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NESTS AND EGGS

OF

NORTH

AMERICAN

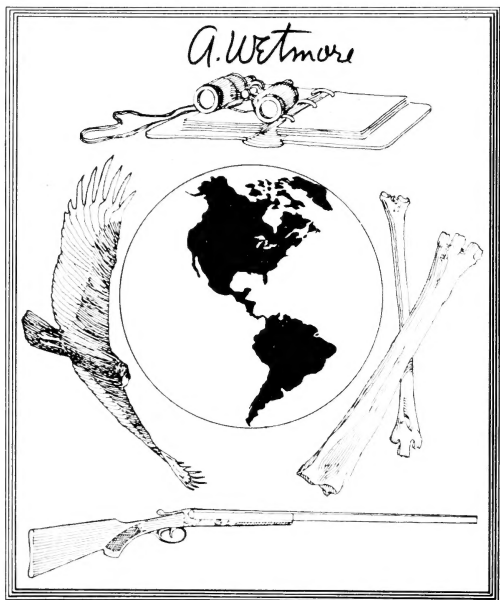
BIRDS

BY

OLIVER DAVIS

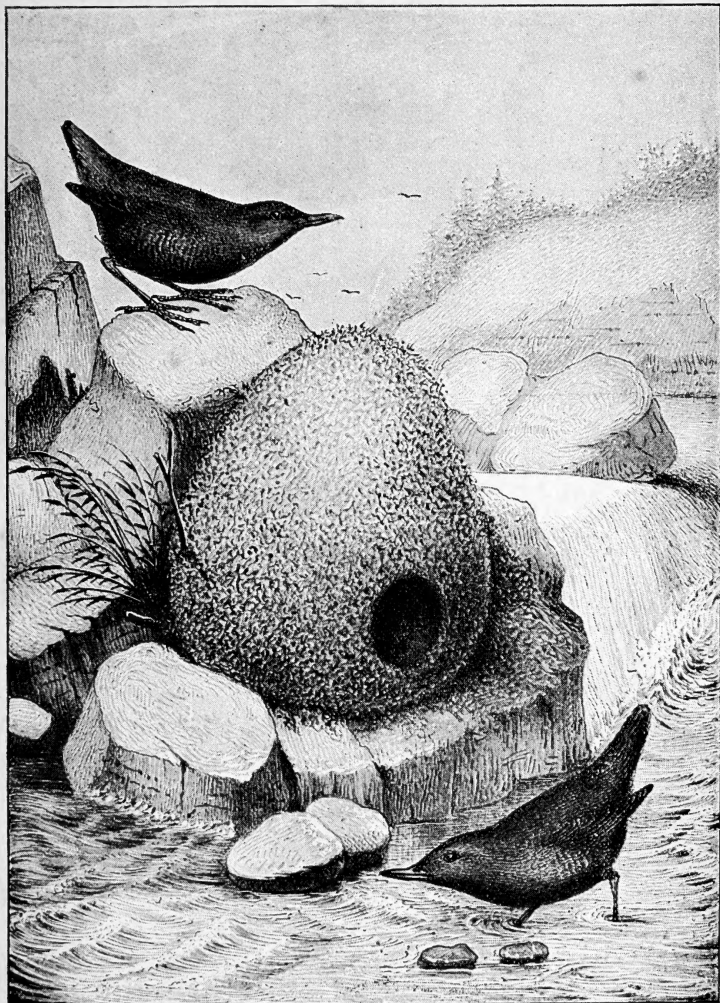


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AMERICAN WATER OUZELS AND NEST.

(*Cinclus mexicanus*.)

SEE DESCRIPTION NO. 19.



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Birds

EGG CHECK LIST

AND

KEY TO THE NESTS AND EGGS

OF

NORTH AMERICAN BIRDS,

BY

OLIVER DAVIE

SECOND EDITION REVISED AND ENLARGED

WITH

SEVEN FULL-PAGE ENGRAVINGS

BY

THEODORE JASPER, A. M., M. D.

COLUMBUS, O.:
HANN & ADAIR, PRINTERS.
1886.



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PREFACE

TO

SECOND EDITION.

The flattering reception with which the first edition of this work was received has induced me to publish a second in the present form, increased in size and entirely rewritten.

Like the first, it is confined to the nests and eggs of the birds of the North American Fauna, and the design is to give descriptions, in a condensed form, of all that are known to date.

The young student of Oölogy will notice that with the great similarity and variety of birds' eggs it is difficult, and often impossible, even for the experienced eye to identify them. He, therefore, must be careful in determining the specimens collected. Wherever practicable I have described the eggs that are more rare by comparing them with those that are common. My private collection, consisting of nearly four hundred species of birds, together with the eggs, mostly in original sets, has been of material aid to me in this respect, while I have drawn freely from the works of authorities.

Acknowledgments are due to the numerous correspondents for the vast amount of original matter furnished for the present edition.

The attention of young collectors is called to the concise directions for collecting Birds' Eggs and Nests to be found in the latter part of the work. I earnestly solicit additions, corrections, and notes of every character relating to this subject from Ornithologists and Oölgists.

OLIVER DAVIE.

COLUMBUS, OHIO, JANUARY 4, 1886.

LIST OF ILLUSTRATIONS.



- PLATE I, (Frontispiece) AMERICAN WATER OUZELS AND NEST.
“ II, LEAST TIT AND NEST.
“ III, TRAILL'S FLYCATCHER AND NEST.
“ IV, BURROWING OWL AND NESTING PLACE.
“ V, SWALLOW-TAILED KITE AND NEST.
“ VI, WOOD DUCKS AND NESTING PLACE.
“ VII, DABCHICKS AND NEST.

NESTS AND EGGS

OF

NORTH AMERICAN BIRDS.

Classified according to the Nomenclature of North American Birds by Robert Ridgway.*

NOTE.—The first part of the descriptions refer to the Eggs, except in the case of Bicknell's Thrush, and many others throughout the book. The sizes given are in hundredths of inches.

1. Wood Thrush—*HYLOCICHLA MUSTELINA*. Color, uniform deep blue, resembling the eggs of the Robin, but smaller. The number laid is usually four, and the average size is 1. by .75. The nest is built in low trees or bushes, and composed of leaves and grasses with a layer of mud; on this there is a lining of vegetable fibres. The bird is found chiefly in low, damp woods and in thickets. Breeds throughout every portion of United States between the Mississippi River and the Atlantic, as far as Georgia on the south and Massachusetts on the north.

Habitat: United States east of Missouri plains, south to Guatemala.

2. Wilson's Thrush—*HYLOCICHLA FUSCESCENS*. Bluish-green, unspotted; four or five in number and average .87 by .62. The nest is usually placed on the ground or near it at the foot of a bush or tussock. It is composed of a mass of weeds, grasses, leaves and bark, lined with fine roots and hair. The nest and eggs are not distinguishable with certainty from those of the Hermit Thrush. The Wilson's or Tawny Thrush breeds as far south as Pennsylvania and Ohio and as far west as Utah and occurs

* Nomenclature of North American Birds chiefly contained in the United States National Museum. By Robert Ridgway. Bull. U. S. Nat. Mus., No. 21. Published under the direction of the Smithsonian Institution. Washington: Government Printing Office, 1881. 8 vo. pp. 1-94.

in the breeding season throughout Maine, New Brunswick, Nova Scotia and Canada.

Hab. Eastern North America, Colorado, Utah.

3. Gray Cheeked Thrush—*HYLOCICHLA ALICIE*. Deep-green, marked with spots of yellowish and russet brown. The eggs are usually four in number and average .92 by .64. Nest, generally placed in low trees and made of dry grasses, strips of fine bark and decayed leaves, lined with finer fibrous material. Alice's Thrush is another name for this bird. Breeds in immense numbers between the mouths of the Mackenzie and Coppermine.

Hab. Eastern North America to shores of Arctic Ocean, and along the north coast from Labrador to Kodiak. West to Fort Yukon and Missouri River States.

3a. Bicknell's Thrush—*HYLOCICHLA ALICIE BICKNELLI*. The Rev. J. H. Langille in the *Auk*† for July, 1884, gives a description of the nidification of this Thrush recently identified in the Catskill and White Mountains and named in honor of its discoverer. He found them breeding on Mud and Seal Islands, off the coast of Nova Scotia, westward from the city of Yarmouth. The nests were all nearly alike in location, structure and materials; placed a few feet from the ground, against the trunk of an evergreen tree. They were composed of various kinds of mosses, a few fine sticks, weed-stems and rootlets and were lined with fine bleached grasses. The nest was as green as a bunch of fresh moss. The eggs were of a light bluish-green speckled with brown; size .87 by .63.

4. Russet-Backed Thrush—*HYLOCICHLA USTULATA*. Varying in light green and blue, marked with yellowish-brown and lilac; usually four in number and average .84 by .65. The eggs resemble very closely in markings those of the Mocking Bird. The nest is generally placed in low trees and constructed of twigs, grasses, roots and leaves, and is usually covered on the outside with bright *Hypnum* mosses peculiar to the Pacific coast region. These grow in that position and form in large masses. In breeding season restricted to the Pacific coast region from California to Alaska.

Hab. Pacific Province of United States.

4a. Olive-Backed Thrush—*HYLOCICHLA USTULATA SWAINSONI*. Greenish-blue, speckled with reddish-brown and other tints; usually four in number and average .88 by .66. The nest is placed in trees or bushes and is composed of a mass of leaves, twigs and grasses about like the nest of the Hermit Thrush. This bird is known by two other names, "Swamp Robin" and more properly Swainson's Thrush. Breeds from latitude 44° to high Arctic regions.

Hab. Eastern North America.

5. Dwarf Thrush—*HYLOCICHLA UNALASCÆ*. Pale bluish-green, dotted

† The *Auk*, a quarterly journal of Ornithology; published for the American Ornithologists' Union: Estes and Lauriat, Boston, Mass

with light brown, chiefly at the larger end; the usual number is four and average in size about .92 by .69. The nest is placed in thickets and low bushes and built of dry leaves, grasses, fibres, fine strips of bark and lined with decayed leaves. Found abundantly on the Pacific slope.

Hab. Western Province of North America, eastward from Kodiak to Cape St. Lucas.

5*b*. Hermit Thrush—*HYLOCICHLA UNALASCÆ PALLASI*. Bluish-green, unspotted; usually four in number and average .92 by .62. The nest is always placed upon the ground. It is composed of decayed leaves, remnants of dried plants, grasses, intermingled with twigs, and lined with fine strips of bark, roots and hair. The nest is most generally found under low bushes in low swampy places. Another name for this bird is "Ground Swamp Robin." Breeds from Massachusetts northward.

Hab. Eastern North America.

7. American Robin—*MERULA MIGRATORIA*. Greenish-blue, unspotted; the usual number is four, but often five and sometimes six are laid. The average measurement is about 1.18 by .81. The nest can be looked for in trees of almost any kind and it is often placed on the top rail of an old snake fence, on stumps of trees and in all sorts of curious places. It is a large, coarse structure made of twigs, roots, stems, grasses, dry leaves, hair and wool. It is strengthened by a neatly-made cup of clay or mud which is surrounded by these materials. We have often heard of spotted eggs of this species. Breeds throughout its range.

Hab. Eastern region including the whole of Alaska, Eastern Mexico and eastern border of the Missouri plains.

7*a*. Western Robin—*MERULA MIGRATORIA PROPINQUA*. Greenish-blue, same as those of the Eastern species. Twenty eggs before me average 1.20 by .82. The nesting habits are the same as those of the preceding species.

Hab. Western region including eastern base of the Rocky Mountains.

9. Varied Robin—*HESPEROCICHLA NÆVIA*. Light blue, marked and spotted with umber-brown approaching almost to blackness; four or five in number and average 1.13 by .80. The nest is placed in bushes; made of dry stems, twigs and grasses, fine dry moss and lichens compactly put together. The lining is fine dry grasses and lichens. The Oregon Thrush is strictly a western species belonging to the Pacific Coast, breeding from Washington Territory northward.

Hab. West coast of North America, from Behring Straits to California.

10. Sage Thrasher—*OREOSOPTES MONTANUS*. Bright greenish-blue, marked with spots of deep olive-brown and blotches of light lilac; four eggs is the usual number laid and their average size is 1. by .74. The nest is a flat, shallow structure with a very slight depression. It is loosely constructed of strips of bark, rootlets, and finer stems of herbaceous plants.

This bird is confined to the great central plateau of North America, from Mexico almost to Washington Territory. It is also called "Mountain Mocking Bird;" in fact, it is more commonly known by this name than any other, although it is said to have no imitative notes.

Hab. Rocky Mountains of United States, west to Pacific.

11. Mocking Bird—*MIMUS POLYGLOTTUS*. Light greenish-blue, marked with blotches of yellowish-brown, russet, chocolate and purple. The spots are usually accumulated more thickly at the larger end and sometimes cover it entirely; four to six in number and average .99 by .75. An abundant bird in every Southern State and throughout Mexico. The nest is composed of small twigs and weeds, lined with roots and sometimes with horse-hair and cotton. Various situations are selected for the nest; an almost impenetrable thicket of brambles, an orange tree or holly bush, seem to be favorite localities. Mr. J. A. Singley, of Giddings, Lee Co., Texas, informs me that he finds the nests in that locality built mostly in clumps of live oak scattered over the prairies, also in brush-piles, corners of rail fences and in fact anywhere except on the ground. He has found them as low as six inches from the ground in a low bush, and as high as fifty feet in trees.

Hab. Southern United States, north casually to Massachusetts, rare north of latitude 38°.

12. Cat Bird—*GALEOSOPTES CAROLINENSIS*. Bluish-green; the number of eggs is usually four, and measure .99 by .75. Builds its nest on low bushes or clusters of vines and generally in retired places. It is scarcely ever placed more than ten feet from the ground. The materials are dry leaves, twigs and fine dry grass, lined with fine black, fibrous roots and grasses. Breeds throughout its range in North America.

Hab. Nearly all the United States and British Provinces. North to 54°. West to Washington, Oregon, Wyoming and Utah.

13. Brown Thrasher—*HARPORHYNCHUS RUFUS*. Greenish-white, thickly marked with reddish-brown dots, usually more numerous at the larger end; four to six in number and measure 1.05 by .81. The nest of this Thrush is a bulky structure made of twigs, sticks, strips of bark and withered leaves, strongly put together. It contains an inner nest composed of dry leaves, strips of bark and black fibrous roots, and is lined with horse hair and a few feathers. It is usually built in low bushes or clusters of briars, occasionally in a heap of brush-wood and often on the ground. This bird is often called "French Mockingbird," on account of its wonderful gift of mimicry. Breeds nearly throughout its entire range.

Hab. Eastern United States.

13a. Mexican Brown Thrasher—*HARPORHYNCHUS RUFUS LONGIROSTRIS*. Hardly distinguishable from the preceding species, the ground color varying from greenish to reddish-white, thickly sprinkled with large brownish

dots and spots. The Mexican Thrasher is found in the valley of the Rio Grande, thence southward through Eastern Mexico to Cordova and Orizaba. Dr. J. C. Merrill, in his "Notes on the Ornithology of Southern Texas,"* gives the average size of fifty-two eggs as 1.08 by .82, the extremes being 1.13 by .86 and .97 by .75. The usual number of eggs is three, often two, more rarely four. There is scarcely any difference between the nesting habits of this variety and those of the eastern Thrasher, *rufus*.

Hab. Eastern Mexico to Rio Grande, Texas.

14. St. Lucas Thrasher—*HARPORHYNCHUS CINEREUS*. Greenish-white, profusely marked with spots of mingled purple and brown, and yellowish-brown. Like all eggs of the Thrashers the ground color varies from greenish to reddish and bluish-white; two or three in number, the average size is 1.12 by .77. The nest is a flat structure, with but a slight depression, and usually placed in low trees, shrubs and often in cactus plants about four feet from the ground. This bird is confined exclusively to the peninsula of Lower California.

14a. Bendire's Thrasher—*HARPORHYNCHUS CINEREUS BENDIREI*. This Thrasher is only known to inhabit a very restricted area in Southern Arizona, and is found associated with *crissalis* and *palmeri*, but is less numerous than either of these. I am indebted to Mr. Harry G. Parker, of Philadelphia, Pa., for notes on two sets of eggs of this species now in his possession, and collected by the famous ornithologist, Captain Chas. E. Bendire, who discovered the bird in Arizona in 1872, which has since been named in honor of its discoverer. The first set of three eggs was taken April 10, 1885, near Sacato, Pinal County. The nest was large and curious, being made of twigs and spines from the cactus and other plants; it was placed in a mezquite bush three feet from the ground, and in a very lonely spot. "The eggs have a ground color, which I should call a clear grayish-white, and blotched with different shades of pale rusty-brown; these blotches resemble in style those found on the eggs of the Mocking Bird. The eggs show the following measurements: 1.01 by .74, 1. by .73, .98 by .72. The other set of two shows no variation in size, but the ground color is dirty white, and the spots indistinct, and altogether much inferior to the brighter colored set just described." Mr. Parker says his friend writes: "We found five sets altogether this season, and all within a radius of three miles—as we moved north we looked in vain for them—but our most diligent search was not

* Notes on the Ornithology of Southern Texas, being a list of Birds observed in the vicinity of Fort Brown, Texas, from February, 1876, to June, 1878. By James C. Merrill, Assistant Surgeon U. S. Army. Washington: Government Printing Office, 1878.

rewarded—all the above five nests were found within four feet of the ground, and all bore a strong resemblance to each other—the eggs in every case are easily differentiated from those of any kindred Thrasher; as much so even as *H. crissalis*.”

15. Curve-billed Thrasher — *HARPORHYNCHUS CURVIROSTRIS*. Light green, more rarely pale yellowish, thickly covered with fine brown spots, in many cases sparsely sprinkled over the entire surface with very fine dots of brown, usually four in number and average 1.13 by .80: extremes 1.18 by .83 and .94 by .72. A common bird in Western Texas, the valley of the Rio Grande, and Western Mexico. The nest is generally placed among the fleshy joints of the prickly pear or almost impenetrable bushes. Dr. Merrill says: “They are, as a rule, readily distinguishable from those of the Texas Thrasher and Mockingbird by the almost invariable lining of yellow straws, giving a peculiar appearance to the nest. They are also more compactly built, are well cupped and often have the edges well guarded by thorny twigs.” Hab. Adjacent regions of United States and Mexico, southward.

15a. Palmer's Thrasher — *HARPORHYNCHUS CURVIROSTRIS PALMERI*. Pale greenish-blue, sprinkled with dots of yellowish-brown and lavender, very evenly and finely distributed over the surface; the number of eggs is usually three and measure 1.08 by .82. This Thrasher has only been found in Arizona. The nest is made of twigs, sticks and coarse stems, lined with dry grasses. It is usually placed in low bushes. Hab. Arizona.

16. Californian Thrasher—*HARPORHYNCHUS REDIVIVUS*. Greenish-blue, marked with reddish and light chocolate spots evenly distributed over the surface. The number is usually three and measure 1.10 by .85. The Californian Thrasher is confined to the coast region of California, where it is quite abundant. The general character of the nest is a coarse, rudely constructed platform of sticks, coarse grass and mosses, with but a very slight depression. Occasionally, however, nests of this bird are more carefully and elaborately made. It is always well hid in a clump of bushes.

Hab. Coast region of California.

16a. Leconte's Thrasher—*HARPORHYNCHUS REDIVIVUS LECONTEI*. Light greenish-blue, marked all over with reddish-brown spots thicker at the larger end. The eggs are smaller than those of the Californian Thrasher, lighter in color, and the spots are finer. The Yuma Thrasher inhabits the whole valley of the Colorado and Gila. A nest described by Mr. E. Holterhoff, jr., in Vol. XV, of the American Naturalist, was placed in a palo verde tree, and was a very bulky structure, measuring externally nine inches in depth and six in width; the hollow of the nest was fully three

inches in depth. It was so awkwardly situated that much of the base of the nest had evidently been filled in to firmly support the structure.

Hab. Gila River; Fort Yuma; Fort Mojave.

17. Rufus-Vented Thrasher — *HARPORHYNCHUS CRISSALIS*. Uniform blue, unspotted and both in size and color closely resemble eggs of the Robin. They are usually three in number, sometimes four and five, of an oblong-oval shape, one end being a little less obtuse than the other. In length they vary from 1.15 to 1.12, and in breadth from .84 to .82. The Rufus-Vented Thrasher is found throughout the entire valley of the Colorado and Gila, associated in the same localities with *H. lecontei*. This bird, known as the "Crissal Thrasher," is found in copses in valleys, along streams, and it is especially fond of well-shaded undergrowth where the nest is generally placed. It is a flat structure, containing only a very slight depression, very rudely constructed externally of coarse sticks quite loosely put together; the inner nest is made of finer materials of the same.

Hab. Region of the Gila River to Rocky Mts., Southern Utah.

19. American Water Ouzel — *CINCLUS MEXICANUS*. This interesting bird which has the aquatic habits of a duck and the tilting movements of a sandpiper, inhabits exclusively the mountainous portions of North America west of the Mississippi from Alaska to Guatemala. It is never found near still water, frequenting only wild mountain streams, cascades, eddies and swift currents. The nest is variously situated but always in a nook or crevice near water, on shelving rocks or roots of trees. It is a beautiful ball of soft green moss about as large as a man's head, dome-shaped, with a small round hole in one side for an entrance; within it is strongly arched over and supported by twigs. Plate I., frontispiece, gives a faithful representation of one placed on a ledge of rock. The eggs are usually three in number, dull white, unspotted, and measure 1.04 by .70.

22. Bluebird — *SIALIA SIALIS*. Uniform pale blue, unspotted, and it is not uncommon to find pure white eggs in the nest of this bird. They are four, five and sometimes six in number, and measure about .81 by .62. The site chosen for its nest is usually a hollow in the decayed trunk of a tree, a deserted woodpecker's excavation, or a box prepared for its use. The nest is composed of fine twigs, grasses, roots, feathers, leaves and hair, carelessly woven together, but leaving quite a depression. Breeds throughout its range.

Hab. Eastern United States, Canada, Nova Scotia, Montana, Wyoming, Colorado, New Mexico, Bermudas, Cuba, Guatemala.

23. Californian Bluebird — *SIALIA MEXICANA*. Uniform pale blue, of a slightly deeper shade than that of the preceding species, usually four in

number, and measure .87 by .69. The nesting habits are exactly similar to those of *S. Sialis*.

Hab. Western United States, from Rocky Mts. to the Pacific.

24. Rocky Mountain Bluebird—*SIALIA ARCTICA*. Very light blue, paler than those of the other species, four or five in number and measure .89 by .66. This bird nests about old buildings, unused excavations about mines, among rocks and more rarely in the deserted excavations of woodpeckers. It is said to be very shy and difficult to obtain.

Hab. Central table-lands of North America, east to mouth of Yellowstone. Not common on the Pacific Slope.

25. Townsend's Solitaire—*MYIADESTES TOWNSENDI*. Dull white, thickly blotched or dotted with reddish-brown, resembling very closely the eggs of the Shrikes, usually four in number and measure .84 by .64. The nest is coarsely built of twigs, sticks and grasses very loosely put together. It is generally placed in the crevices of rocks, oftener perhaps, under a shelving or overhanging rock.

Hab. Mountainous regions of Middle and Western United States.

26. Black-Crested Flycatcher—*PHAINOPEPLA NITENS*. Light slate, tinged with yellowish-green, marked, blotched and spotted from light, obscure purple to deeper tints of purplish-brown and black. It is a peculiar looking egg in markings and rather long in shape, two or three in number, and measures .92 by .61. The nest is placed in a small tree not more than twelve feet from the ground. It is rather a flat structure composed of twigs, stems, mosses and vegetable fibres and is lined with finer vegetable substances. In California the eggs are laid from the middle of May until as late as the first of July according to locality. The bird occurs in the mountainous portions of United States from Fort Tejon, Cal., to Mexico, and from the Rio Grande to San Diego.

27. Blue-Gray Gnatcatcher—*POLIOPTILA CÆRULEA*. Greenish-white, dotted and blotched with reddish-brown, lilac and slate; usually five in number and measure .55 by .45. This diminutive bird is common from the Atlantic to the Pacific; specimens having been taken from New York to Mexico and Guatemala, and from Washington Territory to California. Breeds abundantly in Ohio, where I have taken many nests. The nest for beauty has few equals. It is usually built in the small forks of a tree situated in open woods and ranging from ten to fifty feet from the ground. I have also found nests placed on the large horizontal trunks. At a short distance the nest looks like a round knot growing out of the branch, it being covered on the outside with small pieces of star-shaped lichens. Soft downy materials such as fine dry grasses, stems of old leaves, cotton-like substance of withered blossoms and down of the milk-weed are chiefly

used. Nests from California in my collection are deficient of the lichens on the outside, those from Texas are similar to the typical Ohio nest.

Hab. United States, north to Mass.

28. Plumbeous Gnatcatcher—*POLIOPTILA PLUMBEA*. Mr. Wm. Brewster in the Bulletin of the Nuttall Club for April, 1882, describes an egg of this bird to be of a pale greenish-blue, coarsely and very evenly spotted with reddish-brown, size .53 by .42. This egg with the nest was collected at Yuma, Arizona, July 15. The nest was placed in a bunch of mistletoe, at a height of about eight feet from the ground. Mr. Brewster remarks that although a delicate structure the nest will not compare with that of the Blue-gray Gnatcatcher, entirely lacking the exterior coating of lichens, but in its general appearance closely resembles the Redstart's, being felted with soft bark-strips and hemp-like vegetable fibres. It was lined with plant down, a few feathers and the hair of some small quadruped. Black-capped Gnatcatcher is another name for this bird.

Hab. Arizona.

30. Ruby-Crowned Kinglet—*REGULUS CALENDULA*. Uniform dirty cream-color; in some there are fine hair lines of a darker tint at the larger end, others are spotted, six to nine in number and average .55 by .43. More eggs of this species must be obtained before the prevailing type is determined. A nest found in Colorado by Dr. J. C. Merrill was a beautiful felted mass of hair and feathers, mixed with moss and fibres of weeds. It was found June 18, 1881, and was in a spruce about eighteen feet from the ground and placed directly against the trunk, supported by a single branch beneath and by several twigs to which the sides were firmly attached.

Hab. Whole of North America.

33. Golden-Crowned Kinglet—*REGULUS SATRAPA*. Creamy-white, covered with very obscure spots of purplish slate so as to give a dingy appearance to the egg; size about .50 by .40. A nest containing ten eggs supposed to be of this species is described by Dr. Brewer as consisting of a large ball of moss, with an opening at the top. It was in one of the thick bunches of moss so common to fir-trees. This nest was found near Bangor, Maine. It was situated six feet from the ground.

Hab. North America.

35. Ground-Tit; Wren-Tit—*CHAMÆA FASCIATA*. Pale greenish-blue, unspotted, the complement is usually three, sometimes four, and measure .70 by .52. The nest is firmly put together, composed of straw, twigs and feathers lined with grass and hair. The cavity measures about three inches in width and three-fourths deep. The nest is usually placed a few feet from the ground in shrubs. This bird is confined to the coast region of California.

36. Tufted Titmouse—*LOPHOPHANES BICOLOR*. White, thickly sprinkled with reddish-brown, and sparsely with lilac spots, five or six in number and measure .72 by .54. The nest is placed in some natural cavity of a tree; a hollow in the fork of an apple tree is a favorite site. The materials composing it are generally bits of moss, leaves and grass, and sometimes the eggs are deposited on the bare floor of the cavity. Resident throughout its range.

Hab. Eastern United States from Texas and Nebraska to the Connecticut Valley.

37. Black-Crested Titmouse—*LOPHOPHANES ATROCRISTATUS*. Clear white, with fine spots, but about the larger end bold blotches of reddish-brown, forming nearly a confluent ring. They are ovoid in shape and measure about .75 by .57. The Texas Titmouse is distributed throughout the valley of the Rio Grande, including portions of Mexico and Western Texas. The nest is placed in natural cavities of hollow limbs; the materials generally used are dry grasses, feathers, wool and moss and pieces of snake-skins. Like the Blue Grosbeak this bird seldom constructs a nest without the addition of snake-skins and it would appear that this habit is characteristic of both birds.

Hab. Valley of the Rio Grande, south into Mexico, San Antonio, Texas, Vera Cruz, Sclater.

