should be able to identify a Scaup at a moderate distance and with a little practice at two miles.

The two species are so much alike that I consider them inseparable except under such favorable occasions as rarely occur. The male Lesser Scaup differs from its relative in being about an inch and a half smaller, in having the flanks more heavily barred, and the gloss of the head purplish instead of greenish. At a maximum distance of 100 feet the color of the gloss may be made out. Only four times in the last ten years, however, have I been near enough to be able to do so. I do not consider the barring on the flanks a field character, nor is comparison of size at close range of practicable value. The females I consider absolutely indistinguishable.

Many students believe that the Lesser Scaup is confined to creeks, ponds and streams, and that all Scaups seen in salt water or on the ocean are Greaters. This is by no means the case, however, and is typical amateur ornithology. Both species are apt to occur together in any kind of water, although the Greater occurs only accidentally on smaller bodies of fresh water. Enough has been said to show the difficulty in separating the two species. It is hard enough sometimes to identify skins.

#### 20. Marila collaris—RING-NECKED DUCK.

This species is so rare in the northeastern States as to be considered almost accidental. In western New York, however, it is occasionally noted, and winters in the southern States in small numbers, while in the freshwater lakes of northern Florida it is the most abundant duck. It is essentially a fresh water species, and is to be looked for associated with Lesser Scaups.

From its relative the male can be easily separated at a distance not greater than 150 yards by its smaller size, black back and black bill with a light blue band near the tip. The latter is an especially good field mark. The feathers on the back of the head are long and stand out, giving the bird a sub-crested appearance. This shows when no color can be made out at all, and furnishes a clue to the species.

To distinguish the female Ring-neck and Scaup is much more difficult. There is much less white around the base of the bill, and it is pure white on the chin only. The plate in Eaton's 'Birds of New York' is incorrect in this particular. The female Ring-neck also has a white eye-ring, and the sides of the head below the eye are a much paler brown than the top of

the head. The head of a female Scaup is uniformly colored. The bill of the female Ring-neck is colored as in the male.

The chestnut collar of the male is not a field mark, as I have been able to detect it only once during the course of these studies. The white in a Scaup's wing is replaced by bluish gray in the Ring-neck, but the difference is too slight when the bird is moving to be reliable. On account of its rarity in most sections this species should be identified with the greatest caution and only under most favorable circumstances.

# 21. Clangula clangula americana—Golden-Eye; Whistler.

The large, round, white spot in front of the eye of the male Whistler, as this species is popularly called, serves to distinguish it from any other member of this subfamily when sitting on the water. Both sexes may also be known by the puffy head, with an almost circular outline, caused by the elongation of the feathers of the occiput.

In flight the puffy head gives the bird an extremely short-necked appearance which is very noticeable. The wing-beats are extremely rapid. The male has a large amount of white in the wing, and the female, which has much less, may also be known from a Scaup in that the white is in the form of a patch or mirror and not a long stripe. Both sexes are famous for the musical whistling of their wings, which has a humming resonant quality and is audible at a very great distance. It can often be heard when the birds are practically invisible to the naked eye. This species rises from the water as rapidly and as steeply as a Black Duck.

The foregoing characters distinguish this species at great distances.

# 22. Clangula islandica—Barrow's Golden-Eye.

The drake can be easily distinguished from the last at close range by the different shape of the white spot on the face and its relative position with regard to the eye. The females and young are absolutely indistinguishable.

This species is so rare even in the northeastern States that it should be identified with the greatest caution. A sight record would be of little value unless made by a trained field ornithologist.

### 23. Charitonetta albeola-Bufflehead.

As this handsome little duck floats gracefully over the water, it may be recognized at once by its puffy head and large, triangular shaped, white patch on the occiput, and also by its striking black and white coloration. In this respect, as we las in size, it resembles the male Hooded Merganser, but differs, of course, decidedly in the build and the proportions of the body. The female is an insignificant duck. She may be told by her small size, puffy head, white spot on the side of the head and the white in the secondaries.

At long range in flight the Bufflehead looks like a diminutive Scaup or Golden-eye. The wing beats are much more rapid than in a Scaup and the neck is not short as in a Golden-eye. These three characters serve

to distinguish it from its relatives. From a Hooded Merganser or Teal it can always be told by its shape and wing-arcs which are similar to those of other sea ducks.