40. Mountain Chickadee—*PARUS MONTANUS*. Pure white, with a faint reddish tint, some are marked with spots of reddish-brown; form, nearly spherical, and the number laid ranges from six to eight. The nest is placed in the deserted excavation of a Woodpecker or in some hollow limb or stump. It is a warm mattress made of a mass of the fir of small quadrupeds intermingled with hair. White-browed Chickadee is another name by which this bird is known.

Hab. Mountain region of Middle and Western United States.

41. Black-Capped Chickadee—*PARUS ATRICAPILLUS*. White with rosy blush, speckled all over, but most thickly at the larger end, with reddish-brown spots; their form is nearly spherical and the number laid ranges from five to eight; sometimes as many as ten are found in a nest. They measure .58 by .47. This common bird is well known throughout the greater portion of United States. The Chickadee, or Black-capped Titmouse, constructs its nest in hollow fence-posts, decayed stumps of trees and hollow logs. The nest is usually a warm and soft mass of hair and fur of the smaller quadrupeds, downy feathers and fine dry grasses.

Hab. North America, chiefly northern and eastern.

41a. Long-tailed Chickadee—*PARUS ATRICAPILLUS SEPTENTRIONALIS*. Pure dull white, very uniformly and pretty thickly covered with fine markings and small blotches of red and reddish-brown, with few dots of purplish; usually five, occasionally eight in number, rounded oval in shape



NEST OF THE LEAST TIT.

Psaltriparus minimus.

SEE DESCRIPTION NO. 47.



and measure .60 by .50. The largest species of this genus in America, distributed between the Mississippi Valley and the Rocky Mountains, to the British Provinces. This bird nests in decayed stumps, hollow trees, branches, logs, etc. The nest is composed of the fur and hair of small animals, feathers and fine mosses. The excavation is from ten to eighteen inches in depth.

Hab. Region of Missouri River to Rocky Mountains.

42. Carolina Chickadee—*PARUS CAROLINENSIS*. Pure white, uniformly sprinkled with blotches of reddish-brown, spheroidal in form. The eggs are slightly larger than those of the Black-capped Chickadee and are from five to eight in number, and measure .60 by .50. This bird like the Black-cap breeds in holes of trees; those previously dug out by the Downy Woodpecker are often used; sometimes it is excavated by the bird, generally in a decaying stump. The nest is composed of fine dry grasses, feathers, hair and fur of the smaller quadrupeds. This bird is also called Southern Chickadee.

Hab. South Atlantic and Gulf region of U. S. north to Washington D. C., Texas and the Mississippi Valley; north to Central Illinois.

45. Hudsonian Chickadee—*PARUS HUDSONICUS*. White, sparingly marked with reddish-brown spots, usually forming a ring around the larger end; rounded oval in shape, six to ten in number, and measure from .60 by .50 to .65 by .55. The nest is placed in holes of trees, sometimes not higher than a few feet from the ground, again well up in tall trees. The excavations are about three inches in width and from seven to twelve in depth. The nest is composed of feathers and fur. Brown-capped Chickadee is another name for this bird. Breeds from Northern New England northward.

Hab. Northern portions of North America, from Atlantic to Pacific.

47. Least Tit—*PSALTRIPARUS MINIMUS*. Pure white; five to nine; .55 by .43. This interesting little bird is abundant throughout the Pacific coast from Fort Stelilacoon to Fort Tejon. It is exceedingly abundant in the Rocky Mountains and throughout California. The nest shown in Plate II is a truthful representation of a typical specimen collected near Santa Paula, California, by Dr. S. P. Guiberson, April 11, 1885. It was suspended from the fork of a small twig of a live oak, eight feet from the ground. The nest is six inches long from the opening, and nests of this species often measure nine and ten. This purse-shaped domicile is made of grasses, a few feathers, moss, lint of plants; and some small burrs make up the external appearance. It is warmly lined with the cottony down of willows and feathers.

48. Lead-Colored Tit—*PSALTRIPARUS PLUMBEUS*. The following in

the "Ornithologist and Oologist"* for October, 1885, is from the pen of Mr. Charles H. Marsh, under the title of "Notes from Silver City, New Mexico:" "April 24th, while collecting Warblers, I discovered in the branches of a scrub oak the nest of a Lead-colored Tit. It was composed of weeds, fine grass leaves, wood and a few feathers so interwoven as to form a compact, bottle-shaped structure $7\frac{1}{2}$ inches in length, $11\frac{1}{2}$ inches in circumference at the largest and $5\frac{1}{2}$ at the smallest part. The opening on one side near the top, was about one-half an inch in diameter, and was carefully concealed from observation by an overhanging flap. The interior of the nest was lined with wool. The whole structure was suspended from a small branch some ten feet from the ground, its bottom resting on a somewhat larger branch, and it was still further steadied and secured by the attachment on each side near the bottom of several small twigs. The nest contained three pure white eggs, measuring .55 by .35. Later in the season in other localities, I found two nests some twenty-five feet from the ground in juniper trees; both contained young birds." This bird is a native of Mexico, and is found as far north as Arizona, and probably farther.

50. Yellow-headed Tit—*AURIPARUS FLAVICEPS*. Pale blue, with numerous small brown spots, chiefly near the larger end; the usual complement is four and measure .60 by .44. The nest of this bird is placed in trees; it is a massive structure composed of the thorny twigs of the algarobia, in which tree they usually place the nest. It is lined with finer twigs, leaves, down and feathers, and the outside is covered with thorns until it becomes very large, about nine inches by five and a half on the outside, with an opening on one side just large enough for the bird to enter. It is also called Yellow-headed Bush Titmouse and Verdin. Breeds numerously in the Colorado and Mojave River Valleys.

Hab. Valleys of the Rio Grande and Colorado; Cape St. Lucas.

51. White-bellied Nuthatch—*SITTA CAROLINENSIS*. Roseate tinge, covered with spots of reddish-brown, with a slight tinge of purple; very much resembling the eggs of the Carolina Wren in color. The number laid ranges from five to eight and often nine; size .80 by .60. This species usually selects for its nesting place the decayed trunk of a tree. In this a round perforation is constructed in which the nest is made. This is composed of chicken feathers, hair and a few dry leaves loosely thrown together. The bird is often improperly called "Sapsucker," a name, however, more commonly applied to the Downy Woodpecker.

Hab. United States and British Provinces, west to the Valley of the Missouri.

51a. Slender-billed Nuthatch—*SITTA CAROLINENSIS ACULEATA*. Creamy

* "Ornithologist and Oologist," a monthly magazine devoted to the study of birds, their nests and eggs. Published by Frank B. Webster, Pawtucket, R. I.

white, speckled and blotched with reddish-brown, sometimes over the whole surface but chiefly at the larger end, where the spots frequently form a wreath. The number laid is five or six, size .78 by .62. The nest is built in holes of trees and made of grasses, vegetable substances, and lined with hair and feathers. Distributed throughout the wooded regions of the West from the Rocky Mountains to the Pacific.

Hab. Middle and Western Provinces, United States; south to Cordova, Mexico. ♀

52. Red-bellied Nuthatch—*SITTA CANADENSIS*. Roseate tinge, thickly covered with spots of reddish; four to six in number and measure about .60 by .48. The eggs of this species are only distinguishable from those of the White-bellied Nuthatch by their smaller size. Like that bird also, its nest is dug in a low stump or decayed trunk of a tree. It is warmly lined with feathers and hair. A common bird, though not abundant throughout the whole of North America from Florida to high northern regions, and from Atlantic to Pacific.

Hab. Whole United States and British Provinces, north to Lake Winnipeg.

53. Brown-headed Nuthatch—*SITTA PUSILLA*. White, very thickly sprinkled with reddish-brown dots; they appear almost a uniform chocolate color; rounded oval, four to six in number and measure .60 by .50, not much larger than those of the Humming Bird. The nest is excavated by the birds themselves in the dead portion of a low stump or sapling, sometimes only a few feet from the ground, and often at the height of forty or fifty feet. The eggs are laid on the bare wood. Breeds abundantly in Florida, South Carolina and Georgia.

Hab. South Atlantic and Gulf States, Ohio, Kirtland; Michigan, Atkins.

54. Pigmy Nuthatch—*SITTA PYGMÆA*. Crystalline white, more or less thickly covered with red spots, most numerous at the larger end; the number laid is from three to five, which resemble those of the red-bellied, but are smaller and a little more pointed at one end, and measure about .63 by .45. The nest is placed in the cavities of old trees, and like others of this genus, is warmly constructed of feathers, wool, vegetable down, hair, etc. This bird is found throughout the Pacific coast and on the western slope of the Rocky Mountains, from Washington Territory to Southern California.

Hab. Western and Middle Provinces of United States; south to Xalapa.

55. Brown Creeper—*CERTHIA FAMILIARIS RUFA*. Grayish-white, sparsely sprinkled with reddish-brown, with or without a few larger and paler spots, especially about the greater end. The eggs are from five to seven in number, and measure .55 to .60 in length by .45 to .50 in breadth. Mr. William Brewster, who has made the most accurate observations of the nidification of this species in the pine woods of Maine,

says, that the nest is usually placed in a rift or crevice between the bark of a tree and the main wood. In every instance the nest was placed in a balsam fir, though spruce, birch, or elm stubs were more numerous. Within a loose scale of bark was crammed a mass of twigs and other rubbish; upon this was the finer bark of various trees, with an intermixture of a little *usnea* moss and a number of spider's cocoons.* Breeds from Massachusetts northward. Hab. Temperate North America, in wooded regions.

56. Cactus Wren—*CAMPYLORHYNCHUS BRUNNEICAPILLUS*. White, thickly covered with rich salmon-colored spots; giving a beautiful cast to the entire surface. The eggs are of an oblong-oval shape, slightly pointed at one end, three to five in number, and measure .94 by .63. Mr. Fred. Corey says that he has found fresh eggs of this Wren in April, May, June and July, near Santa Paula. Probably several broods are reared in a season. The nest is long and purse-shaped and very large for the size of the bird, and is usually placed on the branches of a cactus. It is composed of grasses and lined with feathers. My collection contains a set of four eggs, collected by B. W. Evermann, near Santa Paula, California. The nest which contained these eggs was placed in a prickly pear tree. Hab. Adjacent borders of United States and Mexico, from the mouth of the Rio Grande to the valley of the Colorado and to the Pacific coast of Southern California. Replaced at Cape St. Lucas by *C. Affinis*.

57. Saint Lucas Cactus Wren—*CAMPYLORHYNCHUS AFFINIS*. Similar to those of the preceding species. Hab. Cape St. Lucas.

58. Rock Wren—*SALPINCTES OBSOLETUS*. Crystalline white, sprinkled with distinct reddish-brown dots, usually forming a ring around larger end; the eggs are noted for their rounded oval shape, four to eight and sometimes nine in number, size .70 by .62, with considerable variation. The nest is usually built in a rift of rocks, or on the ground beneath some shelving rock. It is composed of a mass of material, very miscellaneous in character, sometimes a single substance, but a variety of materials are more generally used, such as sticks, bark strips, weeds, grasses, moss, hair, wool, etc. Mr. Fred Corey, of Santa Paula, Cal., informs me that he found a nest with four eggs of this bird under rafters of a house. Hab. Central regions of United States to Mexico, east to mouth of Yellowstone River, Cape St. Lucas.

59a. White-throated Wren—*CATHERPES MEXICANUS CONSPERSUS*. Crystalline-white, covered with large blotches of reddish or cinnamon-brown; usually oblong and pointed for eggs of this family, four in number, size .80 by .60. The nest is built in the crevices of cliffs, and in the interstices

*In Bulletin of the Nuttall Ornithological Club, a Quarterly Journal of Ornithology; Cambridge, Mass. vol. iv, pp. 199-209.

between the tiles under the roofs of the houses. It is composed of fine vegetable materials, spider webs, etc. It is also called Canon Wren.

Hab. Central regions of North America, from boundary of United States northward; extends up valley of the Colorado. Western Nevada resident.—*Ridgway*.

60. Carolina Wren—*THRYOTHORUS LUDOVICIANUS*. Reddish-white, spotted with various shades of reddish-brown; these are diffused over the entire surface of the egg, but apparently more abundant at the larger end. The number laid ranges from four to seven, and the average size of twenty specimens is .74 by .61. The Carolina or Mocking Wren is found in all the southeastern and southern states from Florida to Maryland, and from the Atlantic to Kansas. The typical nest of this bird found in Ohio, where it breeds abundantly, is a massive coarse structure, made of strips of corn-stalks, grasses, hay and leaves, with an intermixture of the silk of corn. It is lined with chicken feathers, fine dry grasses and horse-hair. This species is not particular as to the situation of its nest. It is found in holes of trees, in wood piles and in low bushes, sometimes in a nook or corner of a barn, often under an accumulation of brushwood; sometimes these nests are arched over at the top, the opening being only large enough to admit the bird.

Hab. Eastern United States, rather southern; north to New York, Connecticut and Massachusetts rare.

60a. Berlandier's Wren — *THRYOTHORUS LUDOVICIANUS BERLANDIERI*. White with a reddish tinge, thickly dotted with reddish and pale lilac, especially at the larger end; in some the ground color has a warm reddish tint, like many eggs of the House Wren. Dr. Merrill records it as a rather common resident in the vicinity of Fort Brown, Texas. Although several pairs were known to breed within the Fort, he did not succeed in finding their nests, which he thought were placed in some thick brush piles, probably similar to those of the Carolina Wren. A set of four eggs taken near Edinburgh, Texas, in an old Woodpecker's excavation, average .73 by .54.

Hab. Valley of Rio Grande. Texas.

61. Bewick's Wren—*THRYOMANES BEWICKI*. Thickly covered with reddish-brown, almost concealing the white ground; seven to nine. They measure from .60 to .68 in length and from .48 to .54 in width; a common size is .49 by .64. Nests of this bird are placed anywhere; in boxes, holes, fence-posts, brush heaps, stumps, hollow trees, barns, sheds, etc. Dr. Howard E. Jones, who obtained what are believed to be the first specimens of nests and eggs of this species ever taken in Ohio, has the following in his text of the "Illustrations of the Nests and Eggs of the Birds of Ohio:"†

† This admirable work demands more than a passing notice. It is not too much to say that it rivals in beauty and truthfulness of illustration the production of Audubon, and the most skilful critic would almost lose his critical powers in admiration upon beholding the striking likenesses presented in this work. The text is preeminently accurate.

“The nest and eggs of Bewick’s Wren resemble very closely some specimens of the House Wren’s in size and shape, and, except in size, approach even closer to those of the Great Carolina Wren. The nest alone it would be difficult to distinguish from uncovered nests of *T. ædon*, but the eggs are not nearly so thickly marked. Normal specimens of each can be always differentiated. The House Wren, however, sometimes lays eggs very similar to typical eggs of Bewick’s Wren.” “Long-tailed House Wren” is another name for this bird.

Hab. Eastern Province of United States.

61a. Californian Bewick’s Wren—*THRYOMANES BEWICKI SPILURUS*. Same markings as those of the preceding species. The breeding habits are substantially the same.

Hab. Pacific Slope of the United States.

61b. Texan Bewick’s Wren—*THRYOMANES BEWICKI LEUCOGASTER*. Hardly distinguishable from the two preceding species. The eggs do not vary more than the eggs of the same species are found to differ. Dr. Merrill, in his “Notes on the Ornithology of Southern Texas,” gives the average measurement of thirty eggs to be .63 by .45, the extremes being .70 by .52 and .60 by .46. The nest is found in a variety of situations; an old Woodpecker’s nest is often occupied, and it is frequently placed between joints of the prickly pear, and among the twigs of dense thorny bushes, in fact, like all the nests of this genus, it is very much similar.

Hab. Southern borders of United States, into Texas.

63. House Wren—*TROGLODYTES AEDON*. White, thickly dotted with fine spots of reddish-brown as to nearly conceal the white ground, with a light tinge of purple; nearly spherical to oblong oval. The eggs are usually seven, sometimes nine, measuring .62 by .55. The House or Wood Wren is found throughout United States from the Atlantic to the Rocky Mountains. This bird builds its nest under the eaves of houses, in corners of the barn, martin-boxes, and, in fact, they are found nesting in every conceivable cavity or crevice. The nest is composed of a mass of miscellaneous rubbish, sticks, grasses, hay and other convenient materials. Within this they construct an inner nest composed of finer substances, lined with feathers, fine dry grasses, and sometimes with the fur of small quadrupeds.

Hab. Eastern United States and British Provinces, west to Dakota, Nebraska, Kansas, etc.

63a. Western House Wren—*TROGLODYTES AEDON PARKMANNI*. Same markings as those of the preceding species. Its nest and entire general habits correspond exactly with those of the House Wren of the Eastern States.

Hab. Western and Middle Provinces of United States.

65. Winter Wren—*ANORTHURA TROGLODYTES HYEMALIS*. Pure crystal white, spotted with a bright, reddish-brown and markings of purple; five

or six in number and measure .69 by .49. The nest of this diminutive Wren is placed in low stumps, in crevices of unoccupied buildings, in the tangled piles of fallen trees and branches. It is composed of small twigs with moss interwoven, and warmly lined with feathers of the Ruffed and Canada Grouse, Blue Jay and other birds. In its general habits, this bird resembles the common House Wren. It is said to be more abundant on its breeding grounds in Maine and New Hampshire than elsewhere in New England at any other season.

Hab. North America generally.

67. Long-billed Marsh Wren — *TELMATODYTES PALUSTRIS*. Thickly marked with brown spots so as to appear of a uniform chocolate color; they number from six to ten and average in size about .58 by .45. The nest is globular, very conspicuous by its bulk and its exposed position. It is built of grasses and reeds loosely interwoven and often plastered with mud, securely fastened to its upright swaying reeds; it is lined with fine grasses, has a hole on one side, sometimes nearer the bottom than the top. The bird is found in swampy places and salt marshes where it nests in colonies of greater or less extent. Distributed throughout North America during the breeding season.

Hab. Temperate North America and Mexico, south to Guatemala.

68. Short-billed Marsh Wren—*CISTOTHORUS STELLARIS*. Pure white, unmarked and number six to eight, measuring about .60 by .45 by .54. The eggs are exceedingly delicate and fragile, more so than is usual even in the eggs of Hummingbirds. The nest corresponds to that of the Long-billed, but no mud is used in its construction. It is constructed in the midst of a tussock of coarse, high grass, the tops of which are ingeniously interwoven into a coarse and strong covering, spherical in shape, and closed on every side, except one small aperture left for entrance. The strong wiry grass of the tussock is also interwoven with finer materials, making the whole impervious to the weather. The inner nest is composed of grasses and finer sedges, lined with soft, vegetable down.

Hab. Chiefly Eastern United States, in reedy swamps and marshes; winters in the Southern States.

71. American Titlark—*ANTHUS LUDOVICIANUS*. Dark chocolate color, indistinctly marked with numerous small lines and streaks of black; four or five in number and average a little over .75 by .60. The nest is constructed on the ground and is large and bulky, made of coarse dry grasses and moss loosely put together. This bird breeds in the mountains of Colorado in the West, and from Labrador northward in the East. It is also called Pipit and Brown Lark.

Hab. North America everywhere.

73. Sprague's Titlark—*NEOCORYS SPRAGUEI*. White, minutely dotted with grayish-purple, so as to appear of a uniform color; they are four or

five in number, oblong-oval in shape, much pointed at one end and measure .87 by .63. The nest of this bird is built on the ground and placed in a hollow. It is made of fine grasses interwoven into a circular form, but without any lining. It is sometimes arched over. Missouri Skylark is another name for this bird. Breeds in immense numbers in Dakota and Montana.

Hab. Plains of Yellowstone and Upper Missouri to Saskatchewan, and Red River Valley of the North to Texas.

74. Black-and-white Creeper—*MNIOTILTA VARIA*. Creamy-white, spotted and blotched with reddish, chiefly at the larger end; four to six in number and measure .65 by .54. The nest is usually placed on the ground, built of leaves, grasses and moss, lined with fine, soft vegetable substances, such as fern-down and sometimes hair. Breeds throughout Eastern North America.

Hab. Eastern North America, Mexico, Bogota, West Indies.

75. Prothonotary Warbler—*PROTONOTARIA CITREA*. Clear, lustrous white; in some, spots and dottings of dull brown, with markings of pale lavender over the entire surface; in others, bold blotches of reddish-brown, thickly laid on, especially around the larger end; in some instances almost obscured; five to seven; noticeably blunted at the smaller end and average .70 by .52. Mr. William Brewster, in the Bulletin of the Nuttall Ornithological Club, Oct., 1878, pp. 153-156, says, after examining forty of their nests found near Mount Carmel, Ill., "the typical nesting-site was the deserted hole of the Downy Woodpecker or Carolina Chickadee. The height varied from two to fifteen feet, though the usual elevation was about four. If the cavity was old and broken out, or otherwise enlarged, it was far more apt to be chosen than a neater and newer one close at hand. The stump selected almost invariably stood in or projected over water." The nest is composed of moss, dry leaves and cypress twigs.

Hab. South Atlantic and Gulf States; north to Ohio, Illinois, Missouri and Kansas.

76. Swainson's Warbler—*HELONÆA SWAINSONI*. The nest and eggs of this rare swamp Warbler were first recorded by William Brewster in the "Forest and Stream" of July 9, 1885. They were collected by Mr. Arthur T. Wayne, near Charleston, South Carolina, June 5 and 6, 1885. Both nests were found in swamps built in canes, one four, the other six feet above a pool of stagnant water. The nest is composed chiefly of leaves of the red maple, water oak and sweet gum, bleached by the sun or stained by swamp water. It is smoothly lined with needles of the short leaved pine, and fine black roots which looked like horse hair. One of the nests was lined almost entirely with "pine straw," some rootlets and a few horse hairs. The second nest, collected June 6, contained one young bird and two addled eggs measuring respectively .75 by .59 and .74 by .59.

Both eggs at first sight appear to be pure white with a moderate polish; one, however, has a golden brown spot which will not rub off, and is considered an accidental stain. Since the above was written, Mr. Brewster, in the *Auk* for October, 1885, gives additional notes on two other nests with eggs taken in the same locality by Mr. Wayne. These were essentially the same, one, however, being placed over running water; they contained two and three eggs each; all are dull white with a bluish tinge. One egg of the five had two or three specks, another is spotted and blotched with pale lilac.

Hab. Coast of South Carolina and Georgia.

77. Worm-eating Warbler—*HELMINTHOTHERUS VERMIVORUS*. White, rather sparsely dotted with reddish-brown; four or five in number, size .68 by .54. The nest is placed on the ground in a depression of a hillside or beside a fallen log. It is composed of leaves and catkins and lined with moss and small, flexible stalks of plants. Breeds throughout its United States range.

Hab. Eastern United States, north to Connecticut Valley, casually to Maine; west to Missouri, Kansas and Indian Territory; south in winter to Florida, Cuba, Mexico, Central America.

78. Bachman's Warbler—*HELMINTHOPHAGA BACHMANI*. Dull white, with a wreath of dark brown covering about one third of the egg, also obscure spots of lilac scattered over the surface; four, size .74 by .60. The nest is placed in low trees. Hab. Coast of South Carolina and Georgia; Cuba in winter.

79. Blue-winged Yellow Warbler—*HELMINTHOPHAGA PINUS*. White, with small red spots, forming a ring around the larger end, and a few spots are scattered over the whole surface; four or five, size .65 by .47. The site chosen for a nest is usually on the edge of a solitary woods, often the border of a swamp. It is sometimes placed on the ground in the grass at the foot of a small bush. The nest is bulky and composed of thin strips of the inner bark of trees, and leaves, lined with fine grass. One nest is described by Dr. Brewer as being built so as to form the shape of an inverted cone. Breeds in its United States range.

Hab. Eastern United States; north to Massachusetts and Minnesota; south to Guatemala; west to Iowa, Kansas, Indian Territory and Texas.

81. Golden-winged Warbler—*HELMINTHOPHAGA CHRYSOPTERA*. Crystal white, with a few bright reddish-brown spots around the greater end; the complement is four or five in number, commonly four, and measure from .68 to .72 in length by .48 to .58 in breadth. The nest, like other species of the same genus, is placed on or near the ground generally in low, swampy woodland, and on the whole resembles the Maryland Yellow-throat's. It is made of dry oak or maple leaves mixed with strips of grapevine bark lined with finer threads of the same substance, interwoven with a few bits of grasses and horse hair. It is found placed in tussocks of

grass and on the ground at the foot of trees. Breeds anywhere in its United States range.

Hab. Eastern United States and Canada, New Grenada, Central America, Cuba.

83. Lucy's Warbler—*HELMINTHOPHAGA LUCIÆ*. Crystal white, spotted chiefly around the larger end with fine dottings of purplish-red; except in their smaller size, the eggs resemble very closely those of the Brown Creeper; they are nearly spherical in shape and measure .54 by .46. Like the Brown Creeper, this bird also nests between the loose bark of the trunk of a dead tree, which, so far as is known, is very unlike the rest of this genus. Sometimes old woodpecker's nests, knot holes and in all sorts of crevices. A brood of young are recorded as being taken from the deserted nest of the Yellow-headed Titmouse.

Hab. Fort Mohave, Colorado River; (Middle Province of U. S.), Fort Whipple, Arizona.

84. Virginia's Warbler—*HELMINTHOPHAGA VIRGINIÆ*. White, with a slightly roseate tinge, profusely spotted with numerous small blotches and dots of purplish-brown and lilac, forming a ring around the larger end; rounded oval, and measure .64 by .47. A nest containing four eggs of this bird is described by Dr. Brewer in History of North American Birds. It was embedded in the deposits of decaying leaves on ground covered by dense oak-brush. Its rim was just even with the surface. It was built on the side of a narrow ravine. The composition was an intricate interweaving of fine strips of inner bark of the mountain mahogany, fine grasses, roots and mosses, lined with the same and the fur and hair of smaller animals.

Hab. Southern Rocky Mts. (Middle Province of U. S.); East Humboldt, Wahsatch, and Uintah Mts.

85. Nashville Warbler — *HELMINTHOPHAGA RUFICAPILLA*. White, sprinkled with light reddish-brown specks, most thickly at the large end; in size range from .60 to .63 in length by .48 to .52 in breadth. They are usually four in number. The nest of this bird is placed on the ground; it is composed of leaves, bark, often almost entirely of pine needles, lined with finer material of similar kinds, sometimes with hair. Breeds in New England, and farther south in alpine regions; thence northward.

Hab. Eastern North America, Mexico

86. Orange-crowned Warbler — *HELMINTHOPHAGA CELATA*. White, marked with spots and blotches of reddish-brown, thickly about the larger end; four to five in number and measure .64 by .46. The nest, like nearly all other members of this genus known, is placed on the ground. It is composed of strips of bark, stems and grasses. Breeds in Arctic regions and alpine localities farther south.

Hab. North America. Common in the West, rare or irregular in the East.

87. Tennessee Warbler—*HELMINTHOPHAGA PEREGRINA*. White, with numerous small dots and points of reddish-brown and slate markings; size

.60 by .50. A nest described by Dr. Brewer was built in a low clump of bushes, just above the ground, composed of vegetable fibres, grasses and mosses, lined with hair. Breeds in the northern tier of States, thence to high latitudes in British America.

Hab. Chiefly Eastern North America.

88. Blue Yellow-backed Warbler — *PARULA AMERICANA*. Finely sprinkled on a white ground with reddish-brown dots, chiefly at the larger end, in some forming a ring; they measure from .62 to .65 in length by .49 to .52 in breadth; they are from four to eight in number. Mr. W. W. Worthington, of Shelter Island, N. Y., in the "Ornithologist and Oologist," for October, 1881, says that the nest is usually placed in a bush or small tree in swamps or swampy places and about ten or twelve feet from the ground. Nests in my collection, which Mr. Worthington has sent me, are beautiful structures. These are pensive, with an entrance on one side. They are composed of long greenish or gray Spanish moss. As a whole the nest is one of the most curious specimens of bird architecture; the long pieces of moss are woven and twined together in a large purse-shaped mass. Found during breeding season in Eastern United States, from Virginia north to Canada.

Hab. Eastern North America, West to Nebraska and Colorado, North to British America, Greenland casually, South to West Indies, Mexico.

90. Cape May Warbler—*PERISSOGLOSSA TIGRINA*. Dull or creamy white with a slightly ashen hue, same as that of the Black-and-yellow Warbler's. Mr. Montague Chamberlain, in the Auk for January, 1885, describes four eggs of the Cape May's, collected near St. John, N. B. "The markings are of light and dark lilac and yellowish and reddish tints of brown; the brown being on the surface and the lilac underneath, the coatings of shell producing various shades." The spots are described as round and very minute and irregularly distributed, with a tendency to concentration in a ring near the greater end; others have spots over the larger part of the egg. The measurements given by Mr. Chamberlain of his four eggs are as follows: .69 by .49, .65 by .49, .66 by .49, .66 by .48. The nest of this bird is placed in small cedar or hemlock trees a few feet from the ground. It is composed of small twigs, grasses, with spider's silk interwoven coarser materials and knotted into numerous little balls fastened to the surface, as if for ornament. It is lined with horse hairs and mosses.

Hab. Eastern Providence of U. S., North to Lake Winnipeg and Moose Factory; all the West Indies to St. Croix.

93. Summer Yellow Bird; Yellow Warbler—*DENDRŒCA ÆSTIVA*. Light green, with dots and blotches of light purple, brown and lilac; the eggs are usually four or five in number and measure from .61 to .70 in length

by .49 to .52 in breadth. The nest is generally placed in low bushes, three or four feet from the ground, sometimes in trees at heights ranging from ten to forty feet, but the favorite places are in hedges and low shrubs. The nest is neatly and compactly made of hempen fibres of plants, fine strips of bark, slender stems of plants and leaves and down of willow catkins. It is lined with soft, fine grasses, feathers, and other warm materials. The Cow Bird makes the nest of this warbler a favorite receptacle for depositing her egg. It is often incorrectly called Yellow Wren.

Hab. North America.

94. Black-throated Blue Warbler—*DENDRÆCA CÆRULESCENS*. White, with a ring of brown and lilac dots, and blotched at the larger end with minute spots scattered over the entire surface; they are three to five in number and measure .60 to .67 in length by .46 to .50 in width. This beautiful Warbler has been found nesting in northern New York and Connecticut. In all cases the nest is placed in the fork of a small bush or tree a few inches from the ground. It is composed of an interlacing of twigs, weed-stalks, grasses, roots and grape-vine bark.

Hab. Eastern United States, West Indies.

95. Yellow-rump Warbler—*DENDRÆCA CORONATA*. White, blotched and spotted with different shades of brown and purplish; the number of eggs is usually four and average .68 by .50. The Myrtle Bird or Yellow-crowned Warbler, as it is often called, breeds numerously in the forests of Maine, New Hampshire and Vermont; placing the nest usually in low spruce trees a few feet from the ground. It is a neat fabric made of hemlock twigs and lined with a few feathers. Breeds from northern New England northward.

Hab. North America, but chiefly Eastern Province.

96. Audubon's Warbler—*DENDRÆCA AUDUBONI*. Pinkish-white with red markings chiefly about the larger end; they are said not to resemble those of any *dendroica* but are more like the eggs of the Hooded Warbler. They measure .70 by .50. The nest is situated in small trees or shrubs, placed in forked branches. It is compactly built of bark strips, dry leaves, grasses, plant stocks, intermingled with finer grasses, feathers, mosses, roots and a variety of other materials. It is warmly lined with fur. Breeds northward and in all alpine regions.

Hab. Western and Middle Provinces of United States, from the Rocky Mts. to the Pacific.

97. Black-and-yellow Warbler—*DENDRÆCA MACULOSA*. Creamy-white, blotched sparingly over with large spots of lilac and umber, and wreathed about the larger end with brown, clouded with lilac spots and blotches; usually four and sometimes five and measure from .62 to .65 by .46 to .50. This beautiful bird, commonly called Magnolia Warbler, has been found breeding from western New York northward to Labrador. The nest is

usually placed in a hemlock or spruce a few feet from the ground. It is a light structure resembling that of the Chestnut-sided Warbler, composed of twigs, weed-stalks and grasses, lined either with horse hair or fine rootlets.

Hab. Eastern Province of North America to Labrador, Hudson's Bay, Great Slave Lake, etc.; west to Colorado.

98. Cerulean Warbler — *DENDRÆCA CÆRULEA*. Dull creamy-white, more or less thickly covered with blotches of reddish-brown; size .60 by .47. The nests of this bird that have been described were all placed in trees from twenty to fifty feet from the ground. They were constructed with grasses and fibres of bark, lined with fine grass and more or less completely covered with lichen, bound on with spider's webs.

Hab. Eastern United States, rarely north to New England, sometimes west to the Rocky Mts., in the latitude of Colorado.

99. Chestnut-sided Warbler — *DENDRÆCA PENNSYLVANICA*. Rich creamy-white, and beautifully spotted, chiefly at the larger end, with purple and purplish-brown; four or five in number and average .68 by .50. The nest is commonly built in a low bush, shrub, or sapling from two to eight feet above the ground. The situations chosen are the "scrub-lands" or open woods in low grounds which contain bushes, vines, etc. The nest is generally coarser than the Yellow Warbler's and contains fewer woolly materials. It is composed of narrow strips of thin bark or dried grasses, mixed with plant down, fine bleached grasses and lined with hairs. Breeds abundantly in the Middle and Northern States.

Hab. Eastern United States and Canada; south to Panama, Bahamas.

100. Bay-breasted Warbler — *DENDRÆCA CASTANEA*. Bluish-green, thickly spotted with brown, usually with a ring of blotches of brown and lilac at the larger end; three to six in number and measure from .65 to .71 by .50 to .53. The nests are placed usually in a spruce or hemlock, fifteen or twenty feet from the ground; they are said to be large for the size of the bird and to resemble the nest of the Purple Finch. It is composed of fine twigs, fibrous roots, moss, and lined with hair. This Warbler has been found breeding only in the most northern United States and northward.

Hab. Eastern United States, north to Hudson Bay; south to Guatemala.

101. Black-poll Warbler — *DENDRÆCA STRIATA*. White, spotted with lavender, dark purple, lavender and reddish-brown; three to five in number and measure .72 by .50. This bird is found in mixed woods, but has a decided preference for evergreen forests. It passes far north to breed, in Labrador and Arctic America; a few linger through the summer in northern New England. The nests are usually placed in low, thick spruce trees about eight feet from the ground. They are compactly built of

small twigs, lichens, slender rootlets and fine sedges, and lined with particles of grass. Hab. Eastern North America, west to Nebraska and Colorado; north to Greenland.

102. Blackburnian Warbler—*DENDRÆCA BLACKBURNIÆ*. Bluish-green, spotted chiefly at the larger end with reddish-brown and lilac; the egg resembles that of the Chestnut-sided Warbler; four in number and measure .67 by .50. This, the most beautifully colored of all the warblers, breeds in United States from New York northward. Nests have been found usually placed in thick hemlock or lofty pines, from twenty to eighty feet from the ground. The nest is large and compact, consisting of a densely woven mass of grasses, down of the cat-tail, lined with fine lichens, horse hair, fur and feathers.

Hab. Eastern North America, south to Mexico. Central and South America to Ecuador. Utah. New Mexico.

103. Yellow-throated Warbler—*DENDRÆCA DOMINICA*. Grayish-white, with fine dottings of pale lilac and brown scattered thinly and evenly over the entire surface, sometimes with a distinct ring around the larger end; size .70 by .52. A nest taken near Wilmington, North Carolina, was entirely hidden in a thick pendant tuft of Spanish moss; composed of the same material and formed like those of the other *dendræca*. Breeds in its United States range at large.

Hab. South Atlantic and Gulf States, north sometimes to Middle States.

106. Golden-cheeked Warbler—*DENDRÆCA CHRYSOPARIA*. Clear white, evenly covered with fine but distinct spots of light reddish-brown, in some so faint that the surface appears white; the eggs are said to resemble faintly spotted examples of the Tufted Titmouse; their size is .75 by .57. This bird has been found nesting in Comal County, Texas. The several nests that were found were similar in construction, being built in the forks of perpendicular limbs of the *Juniperus virginiana*, from ten to fifteen feet from the ground. They were composed of the inner bark of this tree interwoven with spider webs, in color resembling the bark of the tree in which they were built. The nest resembles the average nest of the Black-throated Green Warbler, but nearly double the size.

Hab. Vera Paz, Guatemala; San Antonio and Medina River, Texas.

107. Black-throated Green Warbler—*DENDRÆCA VIRENS*. Creamy-white, blotched and dotted with reddish and purplish-brown, more numerous about larger end; three or four, sometimes five in number, and average .67 by .54. Wherever there are tracts of coniferous trees, this Warbler is almost sure to be found. It breeds in all the New England pineries, usually placing its nest in a horizontal fork near the end of a bough, from fifteen to fifty feet from the ground. It is composed of narrow strips of thin bark, twigs, dry grasses, wool, feathers and plant down, generally

lined with hairs and vegetable fibres. Mr. L. C. Holmes, of Standish, Me., writes me that he has found several nests of this bird, but all were placed in low scrubby firs.

Hab. Eastern United States.

111. Pine-creeping Warbler—*DENDRŒCA PINUS*. Pinkish-white, with subdued tintings of the shade of purple, on this are distributed dots and blotches of dark purplish-brown, and with lines of almost black; four eggs is the common number laid and average .70 by .52. This bird breeds all along the Atlantic coast of United States, at least as far south as the Carolinas, and is said to breed throughout its United States range. It is, however, seldom found in any other than evergreen woods, even when not breeding, and the nest is almost always placed in pine or cedar trees, from fifteen to fifty feet from the ground. The nidification of the Pine-creeper is described as essentially like that of the Black-throated Green Warbler.

Hab. Eastern Province of North America, north to Canada and New Brunswick, west to Missouri and Kansas.

113a. Yellow Red-poll Warbler—*DENDRŒCA PALMARUM HYPOCHRYSEA*. Yellowish-white, or white with a roseate tinge, with a blending of blotches of purple, lilac and reddish-brown, chiefly about the larger end; usually four in number and measure .62 by .51. This bird breeds in Eastern North America from northern New England north to Hudson's Bay. The nest is usually placed on the ground, composed of stalks of weeds, grasses, and hairs, lined with fine roots and pine leaves. The site chosen for the nest is said to be usually on the edge of a swampy thicket.

Hab. Atlantic U. S., from East Florida to Nova Scotia.

114. Prairie Warbler—*DENDRŒCA DISCOLOR*. White, spotted with lilac, purple and umber-brown of different shades, mostly wreathing about the larger end; three to six in number, size .65 by .50. The Prairie Warbler is somewhat irregularly distributed through the eastern portion of United States, from Massachusetts to Georgia, during the breeding season. The nest is usually placed in a barberry bush, sometimes in a hazel. It is a closely-woven structure formed of weeds, strips of bark; internally of soft yellow down of some wild plant, and lined with fine dry grasses.

Hab. Atlantic region of U. S., north to Massachusetts, west to Kansas. West Indies.

115. Golden-crowned Thrush—*SIURUS AURICAPILLUS*. Creamy-white, marked with dots and blotches of red and reddish-brown, chiefly at the larger end; the number of eggs is usually four, sometimes five and as many as six have been found; they vary in size from .80 to .90 in length by .60 to .70 in breadth. The Oven Bird, as it is also called, is found during the breeding season throughout eastern United States north to Hudson's Bay. The typical nest of this bird is remarkable for its being roofed over like an oven, having an entrance on the side; it is not, how-

ever, always of this style. It is a rather bulky structure placed on the ground, composed of dried leaves and grasses, lined with hairs and fine grass stems. The nest is placed in dry, leafy woods, but sometimes low, moist places. Though artfully hidden, it is often found to contain the Cow-bird's egg. It is also called Golden-crowned. Wagtail Warbler and Accentor.

Hab. Eastern North America, north to Alaska; south to West Indies and Central America; west to the Rocky Mountains.

116. Small-billed Water Thrush—*SIURUS NÆVIUS*. Clear, crystal-white, more or less marked with lines, dots and dashes of varying shades of brown, darker brown and lilac, sometimes larger spots being confluent wreathed at or about the greater end. They are from four to six in number and measure from .75 to .83 in length by .58 to .60 in breadth. The Water Wagtail is found during the breeding season throughout Eastern United States north to Hudson's Bay. The nest resembles in structure and position that of the Oven Bird, but is composed especially of *Hypnum* mosses, mixed with leaves and grasses, and lined with slender rootlets.

Hab. Eastern Province of North America, north to Arctic Ocean; Mexico, West Indies, Central and much of South America.

117. Large-billed Water Thrush—*SIURUS MOTACILLA*. White, with a fleshy tint, with blotches of dark umber and fainter sub markings of pale lavender about the larger end, while over the entire surface are thickly sprinkled dotting of reddish-brown; four to six and measure from .75 to .80 in length by .60 to .62 in breadth; they are of a more crystalline polish than the eggs of the Oven Bird and more nearly spherical. The nest of this bird is situated similar to that of the Small-bill; the favorite nesting place is among the upturned roots of a fallen tree. It is large and bulky, composed of a mass of dead leaves plastered together with mud. An inner nest is made of small twigs and green mosses, lined with grasses and hair. Breeds in most of its range.

Hab. Eastern U. S., north to Massachusetts and Michigan, west to Kansas, west to Indian T. and Texas.

119. Kentucky Warbler—*OPORORNIS FORMOSA*. Glossy white, spotted and speckled with reddish-brown and lilac, chiefly at the larger end, in some forming a complete wreath; the number laid is usually four, and there are records of five and six being found in a single nest; they measure .73 by .55. This Warbler breeds throughout most of its United States range, attaching the nest to stems of rank weeds or grass. It is formed of bark-strips, dried leaves and fine sticks, and lined with dry rootlets.

Hab. Eastern Province of U. S., especially the Mississippi Valley; north to the Connecticut Valley; west to Kansas and the Indian Territory.

120. Mourning Warbler—*GEOTHLYPIS PHILADELPHIA*. Light flesh-color, uniformly speckled with fine brown specks; size .75 by .55.

The eggs are not distinguishable from those of the Maryland Yellow-throat. The only nest known of this bird was found by Mr. John Burroughs, in the State of New York, in ferns about a foot from the ground, on the edge of a hemlock wood. It was quite massive, composed of stalks and weeds. The cavity was quite deep and lined with fine black roots. The eggs were three in number of the color and size just described. Breeds chiefly in the northern tier of States and along the British border.

Hab. Eastern Province of United States and British America; north casually to Greenland; west to Kansas and Dakota.

121. Macgillivray's Warbler—*GEOTHLYPIS MACGILLIVRAYI*. Pinkish-white, marked and spotted with purple, lilac, reddish-brown and dark brown, approaching black; the complement of eggs is usually four, size .75 by .50. This bird breeds in abundance in Utah, Montana, Idaho, Oregon, Washington Territory, and probably also in Northern California, and is said to breed throughout its United States range. The nest is placed usually in low underbrush or thickets, cup-like in shape, loosely constructed of slender strips of bark, decayed stalks of plants, and grasses, lined with finer material of the same.

Hab. Western and Middle Province of United States; north to British Columbia.

122. Maryland Yellow-throat—*GEOTHLYPIS TRICHAS*. Clear crystalline white, dotted and blotched around the greater end with purple, reddish-brown and umber; the number of eggs in a set ranges from four to six and vary greatly in size, averaging about .70 by .55. This active little Warbler breeds throughout its United States range. The nest is not easy to find, being built on the ground, snugly tucked under the foot of bush or tussock of rank grass, and sometimes partly roofed over like the Oven Bird's. The favorite resorts of this Warbler are in low, swampy places or in the shadowy undergrowth of wood-land. It resembles a wren in its fondness for bush and brier. On approaching such places early in spring one is almost sure to be saluted with its sprightly song, full of energy. My friend, Mr. Thomas M. Earl, has given me, verbally, the best description of this bird's song that I know of. One evening in May, 1884, he was returning from a day's hunt, and after a rest on an old log, with empty gun in hand, he was about to start on his journey homeward. At this instant a little Yellow-throat mounted a small bush and in quick succession said, *tackle me! tackle me! tackle me!* as if defying the intruder with his empty gun.

Hab. United States from Atlantic to Pacific at large; south to Mexico and Central America.

123. Yellow-breasted Chat—*ICTERIA VIRENS*. Glossy-white, with spots of reddish-brown, pretty evenly distributed, sometimes forming a ring around the greater end; three to five eggs are generally laid, and vary in

length from .84 to .95, and .65 to .70 in breadth. The Chat inhabits shrubbery, and, in fact, any kind of undergrowth, placing the nest in a thick bush, usually two or three feet from the ground, composed of withered leaves, dry grasses, strips of bark, and lined with fine grasses. Breeds throughout its United States range.

Hab. Eastern U. S.; north to Massachusetts; west to the Plains, beyond which it is replaced by var. *longicauda*.

123a. Long-tailed Chat—*ICTERIA VIRENS LONGICAUDA*. Markings same as those of the preceding species; from .95 to 1.00 in length, average breadth of .70. The nidification essentially the same as those of the preceding species.

Hab. Western and Middle Province of United States; east to Missouri River and Texas, Cape St. Lucas and Western Mexico.

124. Hooded Warbler—*MYIODIOCTES MITRATUS*. White, tinged with flesh color, spotted with red, with a few markings of subdued purple; three or four and measure from .62 to .68 in length by .46 to .50 in breadth. This Warbler breeds throughout its United States range. It is one of the liveliest of its tribe, and frequents thickets and undergrowth. The nest is placed in a bush or low tree, within a few feet from the ground. It is composed of leaves, grasses, fine inner bark, moss, and lined with fine grass and horse-hair.

Hab. Eastern United States, rather southerly; north to the Connecticut Valley; west to Kansas; south to Mexico and Central America.

125. Black-capped Yellow Warbler—*MYIODIOCTES PUSILLUS*. White, dotted with reddish-brown, chiefly at the larger end; four or five, size .60 by .49. Little is known in regard to the breeding habits of the Green Black-capped Flycatching Warbler. It breeds from the latitude of Massachusetts northward. The nest is built on the ground, composed of moss and small twigs, lined with vegetable fibres. The nest and eggs are, in all probability, similar to those of the following western variety, *pilcolatus*.

Hab. Whole of North America, Mexico and Central America.

125a. Pileolated Warbler—*MYIODIOCTES PUSILLUS PILEOLATUS*. Dull-whitish, thickly freckled with dark, rusty-brown, with some slight lilac markings and a few blotches at the larger end; four or five in number and measure .60 by .50. A nest of this variety is described as built on the ground at the edge of a swamp. Mr. B. W. Evermann writes me that he found a nest near San Buenaventura, Cal., May 23, 1881. This was placed about one foot from the ground in a clump of blackberry bushes. It was made of leaves of the blackberry, very loosely put together, lined with fine strips of bark and a few horse-hairs. This nest contained four eggs.

Hab. Pacific Coast of North America.

127. Canadian Flycatching Warbler—*MYIODIODES CANADENSIS*. White, beautifully marked with dots and small blotches of blended brown, purple and violet, varying in shades and tints in a wreath around the larger end; four or five, average measurement .75 by .56. The Canada Flycatcher breeds from Massachusetts northward. The nest is placed on the ground, usually at the foot of a tussock of grass, and, most generally, in swampy ground. It is composed of fibres of bark, leaves, needles of the white pine and rootlets, very loosely put together.

Hab. Eastern Province of U. S., west to the Missouri; south to Mexico, Central America and Ecuador; west to the Plains.

128. American Redstart—*SETOPHAGA RUTICILLA*. Grayish-white, dotted and blotched with brown, lilac and purple; they resemble the eggs of the Yellow Warbler, but having a grayish ground instead of a light green; four or five in number and measure from .58 to .68 in length by .48 to .52. The richly-colored Redstart is found during the breeding season in Eastern United States north to Labrador. It builds a beautiful little nest, usually in the low branch of a tree or small sapling, and almost always in extensive and retired woods. It is made of very soft materials—fine strips of bark, hempen fibres, down of plants, and lined with hair and fine grasses.

Hab. Greater part of temperate N. A., especially the Eastern Province; north to Fort Simpson; west to Utah.

129. Painted Redstart—*SETOPHAGA PICTA*. In the Bulletin of the Nuttall Ornithological Club for July, 1882, Mr. William Brewster describes the previously unknown nest and eggs of this bird, collected in the Santa Rita Mountains, in Arizona, by Mr. F. Stephens. What is remarkable about the nesting site is, that it was "under a projecting stone in a bank near a small stream." The nest was large, flat and shallow, composed of coarse fibres of weed-stalks and fine bleached grasses, the latter, with a few hairs, formed the lining. The eggs, like the nest, did not resemble those of the preceding species, *S. ruticilla*; they were three in number and measured .64 by .51, .64 by .50, .66 by .49. They were clear dead white, delicately spotted with light reddish-brown, the markings being sparsely distributed over the general surface and handsomely wreathed about the larger end.

135. Red-eyed Vireo—*VIREOSYLVA OLIVACEA*. Sparsely sprinkled on a pure white ground, with fine dark, reddish-brown dots chiefly at the larger end; they are four or five in number and measure .80 to .85 in length by about .60 in breadth. The Red-eyed Greenlet apparently breeds wherever found, and in especial abundance in the Central States. The nest, like all others of this family, is a well-woven pendulous cup suspended from a forked twig. It is placed in a sapling and often in trees as

high up as fifty feet. It is made of vegetable fibres which are bleached to a uniform wood color, firmly fettet together; the lining is of grass, sometimes mingled with horse-hairs and bits of newspapers.

Hab. Chiefly Eastern North America to Hudson's Bay; Greenland; west to Rocky Mts., and even beyond; Washington Territory; Utah.

139. Warbling Vireo—*VIREOSYLVIA GILVA*. Spotted and sometimes blotched at the larger end with brown and reddish-brown on a clear white ground—sometimes over the surface will be found small specks of reddish-brown; the complement of eggs ranges from three to four, size .70 to .75 in length by about .55 in breadth. This Vireo breeds abundantly from Virginia to Nova Scotia and in all the Northwestern States. West of the Rocky Mountains it is replaced by variety *V. g. Swainsoni*. The nest is a beautiful structure that hangs like a little basket between the small twigs, like that of the Red-eye, but is usually at a very considerable distance from the ground.

Hab. Temperate Eastern North America; west to the high plains.

139a. Western Warbling Vireo—*VIREOSYLVIA GILVA SWAINSONI*. Eggs in my collection are the same as those of the preceding species. The nests are similar in construction, except probably in the material used.

Hab. United States from Rocky Mts. to Pacific coast.

140. Yellow-throated Vireo—*LANIVIREO FLAVIFRONS*. White, marked with spots of rosy brown. The eggs of this Greenlet are not distinguishable with certainty from those of the Red-eye and Warbling Greenlets—on an average they may be more heavily marked. It breeds throughout its United States range. The nest is more highly finished than those of the other Vireos, being elegantly adorned on the outside with lichens, like a Humming Bird's or Blue-gray Gnatcatcher's nest. Like the others, it is pensile and placed in the fork of a horizontal branch, from three to fifteen feet above the ground.

Hab. Eastern U. S. and British Provinces; west to Iowa and Kansas; south to Mexico.

141. Blue-headed Vireo—*LANIVIREO SOLITARIUS*. White, less crystalline than the other Vireos, pretty uniformly spotted over the eggs with dark red and reddish-brown, approaching black, oval in form, size .78 to .80 in length by .55 to .57 in breadth, four in number. This Greenlet is found in northern United States during the breeding season. The nest is more loosely constructed than that of the other Vireos and contains more variety of materials. It is usually placed within twelve feet of the ground.

Hab. United States and Canada; south to Central America.

142. Black-capped Vireo—*VIREO ATRICAPILLUS*. Spotless dull white, ovoid in shape; three or four in number, they measure about .67 by .52, with slight variations in size. As far as known, all the specimens of this rare bird that have been taken are from Mexico, Texas and Kansas. The first

authentic nests and eggs were collected in Comal Co., Texas, in May, 1878, by Mr. W. H. Werner. He always found the birds in mountainous districts, and they frequented low brushwood. Their nests were built from three to four feet above the ground. They are suspended in the fork of slender twigs after the usual style of the Vireos, composed of fine strips of reddish bark, layers of delicate bleached leaves, a few coarse grasses, catkins and spiders' cocoons. Mr. Brewster gives the first account of this discovery in the Bulletin of the Nuttall Ornithological Club, for April, 1879.

Hab. Texas; Mexico; southwestern Kansas.

143. White-eyed Vireo—*VIREO NOVEBORACENSIS*. Spotted with fine dark-purple and reddish-brown on a clear white ground, chiefly about the larger end; three to five in number with an average measurement of .78 by .60. During the breeding season this bird is distributed from the Rocky Mountains to the Atlantic, north to Maine. It frequents thickets while others of the family are found in woodland. The nest is usually a cup-shaped structure swaying from a forked twig, and is rather large for the size of the bird. It is seldom placed more than three or four feet from the ground. It is composed of a mass of odd and miscellaneous materials, such as straws, bits of decayed wood, blades of grass, mosses, lichens, and various vegetable substances. Wilson nicknamed this bird "Politician," because it frequently used bits of newspaper in the construction of its nest.

Hab. Eastern U. S., excepting perhaps parts of New England; west to Dakota and Kansas, and western Texas.

144. Hutton's Vireo—*VIREO HUTTONI*. White, delicate blush color before blown, with minute dots of reddish-brown, more numerous toward the larger end; usually the complement is four, with an average size of .70 by .50. This bird is found in various parts of California, in the Valley of the Gila, and the northern and eastern portions of Mexico. It places its nest in trees from eight to thirty feet from the ground. It is a neat, compact structure made of vegetable fibres, bits of paper and grasses, covered on the outside with green and gray mosses. It is usually simply lined with fine grasses.

Hab. California and Mexico.

145. Bell's Vireo—*VIREO BELLI*. Pure white, sparingly spotted with fine red dots distributed around the larger end; three or four in number, size .73 to .75 in length and .52 to .58 in breadth. Bell's Vireo has an extended distribution during the breeding season, from Texas to the Upper Missouri, and even as far as the eastern edge of Southern Illinois. It breeds, also, as far as Eastern Kansas. The nest is pensile, suspended from two small twigs in a bush or small tree. It is beautifully formed of fine, dry grasses, slender bark strips, dry leaves, bits of wood, and, unlike

others of this family, it is lined with down and fine hair of animals, instead of with vegetable substances.

Hab. Middle Region of United States; west to base of Rocky Mts.; east to the valley of the Ohio.

146. Least Vireo—*VIREO PUSILLUS*. Crystalline white, speckled with red and reddish-brown, markings being very minute and scarcely discernible in some, in others very distinctly marked; three or four, size .73 by .76 in length by .52 to .56 in breadth. A common bird in Arizona and Southern California. The habits of this Vireo, as far as known, correspond closely with those of Bell's and the White-eyed Vireo. Nests from Arizona are described as substantially like those of the former species, being pensile, as usual, and suspended by three-fourths of its brim from two small twigs.

Hab. Arizona, chiefly in its lower portions, and California, from Sacramento to Cape St. Lucas.

147. Gray Vireo—*VIREO VICINIOR*. Rosy, when fresh, becoming a dead white when blown, rather sparsely spotted with irregularly shaped dark umber-brown dots, chiefly at the larger end; usually three or four in number, size from .75 to .78 in length by .57 to .59 in breadth. W. E. D. Scott, on the breeding habits of some Arizona Birds, in the Auk for October, 1885, says that the Arizona or Gray Vireo is, excepting the Least Vireo, the commonest form of Vireo on the San Pedro river foothills of Las Sierras de Santa Catalina, at an altitude ranging from 2800 to 4000 feet; these altitudes being about the limits of the species while breeding. Several nests found were placed either in a thorn bush or mesquite, from four to seven feet from the ground. They were composed of the dry skin or bark of a coarse kind of grass, lined with the same material. In one nest a few downy feathers were added to the lining.

Hab. Arizona and New Mexico.

148. Great Northern Shrike—*LANIUS BOREALIS*. Light greenish-ground, marbled and streaked with blotches of obscure purple, clay color, and rufous brown; four or five and sometimes six in number, size 1.10 by .80. The nests and eggs of all the Shrikes are similar. In the breeding season this species is found throughout the whole of North America north of United States. The nest is built in trees; it is very large and bulky, made of soft stems and grasses, well felled together, and lined with down and feathers. Dr. Wheaton calls the Shrikes the "Bushwhackers" among birds, none being so notorious for cruelty and rapacity.