## 24. Harelda hyemalis—Old Squaw.

The Old Squaw, thanks to several peculiarities, can be distinguished as far as the eye can detect it. On the water at reasonable distances the male in winter plumage is mostly white with black on the side of the head, breast, stripe down the middle of the back, and wings. The tail feathers are greatly elongated. In summer plumage the head, neck and breast are black with the sides of the head pure white. The peculiar pattern of coloration is very striking and can be accredited to no other species. The female is equally striking, with a large amount of white combined with no white in the wing. No other duck has so much white with a black wing.

It is, however, when the birds are on the wing that they are most easily identified. Close by, the absence of white in the wing and the striped black and white back of the male are good color characters. The Old Squaw's body is stocky just as in other members of its subfamily but the neck is long and thin with the head of the normal type. This combination gives the bird a unique shape. The flight is also peculiar but difficult of description. The wings are held more curved than in other species and this, at a distance, produces the following effect:—the wing tips instead of moving up and down at right angles to the body seem to be directed backwards towards the tail during the downstroke. The wing are would consequently be twisted. Secondly the wing is brought less above the body, during the upstroke and much lower during the downstroke than in any other sea duck. Thirdly the bird has a trick of kealing over a little to one side—usually that nearest the shore. This might be explained by saying that a line connecting the two wings at the shoulder joints would not be parallel to the water's surface.

The Old Squaw is highly gregarious. A few birds fly in Indian file, but a greater number group themselves in various ways. In the spring after March 15 the birds are nearly all paired and the male almost invariably flies behind the female. This rule holds good for pairs at other seasons. They love to gather on the water in "rafts" and at such times are very noisy, a musical chattering "honk-a-link, honk-a-link," reaching the listener at times over a mile of silent water. As a rule this species flies low over the water but is much given to erratic changes of course, turning almost as rapidly as a Teal. The males, especially in the spring, are fond of dashing straight up in the air and descending with equal swiftness. The Sea Ducks all alight in the water with a splash, but this species is particularly awkward, flopping in most ungracefully, its momentum at times carrying it for some 25 feet over the water. As a result it has a habit of flying beyond its intended alighting place and then turning sharply, thus reducing its speed.

## 25. Histrionicus histrionicus—Harlequin Duck.

The drake at close range cannot be mistaken for a single other species for a moment. At a distance it is a dark bird with white patches, stripes or spots in various places. The stripe on the side of the body just forward of the wing is the last one to become invisible, and is sufficient to identify it. On the water the tail is cocked up in the air.

The female is an obscure little duck, and its rarity in the North-east makes the greatest care and caution necessary in identifying it. It is usually compared to a female Bufflehead, and distinguished by having two light spots on the side of the head instead of one. As a matter of fact it is a larger and a much darker bird, the shade of brown suggesting a female Scoter or young Old Squaw, and it is the latter bird which is most apt to be called a Harlequin by the over-enthusiastic. At a distance the detail of the two light spots becomes dim, and both birds give the effect of light color on the side of the head, and the difference becomes one of degree only, not at all satisfactory when so rare a bird is involved. I once watched a lone bird off a rocky coast for over half an hour without definitely settling its identity until it began to dive, giving brief glimpses of the light belly of an Old Squaw.

#### 26. Somateria dresseri—Eider

## 27. Somateria spectabilis—King Eider.

The distribution of the two Eiders in the North-eastern States is peculiar. The American Eider, while steadily decreasing in numbers, is still not uncommon in winter as far south as Cape Cod and Martha's Vineyard, but south of these points it is a very rare bird, and there are only four records for Long Island. The King Eider on the other hand is a rare bird in New England, but visits eastern Long Island regularly in winter, and is occasionally common.

Eiders in life have the same flight habits and general shape and appearance as large Scoters. The adult males, as usual, are unmistakable. No other Sea Ducks, except the Old Squaw, have more white above than below. Adult females look again like large Scoters, but are a much warmer shade of brown. Immature birds lose this color effect, but the barring, streaking, and vermiculation over the whole body produces an effect which is more easily noticed than described, and is discernible at a surprising distance. As a matter of fact size alone would eliminate all but the white-winged Scoter, the white wing patch of which is visible at a great distance. At a great distance, also, young Eiders look brown, Scoters black.