Hab. North America, northerly, south in winter to about 35°.

149. Loggerhead Shrike—*LANIUS LUDOVICIANUS*. Light greyish, blotched and spotted with obscure yellowish and light brown and purplish-grey, more or less confluent, four to six, size, 1.05 by .76. A typical nest before me is a large massive structure made of twigs, roots and stems of

plants; an inner nest is made of fine grasses, lined with feathers and a few horse hairs. It measures six inches in diameter by four in height; cavity three in width by two and one-half inches in depth. Thickets along railroads are favorite resorts of these birds, affording a constant supply of food and suitable breeding sites. The nest is often placed in thorn trees.

Hab. South Atlantic and Gulf States; north to Mississippi and Ohio Valley, and recently (?) extending to New York, Connecticut, Massachusetts, and even Maine. California.

149a. White-rumped Shrike—*LANIUS LUDOVICIANUS EXCUBITORIDES*. Eggs are not distinguishable from those of the Loggerhead, *L. ludovicianus*. The nidification is also the same. Mr. B. W. Evermann found this bird, *excubitorides*, building near Santa Paula, Cal., placing the nest usually in live oak and orange trees, from five to fifteen feet from the ground, and Cyril Marr, in the "Young Oologist"* for March 1885, says it is found in considerable numbers from the latitude of San Francisco southward.

Hab. Middle Province of North America to the Saskatchewan, East, through Kansas, Iowa, Ohio, Illinois, Wisconsin. California.

150. Northern Wax-wing; Bohemian Wax-wing—*AMPELIS GARRULUS*. Greenish-slate or stone color, spotted with a dark brown, with deep, violet shading; the eggs are only to be distinguished from those of the familiar Cedar Bird or Cedar Wax-wing by their larger size, measuring 1 by .70. The nidification is substantially identical. The restless Bohemian breeds in high latitudes, and down to the United States border in the Rocky Mountains.

Hab. Northerly portions of the Northern Hemisphere. In America, south regularly to the Northern tier of States, and in the Rocky Mountains to Colorado; irregularly or casually to about 35°. (Pennsylvania, Ohio, Indiana, Illinois, Kansas, New Mexico and Arizona.)

151. Cedar Wax-wing—*AMPELIS CEDRORUM*. Varying from a light slate to a deep shade of stone-color tinged with olive, marked with blotches and spots of a dark brown and purple, almost black; the eggs range from three to six in a set and measure about .82 by .61. The Cherry Bird, Southern, or Carolina Wax-wing, is found throughout North America, as far as the wooded country extends, and breeds from Florida to the Red River country. The usual position of the nest is in a cedar bush or orchard tree, and it is often placed in a sycamore, the distance varying from four to eighteen feet from the ground. It is rather bulky, and made of bark, leaves, roots, twigs, weeds, paper, rags and twine, lined with finer grasses, hair and wool. Hab. North America at large to latitude 54° N. or beyond.

152. Purple Martin—*PROGNE SUBIS*. Pure glossy white, oblong oval, pointed at one end, and measure from .95 to 1. in length by .68 in width;

* Young Oologist, a monthly Magazine, devoted to the study of Birds, their Nests and Eggs. Published by Frank H. Lattin, Albion, N. Y.

the eggs are from four to six in number. The Martin, conspicuous for its striking color and screaming, crackling noise, breeds throughout its United States range. It originally built in hollow trees, and some of the "old fogies" do yet, but those who find suitable nesting places in eaves and cornices of buildings or in boxes prepared for their use, are thus bred to American ideas and never return to their old log cabins in the air. This jolly fellow who puts life into the quiet streets of country towns, and large cities, also, by his noise and activity, constructs a nest out of anything that is handy, leaves, twigs, straws, bits of string, rags and paper.

Hab. North America.

153. Cliff Swallow—*PETROCHELIDON LUNIFRONS*. White, marked with dots, blotches and points of reddish-brown, chiefly about the larger end, less elongated than those of the Barn Swallow, but the markings of the two are hardly distinguishable; on an average, the eggs in size are a trifle larger; four to five and sometimes six in number. The "Republicans," as they are sometimes called, or Eave Swallows, are known to occur nearly throughout North America, and to breed from Pennsylvania to the Arctic and from the Atlantic to the Pacific. As the name implies, and as almost every one knows, this bird fixes its queer bottle-shaped nest to the perpendicular faces of rocks and hard embankments, also on the walls of houses and under shelter of the eaves. The nests are not always retort or flask-shaped, some nests have no necks, and the degree of perfection in style depends upon circumstances. The nests are made entirely of mud, tempered by the bill of the bird. The nest is well lined with straw, wool and feathers. They are always found in colonies during the breeding season.

Hab. North America at large.

154. Barn Swallow—*HIRUNDO ERYTHROGASTRA*. White, marked with spots and blotches of bright reddish-brown, chiefly at the larger end; they are three to five or six in number and appear rather narrow for their length; size .68 to .78 in length by .50 to .56 broad. The well-known nest of pellets of mud, lined with hay and often with feathers, is placed upon the rafters or under the eaves of a barn or other building. In the nest of this bird "runt" eggs are frequently found, and, as in many other cases of all the more common birds, generally a set of pure white or abnormal eggs is not uncommon. Distributed during the breeding season throughout United States and Canada.

Hab. North America.

155. White-bellied Swallow—*TACHYGINETA BICOLOR*. White, unspotted, oblong-oval; the eggs are from four to seven, and occasionally nine, in number and measure from .70 to .78 in length by .50 to .55 in breadth. This Swallow breeds from latitude 38° to high Arctic regions, and is resi-

dent throughout the year in the plateaus of Mexico. It nests in old excavations of woodpeckers or natural cavities of dead trees, always in the vicinity of water. The nest is composed of leaves and grass thickly lined with feathers. This bird often accepts the boxes set up for its accommodation, but it is not easy to induce them to occupy such artificial domiciles.

Hab. Temperate America.

156. Violet-green Swallow—*TACHYCINETA THALASSINA*. Pure white; four or five in number, size .80 by .50. This lovely Swallow is common from the central plains of North America to the Pacific coast. It breeds abundantly in California, Oregon and Washington Territory, and is the most characteristic Swallow of the pine regions of Arizona, and has been found in considerable abundance in Colorado, nesting in all suitable localities, and, like the Eave Swallow, usually in colonies. It nests in knot-holes of oak and other deciduous trees and in the deserted excavations of woodpeckers, and more recently it has been found nesting under the eaves of houses, like the Cliff Swallow. The nest is made of dry grasses, lined with a thick mass of feathers. It has also been found nesting in holes in banks.

Hab. Western and Middle Province of United States; south to Guatemala; east to Upper Missouri.

157. Bank Swallow—*COTILE RIPARIA*. White; three to six; oval; size .72 by .47. The Bank Swallow, or Sand Martin, found throughout Europe, is also equally common throughout North America, and breeds in the greater part of its range. The holes in which this bird nests are excavated by the bird in the perpendicular face of a bank; the depth ranges from two to four feet. The termination is usually somewhat enlarged and the bottom is thinly covered with a few twigs, grasses and feathers. In suitable localities immense numbers will occupy a large bank and so perforate it with holes so as to present the appearance of a huge honeycomb alive with bees.

Hab. Europe, Asia, Africa, America.

158. Rough-winged Swallow—*STELGIDOPTERYX SERRIPENNIS*. Immaculate white; four to six in number, closely resembling those of the Bank Swallow, but average a little larger, perhaps .75 by .55. This bird breeds throughout most of its United States range, nesting in the crevices of stone walls and arches over bridges, sometimes in a chink in the boarding of a building; almost invariably over running water. The nest is simply constructed of grasses, straws, and lined with feathers.

Hab. United States from Atlantic to Pacific, and adjoining British Provinces.

161. Scarlet Tanager—*PYRANGA RUBRA*. Greenish-blue, blotched and spotted with a reddish or rufous-brown, more or less confluent, in some chiefly at the greater end; three to five in number, size .90 to 1.02 in

length by .62 to .65 in breadth. The Tanager, one of the most brilliant and striking of all our birds, is distributed from Texas to Maine, and from South Carolina to the northern shores of Lake Huron, in all of which localities it breeds. The nest is oftenest found in low, thick woods, or in the skirting of tangled thickets; very often, also, in an orchard, on the horizontal limb of some low tree or sapling. The nest is usually very flat, loosely constructed of twigs, fine bark-strips, lined with rootlets and fine inner bark. Frequently this bird is called "Pocket Bird" from the black wings resembling pockets on the side.

Hab. Eastern United States and southern border of Canada; west to the Plains.

162. Western Tanager—*PYRANGA LUDOVICIANA*. Light bluish-green, speckled chiefly at the greater end with markings of umber, intermingled with a few dots of lilac; the eggs closely resemble those of the Eastern species; three or four in number; size, .95 by .65; the nest is almost identical with that of *P. rubra*. Breeds in all its North American range.

Hab. Western portion of United States, from the Missouri Plains to the Pacific; British Columbia.

163. Hepatic Tanager.—*PYRANGA HEPATICA*. Pale, light green, some sparingly marked over the entire egg with large blotches of purplish-brown, others are thickly covered with dottings of the same hue; the eggs resemble those of the summer Redbird; size, .75 to .95 in length, and .67 to .70 in breadth. The nest also is said to resemble that of *P. æstiva*.

Hab. Mountain regions of Mexico and Southern Rocky Mountains of United States.

164. Summer Redbird—*PYRANGA ÆSTIVA*. Bright light emerald green, spotted, marbled, dotted and blotched with various shades of lilac, brownish-purple and dark brown; they cannot, with certainty, be distinguished from the eggs of the Tanager. All the nests of this species which I have seen, collected in this State (Ohio), are very thin and fragile structures; so thin that the eggs may be seen from below. A nest sent me from Lee County, Texas, by Mr. J. A. Singley, is compactly built of a cottony weed, a few stems of Spanish moss, and lined with fine grass stems and a few catkins. All Ohio nests are composed chiefly of bark-strips and leaves interwoven with various vegetable substances. The nest is usually placed on a horizontal or drooping branch near its extremity, and situated at the edge of a grove near the roadside. This bird breeds throughout its United States Range. Rose Tanager is another name by which it is known.

Hab. Eastern Province United States, north to about 40°, straggling even to Nova Scotia.

166. Pine Grosbeak—*PINICOLA ENUCLEATOR*. Light slate color ground with a marked tinge of greenish, broadly marked and plashed with faint, subdued, cloudy patches of brownish-purple and sparingly spotted, chiefly at the larger end, with blackish-brown and dark purple; three or four in

number and measure 1.05 by .74. A nest collected in Maine is described as being composed of entirely green moss. It was placed in an alder-bush in a wet meadow, and was about four feet from the ground. The bird is found in evergreen forests and breeds from Maine northward.

Hab. British America, south to the northern tier of States in winter, and occasionally to Maryland, Ohio, Illinois and Kansas.

168. Purple Finch—*CARPODACUS PURPUREUS*. Pure emerald green, spotted with very dark brown, chiefly about the greater end; four or five in number and measure .85 by .65. This bird is distributed during the breeding season from the Middle States northward. The nest is usually placed in evergreens or orchard trees at a moderate distance from the ground. It is composed of weed-stalks, bark-strips, rootlets, grasses, all kinds of vegetable fibres, and lined with hairs. The nests and eggs remind one of the Chipping Sparrow's on a large scale.

Hab. America from Atlantic to Pacific.

168a. California Purple Finch—*CARPODACUS PURPUREUS CALIFORNICUS*. White, with a scarcely perceptible shade of bluish, with a few lines and dots of black or dark brown about the larger end, blunted oval; four to six, size .73 by .55. The nest is described as being somewhat smaller than that of the Eastern Purple Finch, but is more compact. It is made of weed-stalks, grasses, while an inner nest is fitted and warmly lined with a hemp-like material.

Hab. Pacific Province of United States.

169. Cassin's Purple Finch—*CARPODACUS CASSINI*. Light bluish-green, dotted around the larger end with slate, lilac and blackish-brown; oval in shape, pointed at the smaller end, and measure .82 by .63; they are usually four in number. A common bird in Colorado, Utah, Nevada and Eastern California. The nest is found in various situations, box-alder bushes, the tops of cottonwood, aspen and pine trees. It is composed principally of roots and twigs, lined with softer material of the same, together with moss and cotton.

Hab. Mountainous regions of Middle Province of United States, from Rocky Mts. to Sierra Nevada.

170. House Finch—*CARPODACUS FRONTALIS*. Pale blue, marked chiefly at the larger end with specks and lines of blackish-brown; four to six; .85 by .65. A common bird throughout the interior region of United States, extending to New Mexico and Arizona on the south and southeast, and probably to Mexico; replaced on the Pacific coast by another closely allied variety, *rhodocolpus*. The nest is made in all sorts of places, in nooks about buildings, as well as in the forks of trees. The materials are various, usually grasses, lined with fine dry roots and hair. Burion is another name for this species.

Hab. Middle Province of United States, from Rocky Mountains to the interior valleys of California.

170a. **Crimson House Finch**—*CARPODACUS FRONTALIS RHODOCOLPUS*. Bluish-white, marked with spots and lines of a dark brown or black; four to six in number, and measure .75 to .82 in length, with an average breadth of .60. The California House-finch, Red-headed Linnet, or Burion, at it is differently called, is a very common bird throughout the Pacific coast, from Oregon to Mexico. Like var. *frontalis*, it places its nest anywhere. Mr. Evermann says, this bird, in California, will place its nest anywhere, from the limb of any tree to the side of a haystack or tin can on a porch. It is made of anything that the bird happens to find handy—grasses, straws, roots, etc. The nest of an Oriole or Cliff Swallow is often occupied by this bird.

Hab. Coast region of Pacific Province, and peninsula of Lower California.

172. **American Crossbill**—*LOXIA CURVIROSTRA AMERICANA*. Greenish-white, with irregular spots and dottings of lavender-brown, varying in shade, with a few heavy surface spots of dark purple-brown; usually four eggs; size .85 by .53. This bird breeds from Massachusetts northward. A nest has been found in the Lower Hudson Valley, N. Y., placed in a cedar of scanty foliage, eighteen feet from the ground; one was found in East Randolph, Vt., in an upper branch of a leafless elm, early in March, when the ground was covered with snow. The American Red Crossbill constructs its nest chiefly of spruce twigs, loosely arranged, cedar bark, grasses and fine rootlets, with a lining of horse-hair and finer vegetable substances.

Hab. North America, generally, coming Southward in the winter. Resident in the Alleghany and Rocky Mountains.

173. **White-winged Crossbill**—*LOXIA LEUCOPTERA*. Pale blue, the larger end rather thickly spattered with black and ashy lilac; size .80 by .56. Breeds from Northern New England, northward; found in Wyoming in summer. The nidification is said to resemble that of *Americana*. The nest is described as being composed of spruce twigs and lichens, lined with hair and shreds of bark.

Hab. Northern North America; south in winter to United States.

174. **Aleutian Rosy Finch**—*LEUCOSTICTE GRISEINUCHA*. White, or grayish-white, with a slight yellowish tinge; three to six, usually four in number; size .95 by .70. The Aleutian Rosy Finch is the largest of the species of this genus known to inhabit North America. It is found in abundance on the Pribylow and other Aleutian islands. The nest is made on the ground, composed of a few straws and moss lined with feathers. The nests and eggs of others of this genus are not certainly known, but probably resemble those of *griseinucha*.

179. **Common Redpoll**—*ÆGIOTHUS LINARIA*. Pale bluish-green, speckled chiefly in a wreath around the the larger end with rusty brown, varying in

shades; four or five in number, and measure .65 by .52. The nest of the Redpoll is built in low trees and bushes; it is made of moss, grass, and catkins of willow and lined with vegetable down. Breeds in the far north.

Hab. Northern regions of both Hemispheres, ranging irregularly southward in winter to the Middle States, and the same latitudes in the West.

181. American Goldfinch—*ASTRAGALINUS TRISTIS*. Bluish white, unspotted, sharply pointed at one end; they are from four to six in number, size .65 by .50. The Thistle-bird, or Yellow bird, as it is often called, builds its nest usually by the roadside in a shade tree or, as we often find it, in a neglected field. It is a beautifully felted mass of vegetable fibres, moss, grasses, leaves, fine strips of bark, and lined with plant down, usually the down of the thistle. This bird generally breeds late in the season, from middle of June to middle of August, according to locality. It is also called "Lettuce Bird."

Hab. North America generally.

182. Green-backed Goldfinch — *ASTRAGALINUS PSALTRIA*. Greenish-white, sharply pointed at one end; four or five; size .60 by .50. Nests built in forks of trees, same as those of the common Goldfinch. Rocky Mountain and Arkansas Goldfinch are two other names for this bird.

Hab. Southern Rocky Mountains to the coast of California; north to Salt Lake City.

182a. Arizona Goldfinch—*ASTRAGALINUS PSALTRIA ARIZONÆ*. Eggs same color as those of the preceding, but slightly smaller, and the nidification is essentially the same as that of the Green-backed.

Hab. Arizona.

182b. Mexican Goldfinch—*ASTRAGALINUS PSALTRIA MEXICANUS*. Similar to the eggs of Lawrence's Goldfinch, and the nesting habits are also similar. This bird is also known by the name of Black Goldfinch.

Hab. Mexican side of the valley of the Rio Grande, southward.

183. Lawrence's Goldfinch—*ASTRAGALINUS LAWRENCEI*. Pure white; four to five in number and measure .63 by .45. Common throughout the greater portion of California, Arizona and New Mexico. The nest of this bird is usually placed near the extremity of the limb of a live oak, well concealed and hard to find. It is composed of wool, fine grasses, down and feathers, lined with hair. The nest is made sometimes entirely with grasses.

Hab. California, Arizona and New Mexico.

185. Pine Goldfinch — *CHRYSOMITRIS PINUS*. Light green, spotted chiefly at the larger end with markings of a light rusty-brown; oblong-oval; usually four in number, size .70 by .50. The eggs are said to resemble those of the Red-polls' more than Goldfinches'. The Pine Linnet, or American Siskin, breeds throughout the British Provinces, Northern Maine, New Hampshire, Vermont, New York, Michigan, thence to Washington Territory, in all the evergreen forests. The nest is usually

placed high up in evergreen trees, artfully concealed in the thick tufts of foliage. Common as the bird is, the nests and eggs have seldom come to the notice of naturalists.

Hab. North America from Atlantic to Pacific.

186. Snow Bunting—*PLECTROPHANES NIVALIS*. White, in some flecked all over with neutral tint; shell markings overlaid by deep brown spots and scratches, especially at the greater end; in other cases a heavy wreath of confluent blotches of dull brown around the larger end, and again the whole surface is mottled with pale chocolate; four or five in number and average .90 by .65. The nest of this bird is placed on the ground, built of grass with a lining of feathers. It is a substantial structure with walls an inch thick, and a deep cavity. The nest is often hidden by tussocks of grass or slabs of rock. Breeds in the far North. It is well named "Snow-flake."

Hab. Arctic America and Greenland; south in winter to northern States.

187. Lapland Longspur—*CENTROPHANES LAPPONICUS*. Apparent greenish-gray ground, with a heavy mottling of chocolate-brown, rather pointed; four to six eggs are laid by this species, size .80 by .62. The Lapland Longspur breeds in the Arctic regions. The nest is built on the ground, of mosses, grass, and a few feathers.

Hab. Arctic regions of both Hemispheres; in America south in winter to Pennsylvania, Kentucky, Kansas and Colorado.

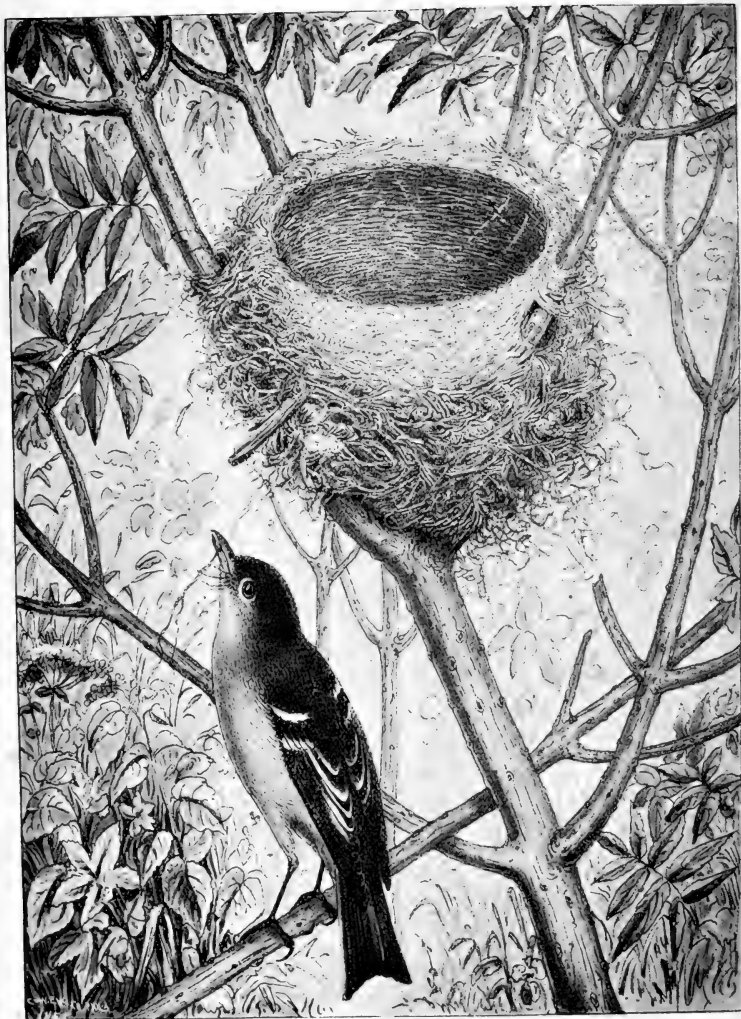
188. Smith's Longspur—*CENTROPHANES PICTUS*. Light clay color, marked with obscure blotches of lavender and darker lines, dots and blotches of dark purplish-brown; four or five, size .80 by .65. The nest is usually placed on the ground or sunk in excavations. It is made of fine dry grasses, and lined with down and feathers. The Painted Longspur breeds in the Arctic regions.

Hab. Prairies of Illinois in winter, in summer north to the Saskatchewan.

189. Chestnut collared Longspur—*CENTROPHANES ORNATUS*. Gray, or grayish-white, more or less clouded and mottled obscurely, with purplish-gray, dark brown and almost black; usually four in number, sometimes five, and measure about .75 by .58. This bird breeds abundantly on the prairies of Kansas and Dakota. The nest of the Black-bellied Longspur is placed on the ground and composed of fine stems and grasses.

Hab. Interior of British America; whole of the Missouri region; south through the Rocky Mountain region to the table lands of Mexico.

190. McCown's Longspur—*RHYNCHOPHANES MACCOWNI*. Dull white, with obscure and rather sparse mottling and darker markings of purplish and reddish-brown; a single egg measures .80 by .60. This bird is found in different parts of the interior plains of the United States, between the Rocky Mountains and the Missouri river and the lower tributaries of the Mississippi, extending from New Mexico and Texas northward; during the



TRAILL'S FLYCATCHER AND NEST.

Empidonax pusillus trailli.

SEE DESCRIPTION NO. 325a.

breeding season to the northern boundary of United States. The nest is built on the ground and is made of grasses. Chestnut-shouldered Bunting, or Longspur, is another name for this bird. Breeds in profusion on the prairies from Colorado northward, in portions of Dakota and Montana.

Hab. Eastern slopes of Rocky Mountains, from Texas to Upper Missouri.

191. Baird's Bunting—*CENTRONYX BARDI*. This Sparrow was for a long time almost unknown till Dr. Coues found it breeding abundantly in Dakota; its general habits are something like those of the Savanna sparrows. The nest is placed on the ground, a slight structure of grasses and weed-stalks. The eggs, usually five, white irregularly speckled and blotched with pale and dark reddish-brown; size .80 by .65.

Hab. Central Plains of U. S., north to British Provinces; east nearly to Red River of the North; south to Texas, north to Mexico and Arizona; west to the Rocky Mts. and beyond.

193a. Savannah Sparrow—*PASSERCULUS SANDWICHENSIS SAVANNA*. Greenish or grayish-white, more or less thickly blotched with different shades of brown, in some the markings are brown and purple, forming a confluent ring around the larger end; four to six in number and measure .70 by .50. This Sparrow breeds from Massachusetts northward. The nest is made in a hollow of the ground. It is composed of a few grass stems, just enough to keep the eggs from the earth.

Hab. Eastern North America to the Missouri plains, and northwest to Alaska

193b. Western Savannah Sparrow—*PASSERCULUS SANDWICHENSIS ALAUDINUS*. Same as those of the preceding species. The nest is built similar to that of *P. S. savanna*.

Hab. Middle and Western Province of United States except California, where replaced by var. *anthinus*.

197. Grass Finch—*POECETES GRAMINEUS*. Pale greenish-white, marked with lines, dots and blotches of various shades of reddish and purple-brown; in some, a confluent ring is formed about the larger end; the number of eggs laid is usually four, often five, size .80 by .60. West of the Rocky Mountains this species is replaced by var. *confinis*. Distributed in summer from the latitude of Pennsylvania north as far as Canada. Nest is placed on the ground; it is a slight structure made of dry grass. The bird is beautifully named "Vesper-bird" from its habit of singing in the evening. Bay-winged Bunting is another name for it.

Hab. Eastern Province of United States.

197a. Western Grass Finch—*POECETES GRAMINEUS CONFINIS*. Eggs in my collection of this variety are exactly the same as those of the preceding species. The nesting habits are also the same.

Hab. Western and Middle Province of United States, south to Mexico.

198. Yellow-winged Sparrow—*COTURNICULUS PASSERINUS*. Clear crystalline-white, dashed and marked with bold markings of reddish-brown, chiefly about the larger end; four or five, size .75 by .60. The eggs, in their general style, resemble a warbler's. This queer little Sparrow is found in summer in Eastern United States, east of the Rocky Mountains, south of latitude 43°, and is resident in Florida. The nest is sunken in the ground, usually concealed by an overhanging tuft of grass. It is constructed of weeds and dry grasses, and lined with horse-hair.

Hab. Eastern United States, south to Guatemala.

198a. Western Yellow-winged Sparrow — *COTURNICULUS PASSERINUS PERPALLIDUS*. The eggs and nest of this variety are similar to those of the Eastern species.

Hab. Western Province of U. S., from the eastern base of the Rocky Mts. to the Pacific.

199. Henslow's Sparrow—*COTURNICULUS HENSLOWI*. White, with a greenish tinge, blotched and speckled with reddish-brown, the color becoming more confluent at the greater end; four, sometimes five, size .75 .57. The nest of this species is placed on the ground, usually in a tuft of grass. It is neatly built of coarse grasses and lined with finer ones. Breeds from Massachusetts westward.

Hab. Eastern United States north to New Hampshire, west to the Loup Fork of Platte.

200. Leconte's Sparrow—*COTURNICULUS LECONTEI*. In an article on Manitoban Birds in the Auk for January, 1885, Mr. Ernest E. T. Seton says of this species: "It is commonly found in the willows at all seasons, uttering its peculiar ventriloqual *tweete, tweete*, whence I knew it as the 'Willow-tweete,' long before I ever heard of Leconte or of any name for this bird." Mr. Seton describes a nest with eggs of this bird, which were, we believe, previously unknown. "The nest was by a willow bush in a damp meadow; it was apparently on the ground, but really raised six inches, being on the tangled grass, etc. It was composed entirely of fine grass. The eggs—three in number—were of a delicate pink, with a few spots of brownish and of black towards the large end. The pink was lost in blowing. One measured .75 by .50 inches. Yet I must confess I did not shoot the birds at the nest; I only saw them a few yards off and heard their familiar *tweete*. So that there is possibility—though little probability—of error here."

201. Sharp-tailed Finch—*AMMODROMUS CAUDACUTUS*. Light green or grayish-white, thickly sprinkled over the entire egg with fine rusty-brown dots, sometimes forming a confluent ring around the greater end; four to six in number and measure .75 by .55. In summer this bird is found along the coast from Maryland to New Hampshire, and in some of the

large marshes in the interior. The bird keeps closely in the shelter of reeds and rank salt herbage; placing the nest in a tuft of grass, just out of the way of the water. The nest is large for the bird, loosely made of slender grasses and lined with similar material, but finer.

Hab. Atlantic Coast of United States.

202. Sea-side Finch—*AMMODROMUS MARITIMUS*. Grayish-white, spotted and blotched with reddish-brown, the blotches are distributed over the entire egg; four to six. Both the nest and eggs are hardly distinguishable from those of the Sharp-tailed Sparrow. It has, also, very nearly the same distribution.

Hab. Atlantic sea-coast of United States, northward to Long Island Sound.

204. Lark Finch—*CHONDESTES GRAMMICA*. Grayish or soiled-white, spotted with very dark brown, marked with zig-zag, straight and wavy lines of blackish, as in the eggs of some of the orioles; four or five in number with an average measurement of .85 by .65. The nest is placed in trees, bushes, and on the ground. It is composed of grass, fine black rootlets, and lined with finer grasses. Mr. J. A. Singley, of Giddings, Lee Co., Texas, writes me that this bird often repairs old nests of the Mocking-bird and Orchard Oriole with a lining of grass and horse-hair. Breeds throughout its range.

Hab. Ohio to the Pacific; Oregon to Texas.

204a. Western Lark Finch—*CHONDESTES GRAMMICA STRIGATA*. Same as the preceding species. Mr. Evermann found this bird a common winter resident of Ventura Co., Cal., but says most of them go farther north to breed. He found them nesting on the ground, in live oaks, sycamores, orange and lemon trees.

Hab. Western United States.

206. White-crowned Sparrow—*ZONOTRICHIA LEUCOPHRYS*. Pale bluish-green, thickly spotted, especially about the larger end, with reddish-brown and lighter markings of an obscure purplish-brown; four or five, average size .89 by .65, resemble those of the Song Sparrow's except in size. This, the most beautiful of all our sparrows, breeds in Labrador and northward. It is chiefly a ground builder but nests are sometimes found in bushes a few feet from the ground. It is usually large and bulky like a Robin's. It is compactly built of dry grasses, fine rootlets, and lined with horse hair and fine grasses

Hab. North America to the Arctic region.

207. Gambel's White-crowned Sparrow—*ZONOTRICHIA GAMBELI*. Bluish-green, thickly spotted with reddish-brown with lighter markings of purplish-brown. In some, confluent about the larger end; four or five and some times six; size .89 by .65. Nests similar to those of *leucophrys*,

but are seldom found on the ground. Mr. W. Otto Emerson, of Haywards, Cal., says he never found a nest of this species on the ground, his collection being quite extensive along the Coast. Hab. Pacific Coast.

207a. Intermediate White-crowned Sparrow—*ZONOTRICHIA GAMBELI INTERMEDIA*. Similar to those of the two preceding species. Nesting habits similar to those of *gambeli*. Hab. Rocky Mountain region to the Pacific.

208. Golden-crowned Sparrow—*ZONOTRICHIA CORONATA*. Light green, with markings of reddish and golden-brown, the whole surface pretty uniformly flecked in small and well distributed blotches—nowhere numerous or confluent, resembling those of the White-throated Sparrow; four or five in number and measure .81 by .65. The nest of this sparrow is usually placed in bushes a few feet from the ground. It is composed of stalks of weeds, grasses and lined with fine black rootlets. This bird is found in western North America from Alaska to Southern California, and Cape St. Lucas, and is almost entirely confined to the Pacific Province.

Hab. Pacific Coast from Russian America to Southern California; West Humboldt Mts., Nev. Black Hills of Rocky Mts.

209. White-throated Sparrow—*ZONOTRICHIA ALBICOLLIS*. Pale greenish white, more or less thickly spotted with rusty-brown; like the eggs of the Song Sparrow, they have an endless diversity of shades and markings; the complement is four or five and measure .90 by .65, almost the same in size as those of the White-crowned Sparrow. The nest is found generally on the ground, though in exceptional cases it is placed in bushes or among the branches of fallen trees. Breeds from Massachusetts to the far North.

Hab. Eastern Province of North America; north to 65°; west to Indian Territory, Kansas and Dakota.

210. Tree Sparrow—*SPIZELLA MONTANA*. Light green, flecked with minute markings of reddish-brown, distributed with great regularity, but so sparsely as to leave the ground distinctly visible, somewhat resembling the eggs of the Song Sparrow; four or five in number; size .80 by .60. This bird breeds from northern New England northward, but also like the Snow-bird, in mountains within our limits. The nest is placed on the ground, in trees or in bushes; it is composed of grasses, mud, fine rootlets and hair. This is one of the most hardy of all the sparrows; it winters from Massachusetts to the Carolinas.

Hab. North America at large, excepting, probably, the Gulf States.

211. Chipping Sparrow—*SPIZELLA DOMESTICA*. Bluish-green, sparsely spotted with purplish and blackish-brown, sometimes in a circle about the larger end; they are four or five in number; thirty specimens have an average of .69 by .48. The Chippy so familiar to all in the eastern portion of

the United States is one of the most widely distributed of all our birds. It is found from ocean to ocean in its two races, and breeds from Georgia to the Arctic Circle. It seldom, if ever, and then only for a freak, nests on the ground, often in trees of any size, bushes and vines being his choice. For the most part the nest is composed of black horse hair, with a foundation of grass and vegetable fibres. Hab. Eastern Province of North America.

211a. Western Chipping Sparrow—*SPIZELLA DOMESTICA ARIZONÆ*. Eggs in my collection do not seem to differ essentially from those of the preceding species. Nesting habits same as those of *domestica*.

Hab. Western Province of United States from the Rocky Mts. to Pacific Coast.

212. Clay-colored Sparrow—*SPIZELLA PALLIDA*. Light green, scantily and sharply speckled with sienna and other rich shades of brown, dotting chiefly confined to the larger end, with a speck here and there over the general surface, similar to the markings in the Chippy's egg; three or four in number, and average .68 by .52. The nest is described as being placed on a small horizontal branch seven or eight feet from the ground, and also in the broken and hollow branches of trees. It is formed of grasses, with a lining of horse or cattle hair, similar to the nest of the Chipping Sparrow.

Hab. Upper Missouri River and high central plains to the Saskatchewan country.

213. Brewer's Sparrow — *SPIZELLA BREWERI*. Bluish-green, blotched in scattered markings of golden-brown, more conspicuous than in those of the Chipping Sparrow; usually four in number; size .70 by .52. This bird has very much the appearance of the Clay-colored Sparrow. It is found from the Pacific coast to the Rocky Mountains, and from the northern portion of California to the Rio Grande and Mexico, and is especially abundant in Arizona and New Mexico. It inhabits almost exclusively open fields and bushy plains. The nests are placed in bushes, usually sage bushes, a few feet from the ground. It is composed of dry grasses, rootlets, and lined with hair. Hab. Rocky Mountains of United States to the Pacific coast.

214. Field Sparrow — *SPIZELLA PUSILLA*. Whitish clay-color, marked more or less fully with blotches of reddish brown; in some these markings are scattered, in others confluent about the larger end; four or five, from .61 to .70 in length, and .50 to .55 in breadth. In the breeding season this bird is distributed from the Atlantic Ocean to the Mississippi River, between the latitudes of the White Mountains and South Carolina. The nest is placed on the ground, in a tussock of grass, or in a low bush a few inches above the ground. It is composed of grass, with a foundation of dead leaves and a lining of hair. Hab. Eastern United States to the Missouri River.

217. Black Snowbird — *JUNCO HYEMALIS*. Grayish or greenish-white, marked with spots of reddish-brown, or pale chocolate, confluent around the larger portion of the egg; four to six, oval in form; size .80 by .60. The eggs have no positive characteristics, resembling very closely several other kinds, laid by allied sparrows. This common, familiar bird nests in mountainous regions, as far south as Virginia, and thence to New York and the northern parts of the New England States, breeding only in the highlands, but descending more into the plains as it proceeds north. The nest is built on the ground, and is not to be distinguished with certainty from that of some of the other sparrows which nest in a similar manner.

Hab. Eastern United States to the Missouri, and as far west as Black Hills.

218. Oregon Snowbird — *JUNCO OREGONUS*. Greenish-white, marked about the larger end with fine dots of reddish-brown; three or four; size .74 by .60. This bird is very abundant in Oregon and Washington Territory, and is numerous throughout the winter in nearly every part of California; resides in summer among the mountains down to the 32 parallel. It is found breeding abundantly on the Coast Mountain south of Santa Clara. The nest is usually placed on the ground, slightly sunken in a hollow. It is formed of leaves, grasses and fine root fibre, covered outside with a coating of green moss. The nidification of all the Snowbirds is similar.

Hab. Pacific coast of United States to the eastern side of the Rocky Mountains, and north to Alaska. Stragglers as far east as Fort Leavenworth in winter, and Great Bend of Missouri.

224. Black-throated Sparrow — *AMPHISPIZA BILINEATA*. Pure white, with a slight tinge of blue, resembling those of Bachman's Finch; four or five; size .70 to .75 in length, and .55 to .60 in breadth. This bird is found from Western Texas, through part of Mexico, New Mexico, the Indian Territory, and Arizona, to Southern California and toward the north throughout the Great Basin. In portions of this range it is migratory, and only resident in the summer months. The nest is placed in bushes, usually sage bushes, about a foot from the ground. It is made of straws and lined with fine roots, some with cotton.

Hab. Middle Province of United States, north to 40°, between Rocky Mountains and Sierra Nevada.

225. Bell's Sparrow — *AMPHISPIZA BELLI*. Light greenish-blue, marked with reddish-purple spots, differing in intensity of shade; usually four in number. Bell's Sparrow is an abundant bird in all the extensive thickets throughout the southern half of California. It has been found as far north as Sacramento Valley, and in the Valley of the Gila. The nest is built in a bush about three feet from the ground, composed of grasses and slender weeds, and lined with hair.

Hab. Southern California.

225a. Sagebush Sparrow — *AMPHISPIZA BELLI NEVADENSIS*. Light greenish, marked all over with very fine dots of a reddish-brown, around the larger end a ring of confluent blotches of dark purple and lines of darker brown; almost black; size .80 by .60. This bird abounds in the sage-brush deserts of Nevada, Utah, New Mexico, and Arizona. Nests found near Carson City, Nevada, are described as being artfully concealed, either sunken in the ground or a few inches above it, in the lower branches of a bush.

Hab. Middle Province of United States, north to beyond 40° (resident.)

226. Bachman's Finch — *PEUCÆA ÆSTIVALIS*. Pure white; four in number; size .74 by .60. Bachman's Finch is confined within the limits of the States of South Carolina, Georgia, and Florida, where it breeds. It is a summer resident of Southern Illinois, where it also breeds, but not abundantly. The nest is placed upon the ground, concealed in tufts of thick grass, and composed entirely of wiry grass.

Hab. Southern States from Florida and Georgia to Southern Illinois.

** Mexican Sparrow — *PEUCÆA MEXICANA*. The following in regard to this new bird is from the Auk, October, 1885, under the title of "Ridgway on New American Birds," by J. A. A.: "A re-examination of some specimens of *Peucea* collected by Dr. J. C. Merrill, and identified by Mr. Ridgway as *Peucea arizonæ* (Proc. U. S. Nat. Mus., I, p. 127), in the light of additional material, shows that the specimens represent *Coturniculus mexicana* of Lawrence, described from Mexican specimens in 1867, and subsequently referred by Mr. Ridgway (Hist. N. A. Birds, II, p. 38, foot note) to *P. botteri*. A second examination of the Texas specimens, in comparison with the Mexican examples, results in the addition of a new bird to the fauna of the United States, which Mr. Ridgway calls *Peucea mexicana* (Lawr)." Dr. Merrill, in his Notes on the "Ornithology of Southern Texas," says the bird is found in some abundance on a salt prairie about nine miles from Fort Brown, and it was obtained with difficulty, as it could rarely be flushed from among the tall grass. "A nest, found June 16, 1877, was placed among the roots of a tussock of grass; it was made of blades and stems of grasses, and was rather deep, but so frail that it fell to pieces on removal. The eggs, four in number, were quite fresh. They are unspotted, white, strongly tinged with greenish-blue, and measure .82 by .63."

Hab. Mexico and Fort Brown, Texas.

228. Cassin's Sparrow — *PEUCÆA CASSINI*. Same as those of the preceding species, but smaller; size .72 by .58. Dr. Merrill says this bird arrives at Fort Brown, Texas, about the middle of March. It is found in rather open chapparal, but usually keeping in thick bushes. He says its nest is difficult to find; three were found placed at the foot of small bushes,

scarcely raised from the ground. They are composed of dried grasses lined with finer ones and a few hairs, but were very frail.

Hab. Texas to California, north to Kansas, south to Mexico.

231. Song Sparrow—*MELOSPIZA FASCIATA*. Varying from a greenish or pinkish-white to light bluish-green, more or less thickly spotted with dark reddish-brown; the ground color and the spots have a diversity of shades; four to six in number; size from .75 to .85 in length by .55 to .60 in breadth. The familiar Song Sparrow has an extended distribution throughout eastern North America, and is resident during the entire year in a large portion of the area in which it breeds. It nests from South Carolina north to the British Province of Nova Scotia and New Brunswick at the east, and to a not well-defined limit in British America. The nest is generally placed on the ground, but often on a low bush. It is composed of grasses, weeds and leaves and lined with fine grass stems and roots, in some cases hair. The Song Sparrow is very prolific. J. N. Clark, in "Random Notes,"† for October, 1884, records taking five nests belonging to one pair of birds in his yard between May 15 and August 10, the whole containing 22 eggs.

Hab. Eastern United States, with geographical varieties to the Pacific; north to Canada and Nova Scotia.

231a. Mountain Song Sparrow—*MELOSPIZA FASCIATA FALLAX*. Bluish-white, blotched with reddish-brown; usually four; size .74 by .55. This species occurs throughout New Mexico, Arizona and part of Southern California, and is particularly abundant in the valley of the Colorado. The nidification is the same as that of the Eastern Song Sparrow. The nest is generally placed in bushes about a foot or two from the ground.

Hab. Southern Rocky Mountain region and Great Basin.

231b. Heerman's Song Sparrow—*MELOSPIZA FASCIATA HEERMANNI*. Pale bluish-ash, covered with blotches of reddish-brown; usually four eggs; size from .85 to .88 in length by .65 to .70 in breadth. This California Song Sparrow was named in honor of Dr. Heermann, who first obtained it in the Tejon Valley. It has been found in California as far north as San Francisco and to the south and southeast to San Diego and the Mohave River. The nest is placed in bushes from three to six feet from the ground.

Hab. California.

231c. Californian Song Sparrow—*MELOSPIZA FASCIATA SAMUELIS*. Darker and considerably larger than those of *M. fasciata*, measuring from .78 to .87 in length to .62 by .66 in breadth. Nesting habits simi-

†A Monthly Magazine devoted to the distribution of useful knowledge among the various departments of Zoology, Mineralogy and Botany. Southwick & Jencks, Providence, R. I.

lar. This bird appears to be peculiar to the coast region of California in the neighborhood of San Francisco.

231*d*. Rusty Song Sparrow—*MELOSPIZA FASCIATA GUTTATA*. Hardly distinguishable from those of the Eastern Song Sparrow. The Oregon or Rusty Song Sparrow is a resident of the higher Sierra Nevada and on the border of the evergreen forests towards the Columbia River, thence northward. Like *M. fasciata*, this bird builds its nest on the ground or in low bushes; it is composed of dry grass, lined with finer materials of the same, and occasionally deer's hair.

Hab. Pacific Coast of United States to British Columbia.

233. Swamp Sparrow—*MELOSPIZA PALUSTRIS*. Light green, sometimes light clay, marked and blotched with reddish and purplish-brown spots, varying in size and number, occasionally forming a confluent ring around the greater end; the eggs cannot be distinguished from those of the Song Sparrow, perhaps averaging a trifle smaller. The nest is also alike, placed in a grassy tussock or low bush. The bird inhabits thickets in wet places. Distributed during the breeding season throughout Eastern United States, from the latitude of Pennsylvania north to that of Canada.

Hab. North America from the Atlantic to Utah; north to Labrador, but chiefly Eastern United States and Canada.

234. Lincoln's Finch—*MELOSPIZA LINCOLNI*. Greenish-white, more or less thickly spotted and blotched with different shades of reddish-brown, often so numerous and confluent as to partially conceal the ground; not distinguishable from those of the Song Sparrow, but average smaller. The nest is also quite similar. This bird breeds from Wisconsin and Northern New York northward, and in the west south to the Mountains of Colorado.

Hab. Whole of North America, Mexico, Guatemala.

235. Fox-colored Sparrow—*PASSERELLA ILIACA*. Light bluish-white, thickly spotted with a rusty-brown, often so fully as to conceal the ground, oblong in shape, four or five in number; size .94 by .71. This is one of the largest and finest of the Sparrows. It is not known to breed within the limits of the United States, but has been found nesting in Labrador and British America. The nest is built either on the ground or in trees; it is constructed of grass, moss, and fibrous roots, with hair and feathers.

Hab. Eastern Province of North America, north to mouth of Yukon; west to edge of Great Plains, Colorado.

235*c*. Slate-colored Sparrow—*PASSERELLA ILIACA SCHISTACEA*. Light green, blotched and marked chiefly at the larger end with golden-brown spots; the eggs are similar to those of the Song Sparrow; usually four in number, and measure about .80 by .67. This bird has been found in abundance among the thickets in the Upper Humboldt Valley, and Wah-

satch Mountains, nesting among the willows and other shrubbery along streams. The nest is built in a clump of willows, or other bushes, a few feet from the ground. It is made of coarse grass, lined with finer material of the same.

Hab. Head-waters of Platte and middle region of United States to Fort Tejon, and to Fort Crook, Cal.

236. Texas Sparrow — *EMBERNAGRA RUFIVIRGATA*. This bird has been found in the valley of the Rio Grande, and at various places in Mexico. Dr. Merrill found it to be a common resident in the vicinity of Fort Brown, Texas, frequenting thickets and brush-fences. He says: "I have found the nests with eggs at intervals from May 9 to September 7. These are placed in low bushes, rarely more than three feet from the ground; the nests are rather large, composed of twigs and straws, and lined with finer straws and hairs; they are practically domed, the nests being placed rather obliquely, and the part above the entrance being built out. The eggs are from two to four in number; thirty-two average .88 by .65, the extreme being .97 by .67 and .81 by .61; they are pure white. Two, and probably three broods are raised in a season."

237. Chewink; Towhee—*PIPILO ERYTHROPHthalmus*. White, thickly spotted and blotched with light ashy and reddish-brown, rounded oval; four or five, and measure about .95 by .70; the eggs in many respects resemble those of the Cowbird and Cardinal Grosbeak. The Red-eyed Towhee, Ground Robin, or Marsh Robin, as it is variously called, has an extended distribution throughout eastern United States, from Florida and Georgia on the southeast to the Selkirk Settlements on the northwest, and as far west as the edge of the Great Plains, where it is replaced by other closely allied races. Breeds almost wherever found. The nest is regularly placed on the ground, at the foot of some bush, or under a fallen log. It is often built on the ground in the midst of deep, damp woods, well hidden in the rank grass. Occasionally, however, this Bunting places its nest in a bush or sapling. It is a rude structure of grapevine bark, twigs, weed-stalks, leaves, and grasses, lined with finer grasses and rootlets.

238. Northern Towhee—*PIPILO MACULATUS ARCTICUS*. White, so thickly covered with fine dots of umber-brown, intermingled with paler markings of lavender and neutral tints that the ground is hardly distinguishable, oval; four; size, 1. by .70. The Arctic Towhee Bunting has been found in the valley of the Saskatchewan where it is thought to breed, and on the high central plains of the Upper Missouri and the Yellowstone and Platte Rivers. An abundant species in the valley of the Great Slave

Lake and on the foothills and plains in Colorado. In habits it resembles the Towhee of the Eastern States.

Hab. High central plains of Upper Missouri, Yellowstone and Platte; basin of the Missouri River, especially west, including eastern slope of Rocky Mts., San Antonio, Texas.

238a. Spurred Towhee—*PIPILO MACULATUS MEGALONYX*. Greenish-white, speckled with reddish-brown; usually four in number; size 1. by .70. This species has been obtained on the southern coast of California and through the valleys of the Rio Grande and Gila. Mr. Otto Emerson says they are quite common in the vicinity of Haywards, Cal., where he has taken many nests. He says the nearest he has ever found the nest to the ground was about ten inches. In other localities, however, it is known to nest on the ground like the Eastern Towhee.

Hab. Rocky Mountains to the Pacific.

238b Oregon Towhee—*PIPILO MACULATUS OREGONUS*. Greenish-white, very generally and profusely dotted and spotted with fine markings of reddish and purplish-brown. More rounded-oval than eggs of this genus generally are; usually four in number; size .97 by .80. The Oregon Ground Robin is a resident in the western portion of the State of Oregon and Washington Territory during the summer, and in the more northern portions of California. The nest is placed on the ground and sometimes in bushes, on stumps, etc., like the Eastern Towhee's. It is composed of grasses and leaves, with a lining of fine grass.

Hab. Coasts of Oregon and Washington Territory, south to San Francisco, Cal. Eastward and south it runs into *megalonyx*. West Humboldt Mts., and Northern Sierra Nevada.

239. Green-tailed Towhee—*PIPILO CHLORURUS*. White, with a bluish tint, profusely dotted with pinkish-drab, sometimes so thickly distributed as to give the egg the appearance of a uniform color, or as an unspotted pinkish-drab, and again more sparsely diffused, nearly oval; four eggs is the usual complement; size .98 by .81. The Green-tailed Bunting is generally distributed in all bushy places throughout the fertile mountain portions of the interior. It is a characteristic bird of the eastern slope of the Sierra Nevada, and a summer resident arriving at Virginia City about the middle or latter part of April. The late Mr. Snowdon Howland informed me that he collected a set of four eggs of this species in Wyoming, in 1871. He says the nest was placed on the ground in the usual manner of that of the Eastern Towhee, and was composed of dry grasses and shreds of bark. It was well concealed by a dense growth of low bushes.

Hab. Whole of Middle Province, including the Rocky Mts., and eastern slope of Sierra Nevada; north to beyond the 40th parallel; south to Mexico.

240. Canon Towhee—*PIPILO FUSCUS MESOLEUCUS*. Similar to those

of the California Brown Towhee. The Canon Bunting is abundantly distributed throughout the warmer portions of New Mexico, Colorado, Utah, Nevada and Arizona, from the valley of the Rio Grande to that of the Colorado. It prefers the dense bushes of the valleys, and like the Eastern Red-eye, passes the greater part of its time on the ground, in thickets, generally in company with the Arctic Towhee. The nest is usually built in shrubs and low mesquite-trees.

Hab. Valley of the Upper Rio Grande and across to the Gila River. East to Santa Caterina, New Leon.

240a. Saint Lucas Brown Towhee—*PIPILO FUSCUS ALBIGULA*. Light blue, with markings, dots, dashes and lines about the larger end, of a deep dark shade of purplish-brown, so dark as sometimes to be undistinguishable from black; the eggs of the St. Lucas, Canon, and Californian Brown Towehees are hardly distinguishable; usually four; size .98 by .72. It breeds abundantly at Cape St. Lucas, placing the nest usually in thickets, a few feet from the ground and often on the ground, in a slight hollow. It is composed of wiry grasses, a few leaves, and fine, slender rootlets.

Hab. Lower California.

240b. Californian Brown Towhee—*PIPILO FUSCUS CRISSALIS*. Light blue, spotted and blotched with varying shades of dark and light purple, in some the color is not distinguishable from black, except in a strong light; four is the usual number of eggs laid; size 1. by .74. The Californian Brown Towhee, or Canon Finch, is found nearly throughout the State of California. The nest is usually built in a sage, greasewood, or cactus, one to five feet from the ground. Occasionally, however, it is placed in live oaks, ten to fifteen feet up, composed of twigs, bark and grass, lined with rootlets. Mr. Evermann found young birds as early as April 3, near Santa Paula. The late Snowdon Howland informed me that he found many nests of this species on the ground near San Francisco.

Hab. Coast region of California.

241. Abert's Towhee—*PIPILO ABERTI*. Bluish-white, with brown spots and streaks in a ring near the larger end, varying in number; three is the usual complement of eggs; their size is about .98 by .74, varying. The base of the Rocky Mountains, in New Mexico, and the valleys of the Gila and Colorado-Rivers is the habitat assigned for this bird. It is one of the most abundant birds of these two valleys. In the vicinity of Fort Mohave, Arizona, it is common, and very abundant at Fort Yuma. Like others of the genus, it inhabits dense underbrush, placing the nest generally in thorny shrubs; it is composed of coarse twigs, interwoven with grass and leaves; occasionally, when obtainable, horse hair is used for a lining.

242. Cardinal Grosbeak — *CARDINALIS VIRGINIANUS*. White, generally thickly marked with spots of ashy or reddish-brown and faint lavender tints, sometimes so thickly marked that little of the ground is seen. They resemble very closely the eggs of the common Cowbird; are usually four in number, very rarely five, and measure from .98 to 1.10 in length, and .78 to .80 in breadth. The Redbird is not migratory, and is distributed throughout the eastern part of United States from the latitude of Ohio southward. The nest of this bird is placed in a variety of situations, usually from three to ten feet from the ground. A dense thicket is, however, the favorite nesting site. I have found the nest placed on the top rail of a fence in the midst of a clump of brambles. Dr. Wheaton, in his "Report on the Birds of Ohio," mentions finding it "on the top of vine-covered stumps, in wild-gooseberry bushes overhanging water, and in brush-heaps." He farther says: "I have found the nest ready for the reception of eggs as early as April 17." It is a loose structure made of slender twigs, stems, grass, and a few leaves, lined with fine rootlets and grasses, sometimes with horse hair.

Hab. Eastern United States; west to Kansas, Nebraska, and Texas; north to the Middle States; rare in New York, casual in Connecticut, accidental in Massachusetts; represented by varieties in the Southwest.

242a. Saint Lucas Cardinal — *CARDINALIS VIRGINIANUS IGNEUS*. Eggs and nesting habits similar to those of the preceding species.

Hab. Valley of the Colorado and Gila and Lower California.

243. Texan Cardinal — *PYRRHULOXIA SINUATA*. Chalky-white, with blotches of a light umber-brown and a number of indistinct markings of purple; the spots vary greatly in size and distribution; four is the usual number; size 1. by .80. In Texas, on the Rio Grande, this Cardinal is resident throughout the year. In the vicinity of Fort Brown, Dr. Merrill says of it: "At times abundant, particularly in the spring, it often escaped observation for months, and although it probably breeds here, I was unable to find any nests." The bird frequents thickets where it places the nest, composed of twigs, stems, and rootlets, lined with finer materials of the same.

Hab. Valley of the Rio Grande of Texas to Lower California.

244. Rose-breasted Grosbeak — *ZAMELODIA LUDOVICIANA*. Greenish-white, more or less spotted over the entire surface with blotches of reddish-brown; the eggs resemble very closely those of the Summer Redbird or Scarlet Tanager; usually four in number; size from .95 to 1.08 in length by .70 to .76 in breadth. The Rose-breasted Grosbeak has a widely extended distribution during the summer months, although it is nowhere very abundant. Found as far to the east as Nova Scotia; to the north as the valley of the Saskatchewan; and to the west as Nebraska. Breeds from the

Middle States northward. It is everywhere noted for its beauty and musical ability. This bird with a plump round form, the male with head and neck black, bill whitish, wings and tail white and black, with the breast and under wing-coverts rosy or carmine red, should be called the Rose-bud of our North American birds. The parts which in the male are black, are streaked with blackish and olive-brown in the female, and the under wing-coverts saffron-yellow, which, though not so striking in contrast, makes a bird of handsome appearance. The nest is placed in a low tree on the edge of woods and on the bank of a stream. The latter seems to be a favorite site. I found several nests in one season on the banks of the Olentangy River, Ohio, placed in trees of dense foliage. It is a shallow structure composed of small twigs, vegetable fibres and grass.

245. Black-headed Grosbeak—*ZAMELODIA MELANOCEPHALA*. Bluish-green, blotched and sprinkled with markings of reddish and rusty-brown, more numerous about the larger end, oblong-oval; invariably four in number; size .96 by .66. This bird occurs from the high Central Plains to the Pacific, and from the northern portions of Washington Territory to the table-lands of Mexico. Breeds throughout its United States range. Quite common in California; begins nesting about the first of April—nesting abundantly in the willow and water-mootic copes near Santa Clara River and among the live-oaks along the small streams and creeks. The nests are placed from five to twenty feet from the ground, and composed of a few slender twigs, weeds, grasses and rootlets.