Separating the two Eiders, however, is a different proposition. The males are easily distinguishable by several characters, but the best one, which applies at any season and at the maximum distance is the wing. In the King Eider the wing is black with a white patch. In the American Eider the fore-part of the wing is white, the terminal half black.

It is possible under favorable circumstances to distinguish the adult

female King Eider. The bird has a decidedly rusty or buffy brown rather than a sooty brown appearance. The unstreaked throat makes this part appear lighter than the top of the head, giving a contrasted effect which the American Eider does not have. The feathers of the lesser wing-coverts and scapulars are buffy or rusty brown with broad black centers, giving a contrasted coarsely mottled effect, which is noticeable at a considerable distance. This is very different from the uniform sooty-brown wing of the American Eider, as the dull buffy tips to the feathers are invisible a few feet away.

A word or two of caution here to students. While it is possible to distinguish the adult female King Eider by the characters given above it does not follow that a bird not exhibiting these characters is an American Eider. Far from it. The majority of females and immatures are absolutely indistinguishable in life, unless accompanied by adult males. A single bird, therefore, unless it can be definitely proved to be an adult female King Eider, is unidentifiable.

The Greenland Eider is, of course, absolutely indistinguishable in life from the American Eider. It is of accidental occurrence in the territory covered by this paper.

- 28. Oidemia americana—American Scoter.
- 29. O. deglandi—White-winged Scoters.
- 30. O. perspicillata—Surf Scoter.

The Scoters in general build resemble Mergansers more than any other ducks. They are, however, much stockier, the heads and necks are stouter, and they do not hold themselves the same way in flight. The general color is a dull black in the males and various shades of brown in the females, which becomes black at any distance. At a distance of half a mile or more Scoters might resemble Canvasbacks, if the latter showed no white. They could then be told by their flight formation which resembles that of Mergansers, and by the fact that the wings are not brought high above the body at the up-stroke. The Black Duck is similarly colored at a distance, but the entire difference in shape and flight should prevent confusion.

The three species of Scoter are so much alike in the field that separating them is frequently impracticable. The White-winged Scoter, as its name implies, has a conspicuous white wing patch, which is visible a quarter of a mile or more in good light. No other duck is wholly black with a white wing patch. When sitting on the water with its relatives, however, unless very close, this patch does not show. The other two species of Scoter are inseparable on the wing except at very close range. The American is, however, slightly smaller, and a small female with other Scoters is easily picked out.

At very close range the male Surf Scoter may be identified by the two patches of white on the top of the head, and the brilliant red, yellow and white bill. The American Scoter is wholly black, and the bill is black and yellow. The White-winged Scoter shows a little white in the wing, as a narrow line, has white around the eye, and a bill which appears mostly red.

The females are much more difficult to separate. The American Scoter has the whole side of the head grayish and is decidedly paler below than the others, at times appearing almost white. The other two have two light spots on the side of the head. Unless the white in the wing of the White-winged Scoter can be made out it is indistinguishable from the Surf. The bills of all these species in this sex are dark colored. Conditions, therefore, must be unusually favorable, or else the identification of females and immature birds is practically impossible, because the light and dark areas are not sharply contrasted as in the males.

## 31. Erismatura jamaicensis—Ruddy Duck.

The little Ruddy Duck exhibits so many peculiarities that by European systematists it is put in a subfamily of its own. Classing it, however, as a Sea Duck, the characters of the subfamily reach their greatest exaggeration in this species. No duck is so dumpy in build. The short, spiny tail gives it a very truncated appearance. The neck is, in proportion to the bird's size, entirely normal, accentuating the peculiarity of the body. The wings are very short and rounded. The wing beats are very rapid. The bird seems to find it a great exertion to fly, doing so only as a last necessity, and craning its neck as far forward as possible, it paddles away for dear life, looking like nothing so much as a gigantic bumblebee. Its speed, however, is by no means contemptible.

On the water, of course, many of these peculiarities are lost. At close range the bird is, generally speaking, brown above and grayish below, the sides of the head pure white in males, and dull but pale in females. In males the top of the head is black, affording an excellent contrast, which can be seen a quarter of a mile or more in good light. The head is usually curved backwards a little, and the short tail-feathers are cocked straight up in the air, somewhat after the fashion of a Wren. The male in full plumage is rarely seen.