Hab. High Central Plains from the Yellowstone to the Pacific. Table-lands of Mexico.

246. Blue Grosbeak—*GUIRACA CÆRULEA*. Light blue, when blown; when exposed to light a little while fades into a dull white; oval; three, sometimes four and five eggs are laid, size .98 by .62. The Blue Grosbeak is more of a bird of the Southern States, but has also an extended irregular distribution from the Atlantic to the Pacific. In Texas, it commences to build about the first part of May. Mr. T. D. Perry, in the "Young Oologist" for November, 1884, says he has found eggs as early as May 11, slightly incubated, near Savannah, Ga., and fresh eggs as late as July 7, indicating that two, if not three broods were reared in a season. The nest resembles that of the Painted Bunting, being invariably lined with fine brown rootlets, and occasionally it contains some horse hair. A characteristic of the Blue Grosbeak's nest is that it almost invariably contains pieces of snake-skin in the outer material of withered leaves and plants. It is placed in blackberry bushes along road-sides and on the border of woods. Mr. J. A. Singley, of Giddings, Texas, says that

a favorite nesting place is in the vicinity of houses where the first growth of timber has been cut down and a growth of low thick bushes replaces it. He says he has taken the nest in peach, apple, hickory and post-oak trees, ranging from fifteen to thirty feet.

248. Indigo Bunting — *PASSERINA CYANEA*. White with a bluish tinge unspotted, or rarely thinly dotted with brown; four or five in number, size .81 by .62. The Indigo is quite an abundant bird in various parts of United States from the valley of the Missouri to the Atlantic, and from Florida to New Brunswick. Breeds throughout its United States range. The nest is built in a bush or low shrubby tree, generally in an upright crotch; it is composed of weed stalks, twigs and coarse grass, and lined with finer material of the same. It is on the whole an inartistic nest for a bird of gay plumage.

Hab. Eastern Province of United States; north to Canada and Maine; west to Kansas and Indian Territory; south to Texas, Mexico and Central America.

249. Lazuli Bunting — *PASSERINA AMENA*. Light blue when fresh, on the least exposure fades into bluish white, oval; the complement of eggs is usually four, size .75 by .58; the eggs are hardly distinguishable from those of the common Bluebird—probably a little more rounded-oval. This Finch is common in Colorado, a summer resident in Arizona, and very abundant in California; in fact it is generally distributed throughout the Pacific Coast, and is found as far north as Puget Sound during the summer. The nest is usually built in a bush or in the lower limbs of trees, a few feet from the ground. It is composed of fine strips of bark, small twigs, grasses, and is lined with hair.

Hab. High Central Plains to the Pacific.

251. Painted Bunting; Nonpareil—*PASSERINA CIRIS*. Dull pearly-white or bluish, marked with dots and blotches of reddish-brown, especially at the larger end; the number of eggs laid is four or five; size .80 by .65. The Nonpareil or "Mexican Canary," as it is sometimes called, is a very common resident of the Southern and Southeastern States. Mr. H. Nehrling says that near Houston, Texas, the nest is commonly placed in blackberry bushes, and in the almost impenetrable hedges of the Cherokee-rose (*Rosa levigata*); in the more western part of Texas the nest is placed in trees, especially in the larger peach-gardens. It is composed of plant-stems, grasses, spider-webs and bark-strips.

Hab. South Atlantic and Gulf States to the Pecos River, Texas; south into Middle America to Panama.

252. Morelet's Seedeater — *SPERMOPHILA MORELETI*. This curious little Sparrow is found throughout Mexico and Central America and on the Rio Grande, in Texas. Dr. J. C. Merrill, in his "Notes on the

Ornithology of Southern Texas," says it is not uncommon during the summer months in the vicinity of Fort Brown, and thinks a few pass the winter. They were usually seen in patches of briers and low bushes, at no great distance from water, and were very tame. Two pairs built within the fort. One of the nests, found early in May, was in a bush about three feet from the ground; it was not pensile; placed between three upright twigs, composed entirely of a peculiar yellow root. This was destroyed by a violent storm before the eggs were deposited. A second nest found May 25, placed in a young ebony-bush, four feet from the ground, was deserted immediately after completion. It was a delicate structure supported at the rim and beneath by twigs, and built of very fine, dry grass, with a few horse hairs. Unfortunately no eggs were obtained.

254. Black-throated Bunting—*SPIZA AMERICANA*. Light blue, almost exactly like those of the Bluebird; in fact they are not distinguishable; usually four in number, sometimes five and measure .80 by .60. The nest of the Black-throated Bunting is placed on the ground, in trees, and in bushes. It is made of coarse grass, slender twigs, and is lined with finer grasses and occasionally horse hair. In summer this bird can always be seen perched upon a bending reed in some broad meadow pouring forth his twittering song. In these places the nest is always snugly placed under the shelter of a large tuft of grass or small bush. Breeds throughout its United States range.

Hab. Eastern United States, north to Massachusetts, west to Kansas, Nebraska, Colorado, south to Arizona, reaching the northern border of the U. S.

256. Lark Bunting — *CALAMOSPIZA BICOLOR*. Uniform light blue, rounded-oval; four or five in number; size .90 by .65. Sometimes eggs of this species are speckled. This is an abundant bird on the prairies of the central plains; north to 49° in the Missouri region, west to the Rocky Mountains, and southerly to the Pacific. It utters the most delightful songs, and its warbles are described similar to those of the Bobolink and the soft cadence of the Skylark. The nest is placed on the ground, sometimes sunken even with the surface. It is composed of fine stems, grasses, and lined with finer grasses and vegetable down.

257. Bobolink — *DOLICHONYX ORYZIVORUS*. Dull white, variously tinged with light drab, olive, reddish and grayish-brown, intermingled with lavender; the general effect being that of a dark, heavily-colored egg. The number laid is usually four, sometimes five, and measure about .90 by .65. In North America this familiar bird breeds from the 38th to the 54th parallel. In some parts of the country it is very abundant during

the breeding season. The nests are concealed in the luxuriant herbage of meadows with such instinctive care for their safety as to be difficult to find. Of all of our natural songsters the Bobolink is the most noted and popular. Who has not heard

“That rollicking, jubilant whistle,
That rolls like a brooklet along—
That sweet flageolet of the meadows,
The bubbling, bobolink song?”

Who has not heard his song when on the wing, and seen him when at rest with the broad, green meadow and pasture lands spread before him, perched on the top of a wind-beaten reed, with his wings sunward spread, his head erect, his white and black back glistening in the sunlight, pouring forth his “bubble-ing” bobolink notes to the azure windows of heaven? In the South he is known as the Rice-bird, in the Middle States as Reed-bird and Meadow-wink, and in the Northern States as Skunk Blackbird.

Hab. Eastern North America; north to the Saskatchewan; west to the Rocky Mountains, Utah, Nevada, Wyoming, and Montana; south to Bolivia, La Plata, etc.; West Indies, Gallipagos.

258. Cowbird—*MOLOTHRUS ATER*. White, more or less thickly spotted and dotted with ashy or reddish-brown, rounded-oval; .85 by .65. The Cowbird lays its eggs in the nests of other *smaller* birds, and usually deposits a single egg, but as many as five have been found in a nest. The exact number the female lays is not known. Dr. Coues, in his “Key to North American Birds,” says he has found eggs of this bird in the nests of birds as large as those of the Kingbird and Towhee Bunting. The Cowbird’s eggs closely resemble those of the Cardinal Redbird.

Hab. North America at large.

258a. Dwarf Cowbird—*MOLOTHRUS ATER OBSCURUS*. Same markings as those of *M. ater*, common cowbird. Habits the same. The eggs average .78 by .61. This form is found in southwestern United States; from Texas to California resident.

259. Bronzed Cowbird—*MOLOTHRUS ÆNEUS*. Greenish-white, without markings; the average size is .90 by .70. Dr. Merrill, in his “Notes on the Ornithology of Southern Texas,” says: “This Cowbird is found in Mexico, Guatemala, and Veragua, as well as in Southern Texas; how far it penetrates into the latter State I am unable to say.” He found its eggs in the nests of Bullock’s and Hooded Oriole, and the small Orchard Oriole var. *affinis*; once in the nest of the Yellow-breasted Chat, and Red-winged Blackbird, Scissor-tailed Flycatcher and Cardinal Grosbeak. Another name for this bird is Red-eyed Cowbird, on account of its blood-red iris.

260. Yellow-headed Blackbird—*XANTHOCEPHALUS ICTEROCEPHALUS*. Pale greenish-white, profusely covered with blotches and small dottings of drab, purplish-brown and umber, oblong-oval; three to six in number; size 1.12 by .75. The Yellow-headed Blackbird is found generally distributed on the prairies in all favorable localities from Texas on the south to Illinois and Wisconsin, thence to the Pacific. It collects in colonies to breed in marshy places anywhere in its general range. The nests are usually placed in the midst of large marshes, attached to tall flags and grasses. They are generally light, but thick-brimmed, made of interwoven grasse and sedges impacted together.

Hab. Western America from Texas, Illinois, Wisconsin and North Red River to California; casually to Pennsylvania, Massachusetts, and Greenland.

261. Red-and-buff-shouldered Blackbird—*AGELÆUS PHŒNICEUS*. Light blue, marbled, lined, blotched and clouded with markings of light and dark purple and black, almost entirely about the larger end, but vary considerably; they are four or five in number and average 1. by .75. The Red-winged Blackbird, as it is commonly called, is found from the Atlantic to the Pacific, and as far north as the 57th parallel, and breeds more or less abundantly wherever found from Florida and Texas to the Saskatchewan country. The nest is usually built in reeds or bushes near the ground; often in a tussock of grass; sometimes on the ground; and once in a while at a considerable elevation in a tree. The materials are usually strips of rushes or sedges, lined with finer grasses and sometimes with a few horse hairs. It is rather bulky and not at all artistic. This bird nests in communities, and one is quite as likely to find several nests near each other as a single one in a piece of swamp. This bird is also known as Swamp Blackbird. Nests and eggs found in Texas are smaller than the average of those found in the more Northern States.

261*a*. Red-and-black-shouldered Blackbird — *AGELÆUS PHŒNICEUS GUBERNATOR*. Light blue or bluish-white, marked around the larger end with waving lines of dark brown, lighter in shade than the markings on the eggs of the common Red-wing; four or five in number; size from .90 to 1. in length by .70 to .80 in breadth. This bird occurs along the Pacific Coast from British Columbia south throughout California. The female is not distinguishable from the female of the Red-wing and the nesting habits are exactly the same, placing the nests in water cress, or rushes, along running streams, ditches and swamps.

Hab. Pacific Province of United States, from British Columbia southward.

262. Red-and-white-shouldered Blackbird — *AGELÆUS TRICOLOR*. Light blue, slightly deeper than the ground-color of the Red-wing's eggs, marked

around the larger end with a circle of ashy-brown, sometimes black, irregular lines and blotches; four or five in number; size 1. by .68. This bird belongs to California and Oregon, and is especially abundant in the swamps and marshes of the former State. Like the Swamp Blackbird it nests in the vicinity of water, in colonies, usually placing its nest in alder bushes, willows, and flags. It is composed of mud, straw, and coarse grass, lined with finer fibrous material.

263. Meadow Lark — *STURNELLA MAGNA*. Crystal-white, more or less thickly spotted or dotted with reddish-brown and purplish, four to six in number, with great variation in size, averaging 1.10 by .80. This form of the Meadow Lark is found in all portions of the United States east of the Mississippi, from Texas and Florida at the south, and from Nova Scotia to the Missouri at the north, mixing in the Upper Mississippi valley with variety *neglecta*. Breeds throughout its range. As the name implies, it is a bird of meadow and pasture-land. Any suitable stretch of field or grass-land may have its pair or its colony of Meadow Larks. In these places may be heard their sweet, liquid and sympathetic strains from sunrise till the gloaming. The nest is made on the ground, usually at the foot of a tuft of grass or low branching weed, which serves to conceal it; furthermore being often built over so as to form an incomplete globular structure with an entrance at one side. Old Field Lark is a common name by which this bird is known.

264. Western Meadow Lark — *STURNELLA NEGLECTA*. White, sparingly spotted and dotted with markings of reddish and purplish-brown. The dottings are finer than in the eggs of the eastern species; four to six eggs are usually laid, size 1.08 by .75. This form is found from Iowa, etc., west to the Pacific. The general nesting habits, eggs, etc., of this and the Mexican Meadow Lark, *S. m. mexicana*, inhabiting Mexico and Southern Texas, are the same.

266. Audubon's Oriole — *ICTERUS AUDUBONI*. Dull-white, scattered over with faint markings of purple and dots and irregular zigzag lines of dark brown and darker purple, sometimes almost black; the complement of eggs is usually four; size from .95 to 1. in length, by .67 to .72 in breadth. This beautiful Oriole occurs in the United States in the Lower Rio Grande valley; thence southward. It is noted for its prolonged and repeated whistle of extraordinary mellowness and sweetness. The nest is placed in trees at varying heights, and is half pensile. It is made of long, soft, fibrous grasses.

268. Scott's Oriole — *ICTERUS PARISORUM*. Dull-white, bluish tint, va-

riously marked with small blotches and fine dottings of purplish-brown, approaching black; in some are found the zigzag markings common to the eggs of the Oriole; they are usually four in number, size .92 by .65. This bird is found in Southern Texas, New Mexico, Arizona, and in Southern California, near the Mexican border. The nest is variously situated; in a bunch of moss or vines hanging from an old cactus; in a bunch of weeds or moss growing out from a crevice in a perpendicular rock. Dr. W. E. D. Scott, on the breeding habits of some Arizona Birds in the Auk for January, 1885, describes a series of five nests found by him in Pinal county. All except one were placed in yucca plants about four feet from the ground, and situated not far from water. Several were sewed to the edge of dead leaves, which, hanging down parallel to the trunks of the plants, entirely concealed the nest. These were semi-pensile. Composed externally of fibres of the yucca, fine grasses, cotton-waste, twine and bating; lined with fine grasses and cotton-waste throughout. A fifth nest was built in a sycamore-tree about eighteen feet from the ground. Pensile being attached to the ends of the twigs very much like that of a Baltimore Oriole. The sizes of one set of eggs are given as follows: .96 by .68, .98 by .66, .92 by .68, .96 by .68. Paris Oriole and Black-and-yellow Oriole are two other names for this bird.

269. Hooded Oriole — *ICTERUS CUCULLATUS*. White with bluish tinge, marbled, blotched and dotted with large dashes and irregular zigzag lines of purple, brown and black, chiefly at the larger end, usually five in number; average size of a large series of eggs is .82 by .59. This is essentially a Mexican species, although it also extends northward into Texas, New Mexico, Arizona, and Southern California. Dr. Merrill found it to be one of the most common in Southern Texas, in the vicinity of Fort Brown. The nests, he says, are perfectly characteristic, being most frequently built in a bunch of hanging moss, usually at no great distance from the ground; when so placed, the nests are formed almost entirely by hollowing out and matting together the moss with a few filaments of dark hair-like moss as a lining. Another situation is in a bush growing to a height of about six feet with bare stems, throwing out irregular masses of leaves at the top which conceal the nest. He says a few pairs build in the yucca plants that grow on sand ridges in the salt prairies; here the nests are built chiefly of the dry, tough fibres of the plant with a little wool or thistle-down as lining; they are placed among the dead and depressed leaves, two or three of which are used as supports. To Mr. B. W. Evermann belongs the credit of first finding this beautiful Oriole breeding farther north than anyone before had found it. Dr. Cooper, who had given it more study than any

other ornithologist, informs him that he had never found the bird or its nest so far north as San Buenaventura, Cal. Mr. Evermann writes me that he found it breeding quite numerously as far north as San Buenaventura, and that it was observed breeding at Santa Barbara, thirty miles farther up the coast, though it was not so common as in Ventura county. He found the first full set of eggs about May 1st. The average number of eggs is five. The nests were quite different from those described by Dr. Merrill; they were suspended in sycamores generally, often in live-oaks. These are usually from five to fifteen feet from the ground. They are composed of grass which has been picked while yet green, so that the nest is usually of a bright straw color. A complement of four typical eggs, collected by Mr. Evermann near Santa Paula, Cal., April 13, 1881, measure as follows: .94 by .66, .94 by .64, .92 by .63, .89 by .63.

270. Orchard Oriole — *ICTERUS SPURIUS*. Pale bluish-ground, marked with dots and zigzag lines of light and dark brown, running into black, same as in all of the Orioles; the eggs are usually four in number, size .85 by .60. The nest of this Oriole is one of the most perfect specimens of woven purses, being very compact and substantial, more so in fact than that of the Baltimore. It is sometimes composed entirely of blades of grass, which may long retain their greenness, and so tend to the concealment of the nest in the foliage. The favorite nesting place of this bird is in trees at heights ranging from ten to fifty feet; and especially along the banks of streams. Breeds throughout its United States range. The nests of the smaller southern race, *I. s. affinis*, found in Texas, are smaller than those of the eastern ones. Eggs in my collection, however, are the same. "Double nests" of the Orchard Oriole seem to be quite common. Mr. J. A. Singley has sent me a fine one from Giddings, Lee county, Texas. Mr. Thomas G. Gentry records one in the "Museum"*; and several others are mentioned in the various periodicals.

Hab. Strictly Eastern United States; rarely north to Maine and Canada; west to the high Central Plains.

271. Baltimore Oriole — *ICTERUS GALBULA*. White, with a slight rosate tinge when fresh, fading into a bluish tint when blown, marked with blotches, lines and scrawls, irregularly distributed over the surface, usually thickest about the larger end, forming a wreath; the number of eggs laid ranges from four to six; size .92 by .60. The blackish hieroglyphs are common in the eggs of the birds of this genus, *Icterus*. This beautiful Oriole never fails to excite interest in the master-piece of workmanship which his bill, like a needle, weaves and suspends like a hammock from

*An Illustrated monthly Journal, for collectors of all classes and Young Naturalists: 1220 Sansom Street, Philadelphia, Pa.

the drooping bough of an elm or sycamore, in a dense foliage. The nest is pensive and nearly a cylindrical pouch suspended from the extremity of a branch. The distance from the ground varies from four to seventy feet. Any substance combining the proper length, thickness and strength, is used in the construction of its nest; consequently the materials depend to a great extent upon the locality; long grasses, strips of bark, vegetable fibres, yarns, wrapping twine, horse and cow hairs, rags, paper, and other substances that are readily accessible. Golden Robin, Firebird, Hang-nest, are other names by which it is known. Breeds more or less abundantly in every State east of the Mississippi River. Found throughout Eastern North America at various seasons, from Texas to the British possessions, and from the Atlantic to the plains.

272. Bullock's Oriole — *ICTERUS BULLOCKI*. Creamy-white with a bluish tinge, marbled with blotches and irregular lines of dark umber, deepening almost into black, chiefly around the larger end; four to six; .85 by .65. Bullock's Oriole is the western counterpart of the Baltimore, and is found from the Central Plains to the Pacific, and from Washington Territory to Mexico. The nesting habits are precisely the same.

273. Rusty Blackbird — *SCOLECOPHAGUS FERRUGINEUS*. From a grayish to a light green, very thickly covered with blotches and dottings of purplish and reddish-brown, without streaks and lines; usually four in number, varying too much in the character of their markings, to be concisely described. The size is about 1.05 by .75; in this, there is also a great variation. The nest is usually placed in bushes, constructed on a layer of twigs and brier-stalks and grasses mixed with mud, moulded into a circular form. It is lined with fine grasses and rootlets; the finished nest resembles that of the Redwing Blackbird. A nest found near St. John's, N. B., has recently been described as being built amongst the dense foliage of the upper branches of a spruce-tree. Thrush Blackbird is another name for this bird. Breeds from Northern New England northward.

Hab. Eastern North America; northwest to Alaska; in the United States west to Dakota, Nebraska, etc.

274. Brewer's Blackbird — *SCOLECOPHAGUS CYANOCEPHALUS*. Dull greenish-white or gray, with numerous streaks and blotches of dark brown; in some the markings are very large and of a lighter shade, in others smaller, but so numerous as to conceal the ground color; the complement is four or five, sometimes six, and measure 1.02 by .72, with considerable variation. The nest is placed in the fork of a large bush or live-oak tree and in garden evergreens, at a height of twenty or thirty feet. It is large and bulky, and constructed externally of a rough frame of twigs, with a layer

of mud, lined with fine rootlets, grasses, horse and cow hair. Breeds in suitable places nearly throughout its entire range.

Hab. Western United States and adjoining British Provinces; east to the eastern edge of the plains; west to the Pacific.

275. Great-tailed Grackle — *QUISCALUS MACRURUS*. Pale gray or rusty, with irregular black and brown marks, dashes, stripes, lines and spots, varying greatly in appearance; the complement is usually three, average size 1.26 by .85; largest 1.44 by .91; smallest 1.16 by .82. This handsome Grackle is found on the Lower Rio Grande of Texas and southward. Dr. Merrill found it a very common resident in Southern Texas. He says: "Early in April, after several weeks of noisy courtship, they begin to build in irregular colonies, and by the middle of the month have eggs. The nests are perhaps most frequently placed near the top of one of the main upright branches of a young mesquite-tree. They are strongly built of straws, leaves and grasses, mud being used freely. Where Spanish moss is plentiful, the nests are sometimes composed entirely of it; and I have found them among tule-reeds, where several species of Herons were breeding. I have also found their nests either supported by the lower part of the nest of the Caracara Eagle, or in the same tree."

277. Boat-tailed Grackle — *QUISCALUS MAJOR*. Brownish-drab, some tinged with olive, others with green, marked with irregular lines and blotches of brown and black; the number of eggs laid is from three to four; average size 1.24 by .84. The Boat-tailed Grackle or Jackdaw breeds in colonies, in reeds and rushes in the midst of swamps, or anywhere in trees, often a considerable distance from water, and the nests are also placed upon trees at heights varying from twenty to forty feet. It is large and clumsy, made of coarse materials: sticks, dry grasses, weeds, strips of bark, lined with finer stems, fibrous roots, and grasses. This bird is abundant along the coast of the States that border on the Atlantic and the Gulf of Mexico, from the Carolinas to Rio Grande.

278. Purple Grackle — *QUISCALUS PURPUREUS*. Light greenish-white, with large dashes and irregular streaks of black and brown, in some chiefly at the larger end; in others the ground-color is of a rusty-brown; these are marked chiefly about the larger end with cloudy blotches of the same color; four to six in number; average size about 1.25 by .90, varying greatly in color and size. The Crow Blackbird places its nest in trees at any height, and it prefers conifers or other thick-foliaged kinds; generally on boughs, but sometimes in a hollow, quite often in hollow stubs, in low trees near water, and even in bushes. The nest is loose and bulky, of

twigs, hay, grasses, and mud is frequently used. Breeds throughout its range.

Hab. Atlantic coast of United States.

278a. Florida Grackle—*QUISCALUS PURPUREUS AGLÆUS*. Similar to those of the preceding species; four to six; average size 1.17 by .85. Nesting habits same as those of *purpureus*. This race or species is resident in Southern Florida.

278b. Bronzed Grackle—*QUISCALUS PURPUREUS ÆNEUS*. Light greenish or smoky-blue, with irregular lines, dots, blotches and scrawls distributed over the surface; there is just as much variation in the eggs of this species as is found in those of *purpureus*, of the Atlantic slope; four to six in number; size 1.24 by .85. This Crow Blackbird, like the Purple Grackle, nests anywhere in trees or bushes, on boughs or in hollow limbs or stumps at any height. A clump of evergreen trees in a lonely spot is a favorite site; often large colonies will nest in such places; and it is also found especially abundant in sycamore groves along streams and in oak woodland. Breeds anywhere in its range.

Hab. New England and Mississippi region of United States.

280. American Raven—*CORVUS CORAX CARNIVORUS*. Light green, with dots and blotches of purple and blackish-brown, in some chiefly at the larger end, in others scattered over the entire egg; the complement ranges from four to eight in number, oftener four or five; size 2. by 1.30, with considerable variation. The Raven selects the most inaccessible places for its nest; the highest trees and cliffs are places usually chosen. The nest is bulky and compact, composed of sticks and lined with sea-weed. This bird is a constant resident throughout Eastern North America north of Massachusetts, and is very abundant everywhere west of the Mississippi River.

281. White-necked Raven—*CORVUS CRYPTOLEUCUS*. Light green, marked with fine dots of purple, brown and lilac; four to eight in number; size 1.75 by 1.25. Nesting habits same as those of the common Raven. This bird is found in Southeastern United States, abundant on the Llano Estacado and higher Rio Grande of Texas, and is found as far north as Wyoming; southward to Colorado, New Mexico, Arizona, and portions of California.

282. Common Crow—*CORVUS FRUGIVORUS*. Light sea-green, more or less thickly spotted and blotched with dark brown, almost black, with purplish reflections; these are chiefly about the larger end, but great variations exist both in ground color, markings, size and shape; the eggs are from four to six in number, and the average size is about 1.70 by 1.20.

The Common Crow is found in abundance in all the eastern States, from Texas to Florida, and from the Missouri to Nova Scotia. It is also common in some parts of California. The nest is built in woods, preferably in high, thick forest, and the tree selected is one of thick foliage. In pine regions the cedar is the favorite tree. The altitude is usually so great that the nest is often practically inaccessible. In quiet, solitary places, however, I have found it placed not more than ten or fifteen feet from the ground. It is built of twigs and sticks, sometimes of considerable size, firmly interlaced, weeds and grass often with clods of earth attached, and lined with leaves, grape-vine bark and fine grasses.

Hab. Temperate North America, excepting, probably, most of the high Central Plains and southern Rocky Mountains, where the Raven abounds.

282*a*. Florida Crow — *CORVUS FRUGIVORUS FLORIDANUS*. Similar to those of the Common Crow, exhibiting the same variations. The nesting habits are the same.

Hab. Florida.

282*b*. Northwestern Fish Crow — *CORVUS FRUGIVORUS CAURINUS*. Dark green, thickly marked with dark brown and olive; four to six; size 1.60 by 1.10. This Crow is confined to the seaboard of the Pacific from California to Alaska. Its nest is built in willow-thickets, in groves of evergreen oaks, and in the northern portion of its range the bird builds mostly in spruces. Often several nests are found in a single tree, ranging from twelve to forty feet from the ground. They are built like those of the Common Crow, but always in trees near the shore or in the vicinity of water.

Hab. North Pacific coast from California to Alaska.

283. Fish Crow — *CORVUS OSSIFRAGUS*. Nests and eggs of this bird cannot be distinguished from those of the Crow, but average smaller. The eggs are from four to five in number.

Hab. South Atlantic and Gulf States north to New England:

284. Clark's Nutcracker — *PICICORVUS COLUMBIANUS*. Grayish-green, speckled and blotched with grayish-brown and lilac, chiefly about the larger end; size 1.20 by .90. Clark's Crow breeds in pines, in alpine and northerly localities, placing the nest usually near the end of a horizontal limb, from ten to twenty feet from the ground. It is bulky and coarsely constructed of sticks, twigs, bark-strips, and grasses, compactly put together, and very deeply hollowed: sometimes so much so that the bird when on it showing only part of her bill and tail, pointing almost upwards, like the Blue-gray Gnatcatcher when sitting. This bird prefers to breed in open, warm situations, on steep hillsides. The nest is generally well concealed.

Hab. Coniferous belt of the West, north to Sitka, south to Mexico, east to Nebraska, west to the coast Range.

285. Maximilian's Nutcracker; Pinon Jay — *GYMNOCITTA CYANOCEPHALA*. Greenish-white, spotted everywhere with small blotches of light brown and purple, in some a faint reddish tinge, in many chiefly at the larger end; the complement ranges from three to five in number, and the average size of thirteen eggs is 1.19 by .87. Maximilian's Jay or Blue Crow, which combines the form of a crow with the color and habits of a jay, is found in the Rocky Mountain region, breeding in colonies, placing the nest in small pinon pines and other evergreens from five to ten feet up. The nests are like those of Clark's Crow; usually all in high, open situations, some of them well up steep mountains, and seldom in valleys. They are placed out some distance from the body of the tree, and not particularly well-concealed; are large, coarse and deeply hollowed structures, made mostly of shreds of fibrous plants, bark which breaks up into a mass of hair-like fibre, these forming the lining; while others have weeds and grass worked into the general structure.

286. Black-billed Magpie — *PICA RUSTICA HUDSONICA*. Grayish-white, with a yellowish, occasionally with a greenish tinge, spotted, dashed and dotted with markings of purplish or violet-brown; most thickly around the larger end; six to nine eggs are laid, more commonly seven; size 1.20 to 1.40 long by .50 to 1. broad. The nest is placed in thick shrubbery, or small trees, of thick foliage. Mr. Fred. M. Dille, of Greely, Weld county, Colorado, in which State this bird breeds abundantly, says it is generally found there in large pine trees, and that he has seen in a single tree four nests, all with eggs in May. The structures are as large as a bushel, dome-shaped, and very strongly built of coarse sticks, lined with fine grasses and an intermixture of mud.

Hab. Arctic America and United States, from the Plains to the Pacific, except California.

287. Yellow-billed Magpie — *PICA NUTTALLI*. Light drab, so thickly marked with fine cloudings of an obscure lavender color as nearly to conceal the ground and to give the egg the appearance of an almost violet-brown; the number laid ranges from three to nine. A set of six eggs, collected in Wheeler Canon, near Santa Paula, Cal., exhibit the following dimensions: 1.31 by .89, 1.28 by .89, 1.31 by .89, 1.32 by .89, 1.30 by .88, 1.28 by .90. This bird is confined exclusively to California, where it breeds abundantly, and begins nesting about the first of April. The nest is constructed similar to that of the Black-billed Magpie.

289. Blue Jay — *CYANOCITTA CRISTATA*. Brownish-olive and occasionally olive-drab, thickly spotted with olive-brown. The eggs are, however, very variable in color. The spotting is profuse and pretty uniform, though generally less pronounced than that of the Crow's, and sometimes quite

obsolete; four to six in number; size about 1.15 by .85. The nesting is essentially the same as that of the Crow, though smaller trees and even bushes are selected, and in fact any odd nook will often answer the purpose. The nest is large and substantial, composed of twigs, coarse grasses, and feathers. Breeds throughout its range.

Hab. Eastern North America, north to Hudson's Bay, west to the Central Plains.

290. Steller's Jay — *CYANOCITTA STELLERI*. Pale green, marked with small olive-brown spots; four to six in number; size 1.25 by .82; similar to the eggs of the Long-crested Jay. Steller's Jay is an abundant bird in all the wooded country between the Rocky Mountains and the Pacific from Oregon northward. The nest is large, loosely built of sticks, a layer of mud and lined with black rootlets, placed in a bush or low tree, and sometimes in an elevated branch of a fir.

290a. Blue-fronted Jay — *CYANOCITTA STELLERI FRONTALIS*. One would, with a general knowledge of the nesting habits of the Jays, look for their nests in trees and bushes; but with the recent observations on the habits of this bird by N. S. Goss, in the *Auk*, April, 1885, we have additional light thrown upon the subject. He found quite a number of nests of the Blue-fronted Jay in the vicinity of Julian, California, in the spring of 1884, and "in all cases but one, in holes and trough-like cavities in trees and stumps, ranging from four to fifty feet from the ground, generally ten to twenty feet. The nest found outside was built upon a large horizontal limb of an oak close beside a gnarl, the sprout-like limbs of which thickly covered the nest overhead, and almost hid it from view below." They were quite bulky, loosely made of sticks, stems of weeds, and lined with fibrous rootlets and grasses; and as they were all built at or near the opening, the tell-tale sticks projected and made the finding of the nests difficult. Mr. Goss gives the color of the eggs as light blue, speckled and spotted with dark brown, rather thickest at large end, and the measurements of two sets as follows: one taken May 19, 1.20 by .87, 1.20 by .88, 1.21 by .88; May 21, 1.22 by .88, 1.15 by .86, 1.19 by .86, 1.16 by .85. Mr. W. O. Emerson informs me that he finds the nests in the vicinity of Haywards, Cal., placed in oaks, redwood, and other tall trees.

290c. Long-crested Jay — *CYANOCITTA STELLERI MACROLOPHA*. Light green, with fine markings of dark olive-brown and lighter cloudings of purplish or violet-brown; the eggs are more elongated than those of the Blue Jay. Their size range from 1.20 to 1.32 in length, by .80 to .89 in breadth. This bird is found throughout the pine belt of the Rocky Mountain region of United States, more especially southerly. The nest is placed in trees

or bushes; generally, as Mr. F. M. Dille writes me from Colorado, artfully concealed in a bunch of rubbish at the top of a pine or spruce. He says he has found the nests with eggs all through June. It is rather large and coarse, made of small sticks and weed-stalks, with very little attempt at lining. Mr. Dille says that he has found five eggs to be invariably the number laid.

291. Florida Jay — *APHELOCOMA FLORIDANA*. Light blue or greenish-ground, sparingly sprinkled with rufous and black, the spots being larger and more numerous towards the larger end; four or five eggs are laid; size 1. by .80. This beautiful Jay is confined to Florida. The nest is a flat structure placed in bushes, composed of leaves, small dry sticks, lined with fibrous plants, often with wool and feathers. The eggs of this genus (*Aphelocoma*) usually have more of a greenish-ground and heavier markings than those of *Cyanocitta*.

292. Woodhouse's Jay — *APHELOCOMA WOODHOUSEI*. Light bluish-green, marked with reddish-brown specks, thickest at the larger end, rounded-oval; three to five; size 1.06 by .80. This Jay belongs to the Rocky Mountain region of United States from Wyoming and Idaho southward, inhabiting scrub-oak and other thickets on open hillsides. The nest is built in bushes and thickets, or in low trees of thick foliage, composed of twigs, rootlets, and a lining of horse-hair.

293. California Jay — *APHELOCOMA CALIFORNICA*. Dark sea-green, marked with numerous pale brown blotches, chiefly at the larger end; the complement of eggs ranges from three to five in number; size about 1.06 by .80. The California Jay is a Pacific coast species, occurring from the Columbia River southward to Cape St. Lucas. The nest is usually placed in a low tree or bush; it is large and bulky, built of twigs, roots, and grass. Trees and thickets bordering the streams in the valleys are the favorite haunts of this Jay in California.

295. Arizona Jay — *APHELOCOMA SORDIDA ARIZONÆ*. Mr. Brewster, on a collection of Arizona Birds, (Bull. Nutt. Club, vii., October, 1882, pp. 201, 202,) mentions a nest of this bird found in the Santa Rita Mountains. It was a bulky structure, composed chiefly of yellowish rootlets with some coarse dead twigs protecting its exterior, and a scanty lining of fine grasses. The female was sitting on four eggs, which were on the point of hatching. The only specimen saved measured 1.13 by .82. It is pale greenish-blue, absolutely without markings, and closely resembles a Robin's egg. "Two others were similar, as were three eggs of a set taken in 1876, and two of

one found in 1880." The birds "go in flocks of from five to twenty, and are generally seen in the foot-hills."

Hab. Arizona.

296. Green Jay — *XANTHURA LUXUOSA*. Greenish-drab, marked with dark olive-brown and lighter cloudings of purplish-brown; usually three or four in number; size 1.10 by .80. This handsome, noisy species, known as the Rio Grande Jay, is abundant in some localities in the Lower Rio Grande Valley. Dr. Merrill found it to be a common resident in the vicinity of Fort Brown, Texas. The nest is placed in bushes and small trees; it is a bulky structure, and composed of twigs, with a finer lining.

297. Canada Jay — *PERISOREUS CANADENSIS*. Light gray, with a yellowish tinge, finely marked more abundantly at the larger end with dots and blotches of slate color and brown, with faint cloudings of an obscure lilac, with the usual variations in color and size found in the eggs of other Jays; four or five in number; size 1.17 by .80. The Mouse-Bird, Whisky Jack, or Whisky John, as it is variously called, breeds in Maine and northward; it is resident, and seldom seen south of its breeding range. The nest is usually placed on the bough of a spruce or other evergreen; it is a large, substantial structure, made of twigs, grasses, and is lined with feathers.

Hab. Arctic America into the Northern States; northwest to Alaska.

297a. White-headed Jay — *PERISOREUS CANADENSIS CAPITALIS*. Grayish-white marked with dots and blotches of slate and brown. The markings are larger, more confluent, and not so distinct as in the eggs of the Canada Jay. The nesting habits are the same as those of variety *canadensis*. This Jay, *P. c. capitalis*, is the form of the Rocky Mountain region, especially Colorado, Wyoming, North New Mexico, and Arizona, Idaho and Montana, northward, running into the typical *canadensis*.

300. Shore Lark — *EREMOPHILA ALPESTRIS*. Light drab, thickly and uniformly spotted with various shades of brown; the eggs, in general appearance, reminds one of those of the Shrike's, on a small scale, but are probably more variable in tone; they are four or five in number, and measure about .90 by .65. In most of the United States east of the Mississippi this bird is only a winter visitant. It breeds in the northern tier of States northward as far east as New York, and very abundantly in Labrador and Newfoundland. It is chiefly replaced in the West by the two following varieties. Horned Lark is another name for it. The nest will be found on the ground in a slight depression, lined with a few grasses.

Hab. Northern Hemisphere; in the Eastern United States; south in winter to South Carolina.

300a. White-throated Shore Lark — *EREMOPHILA ALPESTRIS LEUCOLÆMA*. Eggs and nesting habits same as *alpestris*, and found in the prairies of West-

ern United States; breeding very abundant everywhere north of about 40°.

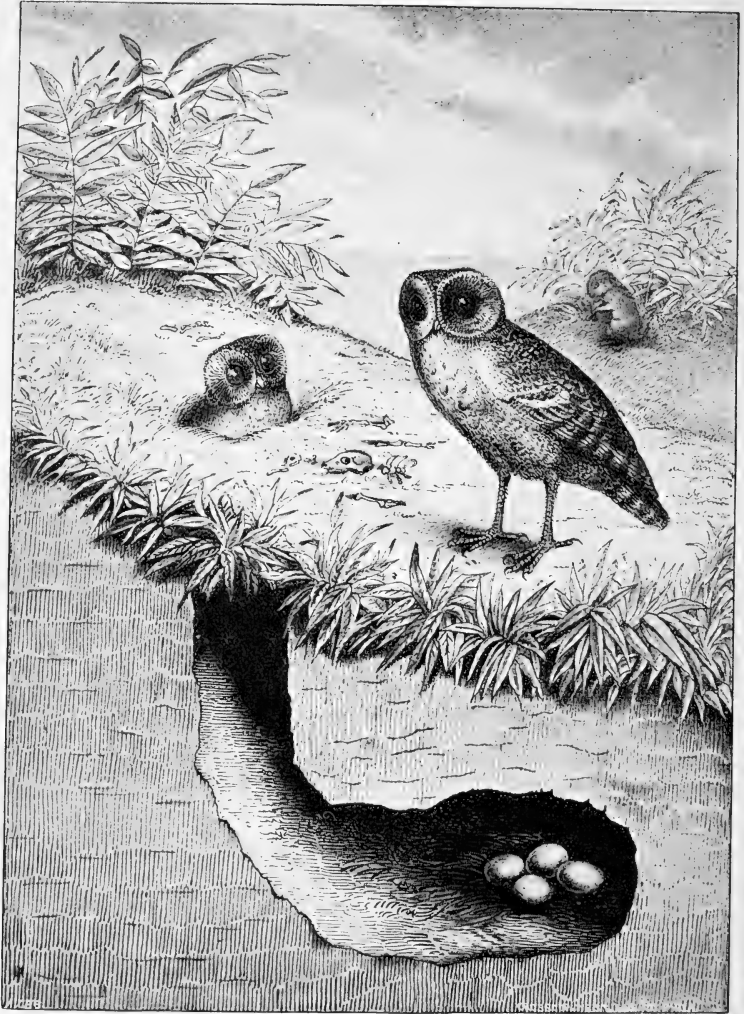
300*b*. Mexican Shore Lark — *EREMOPHILA ALPESTRIS CHRYSOLÆMA*. Eggs and nesting same as those of *alpestris*. Southwestern United States and Mexico; breeding mostly south of 40°; abundant.

301. Scissor-tailed Flycatcher—*MILVULUS FORFICATUS*. White, marked with a few dark red spots and occasionally of an obscure purple, chiefly at the larger end; the eggs vary in color from pure white, unmarked specimens, which are very rare, to finely speckled with reddish-brown, and often covered with large spots and blotches of brown and lilac, and look as if whitewash had been brushed over the colors. This description of the eggs is given me by Mr. J. A. Singley, of Giddings, Lee county, Texas, who has collected thousands of specimens. He says: "What I call a typical nest is built of weeds, small stems and thistle-down, and lined with down and sometimes with a few fibrous roots. Since the introduction of cotton gins and sheep ranches most of the nests are built of weeds and cotton or wool or both felted, and lined with the same, but oftener with no lining at all." The nest is built in trees varying from six to twenty feet. Mr. Singley says the usual number of eggs in a set is five, fully eighty per cent. being of this number; the other twenty per cent. is about equally distributed between sets of four and six. He has sent me several nests with eggs of both extremes; the eggs measure about .87 by .67, with variations. The nests in size average a little smaller than those of the Kingbird. The Fork-tailed Flycatcher is an abundant bird in Texas, and is found as far north as Indian Territory and Southwestern Missouri. It is a common species throughout Mexico and Central America.

303. Gray Kingbird—*TYRANNUS DOMINICENSIS*. Creamy white, marked with large blotches and spots of purple, reddish-brown and dark purplish-brown and lilac; the eggs are not distinguishable from those of the Bee Martin; there is also the usual variation in size and shape. Nesting habits are similar.

Hab. West Indies; Florida regularly; north to Carolina rarely, to Massachusetts accidentally.

304. Kingbird; Bee Martin—*TYRANNUS CAROLINENSIS*. White, with a more or less roseate tinge, marked with blotches of purple, brown, reddish-brown and lilac; four or five, sometimes six in number, and measure about 1. by .75 with great variations in size. The Kingbird breeds throughout its range, placing the nest in an orchard or garden, or by the wayside, on a horizontal bough or fork at a moderate height;



BURROWING OWLS AND NESTING PLACE.

(*Speotyto cunicularia hypogea.*)

SEE DESCRIPTION No. 408.

being bulky as well as openly situated it is as easily found as that of the Robin. Exterially it is ragged and loose, but well cupped and brimmed, consisting of twigs, weedstalks, grasses, rootlets, bits of vegetable-down and wool firmly matted together. The lining is of slender grasses, chicken feathers, horse hair, fibres, rootlets and wool, used singly or combined in various proportions.

Hab. Temperate North America, but chiefly Eastern United States, north to 57° or further; west to Rocky Mountains; rare or casual on the Pacific slope.

305. Couch's Kingbird—*TYRANNUS MELANCHOLICUS COUCHI*. Rich buff; the blotches similar in color to those on the eggs of the Kingbird, but more numerous, and they are generally smaller; irregularly distributed over the entire surface, but massed about the greatest diameter. The larger end is very round and the smaller end quite pointed. Four eggs measure as follows: 1. by .76, .99 by .76, .98 by .76, .97 by .72. A nest described by Geo. B. Sennett, in the "Auk" for January, 1884, was situated some twenty feet from the ground, on a small lateral branch of a large elm, in a grove not far from houses. It was composed of small elm twigs, with a little Spanish moss, a few branchlets and leaves of the growing elm, lined with fine rootlets and black hair-like heart of the Spanish moss. This nest, with the above described eggs, were taken at Lomita Ranch, on the Rio Grande, Texas, in 1881.

306. Western Kingbird—*TYRANNUS VERTICALIS*. Same as those of *carolinensis*. The nest is rather larger, with more fluffy and less fibrous material.

Hab. Western North America, from the high Central Plains to the Pacific; east regularly to Kansas, Iowa, etc. Accidental in Louisiana, New Jersey and Maine.

307. Cassin's Kingbird—*TYRANNUS VOCIFERANS*. White with a fleshy tint, marked with large, scattered reddish-brown and umber blotches; in fact a large series of the eggs of the *Carolinensis Verticalis* and *Vociferans* before me, when placed in one tray, *cannot* be distinguished. The nest of Cassin's is not, however, of so slovenly an exterior.

Hab. Southwestern United States and southward; north to Wyoming and Idaho; abundant in the Rocky Mountain region, there mostly replacing the *Verticalis* in the breeding season.—*Coues*

311. Mexican Great-crested Flycatcher — *MYIARCHUS MEXICANUS*. Dr. Merrill found this species breeding in considerable numbers on the Lower Rio Grande in Texas. With one exception no snake-skins were used in the construction of any of the nests. They were composed of felted locks of wool and hairs, and were placed not far from the ground either in old woodpecker's holes or in natural cavities of decayed trees or stumps. Thirty-two eggs have an average size of .93 by .66, the extremes being 1.03 by .73 and .82 by .65. The ground color and markings closely

resemble those of *M. Crinitus*. I take this to be the Rufous-tailed Crested Flycatcher, *M. c. erythrocerus*. Hab. Lower Rio Grande of Texas and southward.

311a. Cooper's Flycatcher—*MYIARCHUS MEXICANUS COOPERI*. The eggs closely resemble those of *M. crinitus* in ground color and markings. Nesting habits Similar. Hab. Mexico and over the United States border; Arizona.

312. Great-crested Flycatcher—*MYIARCHUS CRINITUS*. Remarkable for their coloration, having a ground of buffy-brown, streaked longitudinally by lines sharp and scratchy in style, and markings of purple and darker brown; four to six; .82 by .62. The eggs are so peculiar in their style of markings that they may be easily identified, and all the eggs of the North American species of this genus, *Myiarchus*, are alike in character. The Great-crested Flycatcher breeds throughout its United States range. It builds in the hollows of trees, post-holes, and even Bluebird and Martin boxes are sometimes occupied. The nest is made of slender twigs, grasses, fine stems and rootlets, and cast-off snake-skins are invariably found among the materials.

Hab. Eastern United States; west to Missouri and Kansas, Arkansas and Texas, north to Massachusetts; Mexico and Central America in winter.

313. Ash-throated Flycatcher—*MYIARCHUS CINERASCENS*. Buffy-brown, with a pinkish hue, the markings are more oblong plashes of irregular shape, and there are more and larger blotches of a light purplish brown than in the eggs of the Great-crested Flycatcher; four or five, size about .83 by .68. Nesting same as the Great-crested.

Hab. Southwestern United States, north to Wyoming Utah and Nevada, south through Mexico; east and west from Texas to the Pacific.

315. Phœbe Bird; Pewee—*SAYORNIS FUSCUS*. Pure white, sometimes sparsely spotted with reddish-brown at the larger end; ordinarily four or five in number, size .70 by .52. The familiar Phœbe Bird is an abundant species in open places, in fields and along streams, throughout Eastern United States and British Provinces. The original situation of the nest is the face of an upright rock, usually over water, and the rock itself is sometimes moss-grown and dripping with water. It is often affixed beneath a projecting shelf or in a cranny or retiring angle; quite frequently in stone culverts, bridges, under the roofs and against the walls of old houses and barns. The nest, like that of the Barn Swallow, is composed of mixed mud and vegetable substances, but is much neater and more compact; moss is one of the materials generally used. Two nests which I have found in culverts over running water, and where it was very damp,

were perfectly green with the growing moss; these were probably occupied for several years. The lining is chiefly feathers, grass, etc.

Hab. Eastern United States and British Provinces, west to Dakota, Nebraska, etc., south to Mexico.

316. Say's Pewee—*SAYORNIS SAYI*. White; usually four or five in number, size, about .80 by .62. This bird has an extended distribution throughout Western North America, from the plains of the Saskatchewan on the north to Mexico on the south, and from the Rio Grande and Missouri to the Pacific. The nest is built naturally on the face of rocks, under cliffs along streams, and, like the Eastern Pewee, this species takes possession of outbuildings or abandoned dwellings, and in every other trait they closely resemble one another.

317. Black Pewee—*SAYORNIS NIGRICANS*. Pure white, occasionally dotted with reddish-brown as in the case of the common Pewee; four or five; size .75 by .56. This bird, whose color is like that of the Black Snowbird, and whose nesting habits resemble those of *Fuscus*, is found in Southwestern United States, southward throughout Mexico; on the Pacific coast to Oregon, especially along rocky streams and canons.

318. Olive-sided Flycatcher—*CONTOPUS BOREALIS*. Creamy-white, marked about the greater end with a confluent ring of purple, lavender, and brown spots, resembling those of the Wood Pewee. Mr. Elwin A. Capen in his grand work, entitled "Oology of New England,"* states the number of eggs laid to be from three to five, usually four, often three and seldom five, and measure from .92 to .85 in length, by .68 to .64 in breadth. The bird breeds from New England northward, and much further south in the west. The nesting is essentially similar to that of the Wood Pewee, the structure being saddled on a horizontal limb or fixed in a fork, often at a great height from the ground. The nest is a shallow, saucer-like fabric of twigs, rootlets, weed stalks, bark-strips and lined with fine rootlets and moss.

Hab. Temperate North America.

320. Wood Pewee—*CONTOPUS VIRENS*. Creamy-white, with a ring of lavender and purplish or reddish-brown, in confluent spots near the larger end; three or four in number, size about .70 by .55. A common bird in Eastern North America from the Atlantic to the great plains. Breeds from South Carolina and Texas north. The nest is a very pretty, flat, compact structure, with thick wall and well-turned brim, but very thin flooring—so thin, in fact, that the eggs can often be seen from beneath. It is closely saddled on a horizontal bough or placed in a forked twig. It

* Oology of New England: a description of the eggs, nests and breeding habits of the birds known to breed in New England, with colored illustrations of their eggs. By Elwin A. Capen. Boston, 1886.

is finished with lichens on the outside like that of the Hummingbird's, or Blue-gray Gnatcatcher's nest. The principal materials are fine bark-strips, rootlets and grasses. The elevation from the ground ranges from eight to fifteen feet, but I have found them more frequently built high up in tall trees.

321. Western Wood Pewee—*CONTOPUS RICHARDSONI*. Similar to those of the Eastern bird. Nesting said to be different.

Hab. Rocky Mountains to the Pacific.

322. Yellow-bellied Flycatcher—*EMPIDONAX FLAVIVENTRIS*. Rosy-white or creamy tint, spotted with a light shade of reddish-brown, chiefly about the larger end, usually four in number, size from .65 to .68 in length by .51 to .54 in breadth. A common bird in woodland, swamps and thickets in Eastern United States. Breeds probably from the Middle States northward. The nest is placed in stumps, in mossy banks, logs, in the tangle or roots of fallen trees a few feet from the ground; it is bulky and composed of a mass of moss, withered grass, lined with a few black rootlets and grass stems.

Hab. Eastern United States and British Provinces.

323. Western Yellow-bellied Flycatcher—*EMPIDONAX DIFFICILIS*. Creamy-white, spotted and finely speckled with cinnamon or reddish-brown, in some quite thickly about the larger end, often forming a complete ring, again well sprinkled over the entire surface; three or four, sometimes five in number. Mr. O. W. Emerson, of Haywards, Cal., says this variety nests in hollows in banks along creeks, in natural cavities of trees and among the roots of fallen ones, and in some of the most out-of-the-way places, from a tall Australian gum tree to the corner of a rail fence. Nest composed of shreds of roots, dead leaves, cob-webs, bits of fine grass, and lined with finer grasses and a few feathers.

Hab. Western United States.

324. Acadian Flycatcher—*EMPIDONAX ACADICUS*. Light yellowish-buff, with a decided flesh-color tint when fresh, sparsely spotted with light brown; two or three in number, and I have found nests with four eggs, but this is rarely the case. Dr. Jones, in his "Nests and Eggs of the Birds of Ohio," gives the measurements to be from .70 to .79 in length by .53 to .59 in breadth. The eggs are not distinguishable from those of *trilli*. The Acadian Flycatcher is abundant in the Middle and Western States in land timbered with large trees, and overgrown with bushes, low trees, vines and weeds. They love to penetrate the depth of the forest, and delight to rear their young in the most quiet and gloomy spots. I have most always found the nest suspended in a fork of small twigs near the extremity of a low, horizontal limb. It is seldom placed

in isolated trees, often in trees on the border of woods. A typical nest before me is composed of catkins weed-fibres, fine grasses and shreds of bark. The nest is, I think, more compactly built than that of *trailli*.

325. Little Flycatcher—*EMPIDONAX PUSILLUS*. White, with a fleshy tinge, marked with reddish-brown and faint slate-colored blotches at the larger end. Habits, nest and eggs counterparts of those of *trailli*.

Hab. High Central Plains to the Pacific.

325a. Traill's Flycatcher—*EMPIDONAX PUSILLUS TRAILLI*. The following is taken in part from my article which appeared in the "Ornithologist and Oologist" for May, 1882. The locality usually selected as a nesting site by this species is in a thick growth of alders bordering a stream, or in the deep solitude of a lonely wood, where it is associated with the Acadian Flycatcher during the breeding season. In such places as these I have taken dozens of nests, eggs and skins of both birds every season for the past ten years, in Franklin County, Ohio. Wherever found breeding *trailli* is more abundant than is generally supposed, but from its retiring habits is little known. Notwithstanding the comparison drawn by authorities on the nests of the two birds, all that I have taken of *trailli* are much more slovenly built than those of *academicus*. Plate III represents a typical nest of Traill's Flycatcher taken in June, 1885, placed in a clump of alders. They are scarcely ever placed higher than eight feet from the ground, in most cases about four. In nearly all instances they are built in an upright fork, and have a strong resemblance to the usual structure of the Yellow Warbler, but probably lack in compactness and neatness. The external or greater portion of the nest is composed of hempen fibres, internally lined in true Flycatcher style with fine grasses. In some, however, there is a slight lining of horse-hair and of the down from the milk-weed or thistle. A typical nest measures two and a half inches in height and three in diameter, with a cavity one inch and a half in diameter and two inches deep. In nearly all cases three eggs is the usual complement, rarely four, a great many in varying stages of incubation. The ground-color of the eggs is extremely variable. In some it is of a cream, in others approaching buff. In four sets before me there is a striking variation in the distribution of the markings. They are usually marked, chiefly at the larger end, with large blotches of red and reddish-brown, while in others the markings are simply very small dots sparingly sprinkled over the surface; in some these dottings are scarcely visible, giving them the appearance of an almost unspotted surface. Six eggs exhibit the following measurements: .72 by .55, .70 by .53, .70 by .52, .64 by .53, .69 by .52, .70 by .53. There is scarcely any perceptible difference be-

tween the eggs of *trailli* and those of *acadicus*. The western eggs of *trailli* probably have a darker ground, and the spots are more vivid, but I do not believe anyone can tell them apart with certainty. Breeds from New England and Canada to Dakota and Missouri; migrating through all the Eastern United States.

Hab. Eastern North America to the Plains.

326. Least Flycatcher—EMPIDONAX MINIMUS. Pure white, normally unspotted; usually four, sometimes only three, occasionally five; size .65 by .50. The Least Flycatcher breeds abundantly in New England; is very common along the Red River of the North, breeding at 49°. Nests in a sapling or shrub ten or twelve feet from the ground, sometimes only six or eight, again thirty or forty feet. It is placed in an upright crotch, and is small, neat, compact and deeply-cupped, made of fine deciduous bark, hempen fibres of plants and lined with horse-hair, plant-down and fine grasses.

Hab. Eastern North America to the Plains; ranges through Eastern United States in migrations.

327. Hammond's Flycatcher — EMPIDONAX HAMMONDI. White; normally unspotted; four is the usual complement. Nesting the same as *minimus*. Hammond's, or the Dirty Little Flycatcher, as it is called, is the western representative of the Least Flycatcher, *minimus*, from the Plains to the Pacific of United States, and British America.

328. Wright's Flycatcher — EMPIDONAX OBSCURUS. White, unspotted; three or four; size .75 by .58. The nest is built the same as that of the Least Flycatcher in the crotch of a sapling, made of fibres of plants, shreds of bark, and lined with vegetable down and animal's hair. The bird is found in woodland, groves and thickets.

Hab. Rocky and other mountains of the West north to 49°.