There is no excuse for confusing the Ruddy Duck with any other species.

# SUBFAMILY ANSERINAE

Geese can at once be distinguished from Ducks by their long necks, which are one third of the bird's length in flight; their large, stout bodies, forming a marked contrast with the long, slender neck; the very broad wings with relatively slow, measured wing-strokes. Their notes are loud and always given in flight; the term "honking" is usually applied to it.

Three species occur in the Eastern United States. The Canada Goose occurs everywhere, but alights in comparatively few places.

The Brant is strictly maritime. The Snow Goose winters regularly on the coast of North Carolina reaching its quarters by a cross country flight from north-central Canada. To all parts of the northeastern States it is little more than an accidental migrant. The Blue Goose and White-fronted Goose are rare or accidental east of the Mississippi Valley. All the species are so readily distinguishable in life that a key seems superfluous.

# 32. Chen hyperboreus—Snow Goose.

The adult Snow Goose, pure white with black-tipped wings, is readily identifiable as far as the eye can see it by anyone who knows enough to tell a Goose from a Pelican or Crane. The young bird is pale grey, and looks paler with increasing distance.

The two subspecies cannot of course be separated in life.

Snow Geese do not fly in the wedge-shaped formation of Canada Geese. They are noisy birds, cackling rather than honking.

#### 33. Chen caerulescens—Blue Goose.

The adult Blue Goose is readily identifiable, even at a considerable distance, in being a dark-bodied bird with a white head and neck. This is the opinion of others, as I do not know the bird in life. I should not think that the young could be definitely distinguished in life from young White-fronted Geese except under very exceptional circumstances.

### 34. Anser albifrons gambeli—White-fronted Goose.

This species at a distance has a generally grey appearance with a white belly and rump. The white forehead and black on the belly of the adult are visible only at close range. The young bird is much darker than the young Snow Goose. At a very great distance when color details are entirely lost, it might be confused with the Canada Goose. The notes, however, are quite different. Moreover this species and all the others discussed so far have a more rapid wing-beat than the Canada Goose.

This species and the Blue Goose are so rare in the Atlantic States that sight records would be of little value.

# 35. Branta canadensis—Canada Goose.

#### 36. B. bernicla glaucogastra—Brant.

The wary Canada Goose, thanks to an inborn bump of suspicion, is still a common bird in the eastern United States wintering in great numbers from North Carolina southward. Throughout the northern half of the country it is a common migrant, alighting, however, only along the coast and large bodies of water inland where there are good feeding grounds. Inland it is the only species that will be met with, the Brant being purely accidental away from the immediate vicinity of the ocean.

Along the coast the two species are likely to occur together. Contrary to a general opinion they can easily be separated at any distance. When not in flight or at close range there are several excellent field marks, but size should not be used. The Brant lacks the white patch across the throat and sides of the head and has a black breast, all of which give it a very dark appearance forward. Both species have white upper tail coverts, but the Brant has most of the rump white as well. When Geese are flushed they nearly always fly directly away from the observer. The rump and tail-coverts are thus exposed, and the great amount of white in the Brant is noticeable.

There are a few other points of difference between these two geese. The Brant's honk is less clear, hoarser, and more rapidly repeated. The flocking formation is also different. The Canada Goose does not always fly in a wedge-shaped flock, as is sometimes popularly believed, but they do always fly in some definite arrangement of lines. A large flock of Brant, however, fly in a shapeless mass with a few birds stringing out behind and along the sides, more like *Anatinae* than anything else. While feeding Canada Geese are stately and leisurely in their deportment. The Brant in some respects reminds one of a Sandpiper. It changes its course suddenly, takes sudden quick steps forward at times, and darts its head and neck from side to side in a great semicircle.

# SUBFAMILY CYGNINAE

#### 37. Olor columbianus—Whistling Swan.

But one native species of Swan occurs in the eastern States. It is very abundant in the Currituck Sound region of North Carolina in winter but is elsewhere a very rare migrant, except in Western New York, where Eaton considers it as a regular visitor. An adult Swan is snow white in plumage with a black bill and feet which are very conspicuous. In flight it has a wing-spread of seven to eight feet and is a magnificent bird. It is exceedingly conspicuous, being easily identifiable at a distance of three and a half miles even when sitting on the water, a statement actually tested. On the wing at a distance of a mile or more in poor light, or when the bird is at a great height, the white color is not evident. The great length of the neck is then diagnostic, as it appears to be one half of the bird's total length. The great size is also noticeable, as it appears as much bigger than a Goose as that bird is bigger than a Duck. Oddly enough, however, the wing-beats are scarcely slower than those of a Goose.

When feeding Swans are extremely noisy. The note is a "toot, toot," exactly like the noise made by a tin horn increased many times. At night it is audible for a mile or more over the silent water. When alarmed or otherwise excited, the Swan stretches its neck in the air as high as possible, and "toots" with great rapidity and even more noisily. Under such circumstances a large flock makes a terrific din, drowning the detonations

of a motor-boat engine. Finally they decide to move off, and rise from the water with comparative ease. With no apparent effort or haste they manage to attain an enormous height and are way down the bay in a few seconds.

Swans are protected by law in Currituck Sound, but this is not such a safeguard to the bird as its toughness, for the flesh of an adult would defy old Father William himself. Some pot-hunters, however, claim that young birds when boiled long enough are very good eating. They differ from adults in being ashy gray with a brownish mark on the head and upper neck. At any great distance they are practically indistinguishable from their parents.

There is a prevalent idea that a large Swan is to be considered a Trumpeter. This species is western and is now among the rarest of North American birds. It has not occurred in the eastern states for 50 years at least, and cannot be distinguished by its size unless carefully measured.

A European species, the Mute Swan, has become feral in parts of New York and New Jersey. The adult can be distinguished from the adult Whistling Swan only by the bill, which has a prominent knob at the base, and the upper mandible is largely reddish orange, the entire bill being black in the other species. This difference can only be detected at close range, so that Swans must be identified with the greatest care in the north-eastern States. Young Mute Swans have lead-colored bills, young Whistling Swans reddish bills.

#### SUMMARY.

- 1. It is possible to place any member of the family in its proper subfamily at sight.
- 2. The following species or groups are identifiable at very great distances:—Swans, most Geese; Mergansers; Black Duck; Baldpate; Pintail; Teal; Marila; Canvasback; Whistler; Old-Squaw; Eiders; Scoters; Ruddy Duck. This statement assumes that the necessary favorable circumstances for observation exist. Distance is also a matter of common sense. It is obvious that a Ruddy Duck is not visible as far away as a Swan.
- 3. The following species are wholly or in part indistinguishable for all practical purposes in life:—Female and immature of the two Widgeons; female and immature European and Green-winged Teal; Lesser Scaup Duck; female and immature Barrow's Goldeneye; Greenland Eider; practically all plumages of female and immature Eiders; immature White-fronted and Blue Geese; Trumpeter Swan; all subspecies.

- 4. The following birds require exceptional skill or favorable circumstances to distinguish:—Female Gadwall; female Ringnecked Duck; female Harlequin Duck.
- 5. The following species can only be identified by color markings at close range:—Female and immature American and Red-breasted Mergansers; male European Widgeon; male European Teal; female Wood Duck; female Redhead; male Barrow's Golden-eye; adult female King Eider; female and immature Surf and American Scoters.
- 6. Sight records of European Teal, Blue Goose, and White-fronted Goose are best left unpublished along the Atlantic Coast. Sight records of the three females in section 4 that are of special difficulty to identify are of little value in sections where they are very rare, unless accompanied by males.
- 7. These remarks apply to trained observers only. Beginners had better divide the family into Swans, Geese, and Ducks, and then confine themselves to color markings within each group. The "fine points" discussed in this paper are possibilities for trained students of these birds with years of experience. No sight record of a rarity should be founded on these "fine points" alone for a moment by anybody, no matter how experienced. Nor should the beginner identify his first flock of Ducks by these "fine points." It is hoped, however, that they may be helpful and assist him in gaining an acquaintance with one of the most fascinating groups of birds.

American Museum Natural History, New York.

# NOTES ON THE FORMS OF THE GENUS OREORTYX BAIRD.

#### BY HARRY C. OBERHOLSER.

A RECENT investigation into the status of the bird described as Ortyx douglasii by David Douglas led incidentally to the examination of the Ortyx picta of the same author. This latter specific name, as Oreortyx picta, has been used for the dark race of Mountain Quail, or Mountain Partridge, that inhabits a narrow strip along