330. Vermilion Flycatcher — PYROCEPHALUS RUBINEUS MEXICANUS. Rich creamy-white, with a ring of large brown and lilac blotches at the larger end; three is the usual number of eggs in a complement. Fourteen eggs have an average size of .73 by .54. A very pretty little bird common in Arizona, and is found in the valleys of the Rio Grande and Colorado southward. The nests are placed or saddled on horizontal forks of ratana-trees, often in mesquites, not more than six feet from the ground, composed of small twigs and soft materials felted together and the rims covered with lichens. A few horse or cow-hairs comprise the lining.

335. Ruby-throated Hummingbird — TROCHILUS COLUBRIS. Pure white; two in number, and the average size is .50 by .35. The eggs of the whole family of Humming Birds, as far as known, are white, unspotted; in shape, rather elliptical than oval, and always two in number. The

only difference noticed are the relative variations in size. The nests are generally saddled upon a horizontal branch, are cup-like in shape and are mostly made up of various kinds of soft vegetable down, and in nearly all cases covered on the outside with a coating of lichens or mosses. The nest of the Ruby-throated Hummingbird is a beautiful structure. It is felted with a mass of exquisitely soft, cottony, silky, or wooly substances, such as the down from the stems of plants, and is artistically covered on the outside with lichens. It is usually placed on a horizontal limb of a forest or orchard tree. Several specimens before me are placed on branches that were slanting, and the nests rest on small forks. A very fine one measures, outwardly, one and three-fourths inches broad by one and a half deep. Nests saddled on thick limbs are usually larger. I have observed that in Ohio the Ruby-throat prefers nesting in the branches of the buckeye to all other trees. The birds are especially abundant about this tree when it is in full blossom early in May.

Hab. Eastern North America, especially United States in summer,

336. Black-chinned Hummingbird — *TROCHILUS ALEXANDRI*. This Hummingbird nests in more open ground than the Rufous or Anna's, placing the structure usually on the branches of oaks and sycamores. It is composed of the web or down found on the under side of the leaves of the sycamore; the effect is that the nest looks like a small round yellow sponge. Eggs same as those of the Ruby-throat.

Hab. California, Utah, Arizona and probably other portions of Southwestern United States.

337. Costa's Hummingbird — *CALYPTE COSTÆ*. In California this species deposits its eggs in May and June, and the nest and eggs are similar to those of Anna's Hummingbird.

Hab. Arizona, Southern California, and Southward.

338. Anna's Hummingbird—*CALYPTE ANNÆ*. Anna's Humming-bird is a common resident of California; its nest and eggs can be found almost any time in May and June. It builds in trees, and is not particular what kind or where they are situated; on hillside, creek, in orchard or garden. The nest is composed of thistle-down and willow-cotton, with occasionally a few small feathers and bits of flower stems; on the outside moss well covered with spider webs, with here and there pieces of lichens. Eggs same as those of *T. colubris*, but average larger. Ten nests before me have the same general resemblance.

339. Broad-tailed Hummingbird — *SELASPHORUS PLATYCERCUS*. This Hummer builds a beautiful little nest so well covered with lichens as to look exactly like a knot on the branch on which it is placed. In Colorado it

seems to prefer small deciduous trees or bushes for nesting places to evergreens. Eggs not distinguishable from those of the Ruby-throat.

Hab. Southern Rocky Mountain region of United States and Southward. North to Wyoming, Idaho, Utah, Nevada; Sierras Nevadas of California.

340. Rufous Hummingbird—*SELASPHORUS RUFUS*. This is the commonest and most extensively distributed species of the West; from the Rocky Mountains to the Pacific, north to Alaska. Its favorite nesting site is along the borders of creeks, on the overhanging limbs and branches of trees and bushes. The materials used are willow-floss and soft plant-down. Occasionally a nest is found covered with rock lichens.

341. Allen's Hummingbird—*SELASPHORUS ALLENI*. Found throughout the coast region of California and northward. Nests usually along creeks and canons. The outside of the nest is composed of fine moss, the lining is the delicate floss of the cottonwood. Eggs same as those of *T. colubris*. All the Humming birds that breed in California are said to rear two broods in a season.

346. Buff-bellied Hummingbird—*AMAZILIA CERVINIVENTRIS*. This bird is fond of dense tangled thickets, where it can be seen darting among the bushes and creeping vines. In such places the nest is also found. It is composed of the downy blossoms of plants, bound on the outside with cobwebs and rather sparingly covered with lichens. Dr. Merrill found this to be an abundant summer visitor in Southern Texas, in the vicinity of Fort Brown.

Hab. Lower Rio Grande of Texas to South America.

351. Chimney Swift—*CHÆTURA PELASGICA*. Pure white; four to six; .75 by .50. The nest is made of twigs broken from trees by the bird while on the wing; these are glued together and to the side of the chimney by saliva of the bird. It is a neat, basket-like structure. The Chimney Swallow formerly placed its nest in hollow trees. Dr. Wheaton in his "Report on the Birds of Ohio," mentions one taken from the inside of a barn in Wyandot County, by my friend Arnold Boyle. It was similar in position to that of the Barn Swallow.

Hab. Eastern United States, very abundant.

353. Chuck-wills-widow — *ANTROSTOMUS CAROLINENSIS*. Clear crystal white, marked over the entire surface with blotches of dark purplish-brown and cloudings of a grayish lavender, with occasional markings of raw umber-brown; two; size 1.45 by 1.04. Two is the usual number laid by birds of this family. The nest is a slight hollow in the mould of a fallen log, or stump, or on the ground, among dead leaves.

Hab. South Atlantic and Gulf States; Carolina to Indian Territory; New Mexico, south, to Central America.

354. Whip-poor-will — *CAPRIMULGUS VOCIFERUS*. Clear cream-white, spotted, marbled and irregularly marked with purplish-lavender, mingled with reddish-brown; the general effect is a clouded coloration like the plumage of the birds themselves; two; size about 1.25 by .85. The eggs are laid in a depression of the ground upon a few leaves, sometimes on stumps and logs. The Night-jar breeds throughout its range, but chiefly northerly.

Hab. Eastern United States and British Provinces to the Central Plains.

355. Poor-will — *PHALÆNOPTILUS NUTTALLI*. White, unspotted; two, size 1.05 by .80. B. L. B., in the "Young Oologist" for March, 1885, mentions finding two eggs of this species in a nest on the ground, in a slight hollow on the side of a hill. The eggs he describes as greatly like those of the Turtle Dove, pure white and elliptical in shape.

Hab. Plains to the Pacific of the United States and southward; abundant,

356. Parauque Goatsucker — *NYCTIDROMUS ALBICOLLIS*. This beautiful species of nighthawk is distributed throughout the interior portion of tropical America north to Texas, where it is common in the valley of the Lower Rio Grande. It frequents shady thickets and copses; deposits its eggs in these places, usually at the foot of a bush, on the ground. These are two in number, of a rich creamy-buff color, sparingly marked with a deeper shade of the same, and with lilac; average size 1.25 by .92.

357. Nighthawk — *CHORDEILES POPETUE*. Grayish, thickly mottled with varied tints of darker gray, slate and yellowish-brown; the pattern and tints are very variable; elliptical; size 1.25 by .85. The Nighthawk, Bull-bat, or Goatsucker, as it is variously called, breeds throughout its range, depositing her two eggs on the cold, bare ground; scarcely a trace of a nest can be found where the eggs lay. They are frequently deposited on bare rocks, and on the flat roofs of buildings in large cities. The Nighthawk and Whip-poor-will are often confounded, or considered as birds of the same species. A careful comparison with each other, or with the descriptions, will at once show a very decided difference. In the evenings of summer months great troops of Nighthawks may be seen high in air over forest or town in search of insects, performing their wonderful evolutions and uttering their peevish cries, or, swooping down with their strange booming or rumbling sound, they skim over the grassy meadows. Thus they continue till the gloaming merges into darkness, and their flight is seen no longer. My poetical friend Earl has it:

“Out of sight on active wings,
 Now thou bath'st at heaven's springs;
 Then on dew-dipped pinions down,
 With a far resounding cry,
 Swooping over vale and town,
 In thy heaven-born ecstasy.”

The large white patches on the five outer primaries of the wings, when the bird is flying, appear like tattered holes caused by the shot from a gun.

Hab. Entire temperate North America, chiefly eastern; abundant.

357a. Western Nighthawk — *CHORDEILES POPETUE HENRYI*. Clay-color, with small spots and cloudings of yellowish-brown, mingled with lilac; two, size 1.25 by .90. This lighter-colored form, found in the unwooded portions of western United States, has nesting habits similar to the eastern species.

358. Texan Nighthawk — *CHORDEILES ACUTIPENNIS TEXENSIS*. Grayish, or thickly marked on a white ground with small, irregular confluent spots, which are a blending of black, umber and purplish-gray; two, size 1.20 by .87. Same general habits as the Nighthawk.

Hab. Southwestern United States; valleys of the Rio Grande and Colorado; Texas to California and southward, common.

359. Ivory-billed Woodpecker — *CAMPEPHILUS PRINCIPALIS*. Crystal-white; rounded in form like the eggs of all the woodpeckers; about six in number; size 1.35 by 1. Louisiana, Mississippi, Alabama, Georgia, and Florida, to North Carolina, are the favorite resorts of this bird, where it constantly resides. It is common in the dark, heavily wooded swamps, nesting at a great height, excavating cavities in the trunks of the live trees, where it deposits its eggs on a few chips at the bottom of the hole. Audubon says the hole is first bored horizontally a few inches, then downward, sometimes not more than ten inches, and again to the depth of three feet. Wilson says it is winding, to keep out the rain, and is sometimes five feet deep.

Hab. South Atlantic and Gulf States; north to North Carolina, along the coast, to the Ohio River.

360. Hairy Woodpecker — *PICUS VILLOSUS*. Pure crystal-white; four to six; size .85 by .65. This Woodpecker is resident wherever occurring. The nest is often excavated in a terminal limb of a lofty beech, sometimes in the trunk of an apple tree, more rarely in a dead stump.

Hab. Entire wooded portions of North America—the typical form east of the Rocky Mountains, reaching the Pacific, however, in Alaska.

361. Downy Woodpecker — *PICUS PUBESCENS*. Glistening white; four to six, and as many as eight have been found in a nest; size .75 by .62. Nest excavated in the trunk of a small, dead tree, often in the dead

limb of an apple tree, or in a post or rail of a fence; seldom more than twenty feet from the ground. This is the little spotted bird frequently called "Sapsucker." A very truthful illustration of the ideal nesting place of the Downy is given in Thomas G. Gentry's "Nests and Eggs of Birds of the United States."*

Hab. Entirely corresponds with that *P. villosus*. Var. *P. p. gairdneri* from the Rocky Mountains to the Pacific.

361a. Gairdner Woodpecker — *PICUS PUBESCENS GAIRDNERI*. Eggs and nesting habits are the same as those of *P. pubescens*. Found from the Rocky Mountain region of United States to the Pacific, but is much rarer than the Downy is in the East.

362. Red-cockaded Woodpecker — *PICUS QUERULUS*. White, less glossy than those of the other species; four to six in number; size .95 by .70. Nests in holes of living trees, from fifteen to thirty feet from the ground. This bird is found in the pine swamps and barrens of the South Atlantic and Gulf States.

363. Texan Sapsucker — *PICUS SCALARIS*. White, not so glossy as those of the Downy; the average size of eighteen eggs is .81 by .64. Nesting habits exactly the same.

Hab. Southwestern United States and southward; abundant.

366. White-headed Woodpecker — *XENOPICUS ALBOLARVATUS*. Pure crystalline-white, more than usually oblong-oval for a Woodpecker; generally five in number; size .99 by .70. This peculiarly colored species is common in pine woods in Oregon, Washington Territory, and in the mountains of California. Nests in cavities of tall, dead trees or stumps.

367. Black-backed Three-toed Woodpecker — *PICOIDES ARCTICUS*. Pure ivory-white; four to six; size .92 by .72. This species excavates cavities in live or dead trees for nesting places. Breeds from the northern tier of States northward.

Hab. Northwestern North America; south in winter through New England, and generally along the northern tier of States; in the mountains of the West, to about 39° in Nevada and Colorado.

369. Yellow-bellied Woodpecker — *SPHYRAPICUS VARIUS*. Glossy white; four to seven in number, and measure .90 by .75. This beautiful Woodpecker is known to breed from Northern New York northward. Large dead birch-trees in the vicinity of water are usually selected; sometimes tall ash, in which the bird excavates a hole for its nest. The height ranges from ten to fifty feet from the ground or water. The eggs are laid

*Illustrations of the Nests and Eggs of Birds of the United States, with Text. By Thomas G. Gentry. Philadelphia: J. A. Wagenseller. 1881

on a few chips at the bottom of the cavity, the depth of which is about fifteen inches. It is the only Woodpecker to which the term "Sapsucker" can with any propriety be applied. It lacks the long extensile tongue which enables the other woodpeckers to probe the winding galleries of wood eating larvæ, and it is known to feed largely upon the green inner bark of trees.

Hab. The typical form in Eastern North America north to 61°; south to Guatemala, Mexico, Cuba, Bahamas. Var. *S. v. nuchalis*, from the Rocky Mountain region and Great Basin. Var. *S. v. ruber*, Pacific coast region of United States.

369a. Red-naped Woodpecker — *SPHYRAPICUS VARIUS NUCHALIS*. This is an abundant species of the Rocky Mountain region of the United States. In Bull. Nutt. Club, Oct., 1881, pp. 206-207, Dr. Merrill says it seems to be one of the rarest of the family in Montana. A nest found June 12 was a cavity in a dead young cottonwood tree about forty feet in height. The hole was twenty-five feet from the ground, and near the top of the same tree were three similar holes, probably used by the same birds in previous years. The entrance was rather large for the size of the birds. Five eggs were taken from the bottom of the cavity, which was about ten inches deep. These measure .91 by .72, .90 by .73, .93 by .71, .93 by .73, .91 by .73.

370. Black-breasted Woodpecker — *SPHYRAPICUS THYROIDEUS*. As these pages are going into type, I receive from Colorado descriptions of two sets of eggs of this species, and, as far as I can judge, they appear to be authentic specimens. There is not, I believe, a published account of the eggs, and they have not thus far been taken, except in the cases which I shall now cite; and, if future eggs of this Woodpecker prove to be similar to these, the characteristics will be remarkable, and the specimens simply unique for eggs belonging to birds of this family. Mr. Fred. M. Dille, of Greeley, Colorado, has furnished me the following: "In the latter part of June, 1885, set number one was taken. It consisted of six eggs; in size they were somewhat less than those of *M. erythrocephalus*, Red-headed Woodpecker, and rather more elongated, very thin-shelled and delicate. They were irregularly spotted with brown spots, the exact fac-simile of fly-specks; the spots varying in size and somewhat in shade, but all are perfectly round. They readily washed off and left the shell perfectly white. Set number two was taken about the first of July; these were considerably incubated, and the spots were blurred, and in some places entirely rubbed off." Mr. Dille says he cannot give the measurements and the exact dates, as the sets are now in the hands of Mr. Frank H. Lattin, and further says: "I think there is not a shadow of doubt

about either set, as the birds were shot, and identification perfect." Again he says: "The eggs are indistinguishable from those of *S. varius*, only that they are very sparingly and irregularly spotted." Mr. Gordon D. Pearce, of Estes Park, Colorado, also vouches for the same statements, he having taken a hand in collecting the specimens, and the sets now in Mr. Lattin's possession are in his name. They were collected in Larimer county, and found in cavities of trees about twenty feet from the ground. The trees were in remote places, and were dead, or partially so. The eggs were laid on the bare floor of the cavities. We cannot, however, consider the "spots" genuine shell-markings if they will "rub off" by simply washing the specimens in water.

Hab. Rocky Mountains to the Pacific, chiefly in the pine belt—one of the characteristic species, like Clark's Crow, Steller's Jay, etc.

371. Pileated Woodpecker; Logcock — *HYLOTOMUS PILEATUS*. Glistening white; the complement ranges from three to six in number, and are very small in comparison with the size of the bird; the average size being about 1.25 by 1. This large, wild and wary Woodpecker is a common resident in the timbered regions of North America at large. The nest is an excavation dug out by the bird, usually in the main trunk of a high tree situated in secluded woods or swamps. It becomes scarce with the clearing away of forests. Often erroneously called "Woodcock" instead of Logcock.

372. Red-bellied Woodpecker — *CENTURUS CAROLINUS*. White; the number laid ranges from four to six, and the average size 1. by .87. The Red-bellied Woodpecker, known to many as the "Zebra Bird," is very retiring in its habits, selecting the deepest and most unfrequented forests to breed. Its utterance is hoarse, resembling the syllables *chow, chow*. The nesting place is excavated in the dead limb or trunk of a high tree. A common resident in Ohio.

Hab. Eastern United States, somewhat southerly; rarely north to New England; west to the Rocky Mountains; Texas; common southerly, where it is resident, less so northerly where it is migrant.

373. Golden-fronted Woodpecker — *CENTURUS AURIFRONS*. The Yellow-fronted Woodpecker is found in Texas and southward, and is a very abundant species in suitable localities on the Lower Rio Grande; in many places it is more numerous than *P. scalaris*. Its habits and mode of nesting do not differ from those of other woodpeckers of the same size. In places where there is only low chaparral, telegraph poles are completely riddled by this bird. The eggs are usually four in number, sometimes five and six; size about 1.03 by .76.

375. Red-headed Woodpecker — *MELANERPES ERYTHROCEPHALUS*. Glossy white; from four to six eggs are laid, but usually five; size from 1.08 to 1.15 in length by .78 to .90 in width. This bird frequents forests and groves, orchards and solitary trees in fields. The nest varies greatly in position, being located from ten to ninety feet above the ground, but it is usually excavated in the blasted top of a tree. The Red-head, with its "red, white, and blue" colors, is the best known of all the Woodpeckers in the green woods of Ohio.

Hab. Temperate North America to the Rocky Mountains. Now rare in New England.

376. Lewis's Woodpecker — *MELANERPES TORQUATUS*. Crystalline white; four or five; size 1.12 by .95. This bird inhabits the wooded mountainous parts of the West, particularly the pine-belt of the Rocky Mountains, to the Pacific coast of United States and British Columbia. Nests excavated in trees at varying distances from the ground.

377. Californian Woodpecker — *MELANERPES FORMICIVORUS BAIRDI*. White; four or five eggs are laid; the average size is about 1.10 by .95. This is an abundant bird from the Rocky Mountains to the Pacific coast. Nest and habits similar to those of the Red-head; excavated in oaks, red-wood, and other trees.

378. Yellow-shafted Flicker — *COLAPTES AURATUS*. Glossy white; usually six or seven in number, averaging in size 1.10 by .90. In exceptional cases this bird is known to lay a large number of eggs. Between May 4th and June 22d, 1885, Mr. Evermann took from a single nest thirty-seven eggs. In that period of time the bird rested fourteen days. The continued laying of the Flicker has been frequently tested by experiment, for the purpose of determining its laying capacity. Mr. Evermann's bird would doubtless have proved more prolific had the nest not been disturbed by some mischievous boy. In this case the bird, in all probability, began laying April 30th, as the first five eggs were taken May 4th. The following is a complete summary: May 4th, five eggs; 9th, five eggs; 14th, five eggs; 20th, six eggs—all fresh. Here the bird rested four days. On June 2d, seven partly incubated eggs were taken,—one, however, seemed fresh. Here the bird again rested, this time for ten days; and on June 14th, four fresh ones were again taken; and on June 22d, five more, in which incubation was begun. The most remarkable record of this kind which has come under my notice is recorded in the "Ornithologist and Oologist" for January, 1886, by Chas. L. Phillips, of Dighton, Mass. He took one, leaving the other as a "nest egg," and continued to do so day after day, until the female Flicker had laid seventy-one eggs in seventy-three days.

The Golden-winged Woodpecker is a bird of the woodland, and nests in the manner of others of its family; most frequently in a dead trunk at considerable height from the ground. It is generally excavated by the birds, though not unfrequently the eggs are laid within a natural cavity. The bird has several popular names: Yellow-hammer, High-holder, Wake-up, Yucker, and Flicker.

Hab. Eastern North America, keeping pretty straight to the upper Missouri, where it becomes mixed with *C. a. mexicanus*.

378*b*. Red-shafted Flicker—*COLAPTES AURATUS MEXICANUS*. Pure glossy white; eggs and nesting habits same as those of the Yellow-shafted Flicker.

Hab. Western North America, mostly replacing the Golden-wing Woodpecker from the Rocky Mountains to the Pacific.

382. Belted Kingfisher—*CERYLE ALCYON*. Clear shining white, nearly spherical in shape; when the full complement is complete it usually numbers seven, sometimes eight; size 1.35 by 1. A tunnel for the nest four, six or eight feet in length, either straight or elbowed, is dug by the bird in the face of a high bank of a stream and often in a gravel-pit, where also the Bank Swallow is found nesting. The entrance is usually within a couple of feet below the top of the bank. The eggs are deposited in the midst of fish bones. This is the familiar bird whose rattling notes are heard along our streams. It can be seen perched upon the lower branches of a tree overhanging the water, or on the top of a dead stump; these places furnish a favorite outlook, from which it plunges beneath the water to secure its prey.

Hab. North America, common everywhere.

383. Texan Kingfisher—*CERYLE AMERICANA CABANISI*. Pure crystal-white, very thin and smooth, like porcelain; rounded-oval in shape; four to six in number and measure from .90 to 1. in length by .68 to .75 in breadth. Like the bird, considerably smaller than those of *C. alcyon*. Nesting same.

Hab. Valleys of the Lower Rio Grande and Colorado, southward.

385. Road-runner; Chaparral Cock—*GEOCOCCYX CALIFORNIANUS*. Dirty-white; the complement of eggs ranges from two to nine in number, with an average size of 1.55 by 1.20. The Ground Cuckoo, Snake Killer or Paisano, as it is differently called, is a curious bird, noted for its swiftness of foot. It is found in Texas, New Mexico, Arizona and California, southward. It nests in low trees, usually in the low branches of a cactus or in a thorny bush. The structure is thick and clumsy, with but a slight depression for the eggs. The latter appear to be deposited at intervals of several days, and a perfectly fresh egg is often found with one on the point of hatching.

387. Yellow-billed Cuckoo—*COCYZUS AMERICANUS*. Light bluish-green, fading upon the least exposure to light; the green is of the same tint found in the herons' eggs. The number laid seems to vary considerably. If the bird begins incubation as soon as the first egg is deposited as many as six or eight may be dropped during the sitting, at intervals of two to five days. The Road runner has the same habit; and these irregularities appear to be more prevalent among American Cuckoos than is generally supposed. In the case of the Yellow bill young birds of different ages, and fresh and partly incubated eggs to the number of eight may be in one nest. Dr. Jones, in his "Nests and Eggs of the Birds of Ohio," says when incubation does not begin until the complement is completed, as is commonly the case, four eggs, rarely six, make up the set. The average size of twenty-eight specimens is 1.27 by .89. Wherever woods and undergrowth abound the Yellow billed Cuckoo may be seen in the nesting season. The nest will usually be found in a low tree or bush, sometimes it is placed on a brier patch close to the ground. The usual distance, however, is between five and ten feet. It is a slight structure of slender, dried sticks, sometimes twelve to fifteen inches long, but generally much shorter, bark-strips and catkins making up the fabric. Although near relatives of the notorious Cuckoo of Europe, which, like our Cowbird, lays its eggs in the nest of other birds, our Cuckoos generally respect the marriage tie and are not altogether deserving of the stigma of the family name of Cuckoos of the old world, although, when compelled to do so, it does occasionally drop an egg into some other bird's nest. Rain Crow, Rain Dove and "Chow-chow" are its other names.

Hab. Chiefly Eastern United States, more southerly than the Black-bill; also Pacific Coast and Southern Rocky Mountains.

388. Black-billed Cuckoo—*COCYZUS ERYTHROPHthalmus*. Light bluish-green; the complement varies from two to five, but usually four in number, with an average measurement of 1.12 by .83. Mr. Harry G. Parker, in the "Ornithologist and Oologist" for January, 1886, records a nest with six eggs in all stages of incubation. The nests and eggs of the Yellow and Black-billed Cuckoos resemble each other closely, and it is not always possible to differentiate the two. Nests of the former are often found which could not be mistaken for those of the Black-billed on account of the coarseness of the nest, larger size and paler color of the eggs; but the nests and eggs of the latter have no characteristics which might not belong to the former. However, as a rule, the nest of the Black-bill is constructed with more care, the sticks being somewhat smaller, the catkins less numerous, and the whole woven together in a

firmer manner. The eggs are smaller, less elliptical and of a darker green.

Hab. North America to the Rocky Mountains. North to Labrador, more northerly than *C. americanus*, being the commoner species in New England.

392. Carolina Parakeet—*CONURUS CAROLINENSIS*. It is said the eggs of this species are greenish-white and about the size of those of the common Turtle Dove; elliptical in shape, rough in texture, size 1.40 by 1.05. Breeds in companies in hollow trees.

Hab. Southern States; up the Mississippi Valley to the Missouri region; west to Arkansas and Indian Territory; recently Kansas, Nebraska, Iowa, etc.; formerly strayed to Ohio, Pennsylvania and New York, but of late has receded even from the Carolinas. Still abundant in Florida.

394. American Barn Owl—*ALUCO FLAMMEUS AMERICANUS*. Colorless or yellowish-white; nearly equal-ended; average size 1.78 by 1.25. The number laid usually varies from three to six; sets of nine, ten and eleven are frequently taken. P. E. Kent, of Poway, Cal., in the "Ornithologist and Oologist," June, 1885, records a set of eleven, in all stages of incubation, taken from the hollow limb of a sycamore, twenty-five feet from the ground. A. L. Parkhurst, of San Jose, Cal., in the February issue of the same Magazine, mentions these Owls digging burrows in the banks of streams, and that they extended in so far that the eggs could not be obtained. The bird, however, breeds naturally in hollow trees, frequently in barns, or deserted buildings. A scanty supply of sticks, straw or bones and other refuse of the food make up the material of the nest. This bird is a constant resident throughout the southern portions of North America, especially along the sea coast; from the Middle States southward and along the southern coast of California.

Hab. North America and Mexico; not beyond the United States; rarely north to New England.

395. American Long-eared Owl—*ASIO AMERICANUS*. White, elliptical; four to seven in number, and have an average size of 1.60 by 1.32. Three eggs measure as follows: 1.65 by 1.27, 1.59 by 1.33, 1.75 by 1.28. This Owl is a common resident, generally distributed throughout North America at large. Forests of evergreens are favorite resorts of this species for breeding purposes. The nest is constructed with very little art, composed of a few sticks with a more or less complete lining of feathers. Various nesting places are selected; a hollow tree or stump, rift of rock and an old crow's or hawk's nest is often occupied. In some localities they nest on the ground or on low bushes, and the same nest is occupied for several years.

Hab. North America.

396. Short-eared Owl—*ASIO ACCIPITRINUS*. White, elliptical; four to six in number and average about 1.55 by 1.25. The Marsh Owl is something of a ground bird, and is oftener found in low thickets than in high

woods. The hunter often "bags him" as "big game" when he silently rises from a meadow. It is a constant resident throughout North America at large. Nests generally on the ground, without any attempt at nest building, usually collecting together a few twigs, grasses and feathers.

Hab. North America.

397. Barred Owl—*STRIX NEBULOSA*. White, spheroidal in shape; three or four; size 2. by 1.65. This sombre-looking Owl is a common bird in the wooded lands of Eastern United States, chiefly southerly. Swamps, with a growth of tall timber, is its favorite resorts. The Hoot Owl, or Wood Owl deposits its eggs in the cavity of a tree; less frequently it constructs for itself a nest of sticks. The deserted nest of a hawk or crow is sometimes occupied.

Hab. North America, East of the Rocky Mountains, chiefly U. S.

399. Great Gray Owl—*ULULA CINEREA*. Pure white, with surface very smooth; rather oval in shape and small for the bird; ranging from 1.75 by 2. to 1.78 by 2.25, and usually three or four in number. This is the largest of North American Owls, and it is a constant resident north of the latitude of Canada. According to those who have observed the bird, it resembles the Barred Owl in habits, frequenting densely wooded country, hiding in the day time and flying about at night. Dr. Brewer describes the nest as placed in trees, composed of sticks and moss, with a lining of down.

Hab. Northern North America, south in winter to Massachusetts, Illinois and California.

400. Richardson's Owl—*NYCTALE TENGMALMI RICHARDSONI*. White, surface very smooth; two to six in number; size 1.25 by 1.05. This species is rarely seen in the United States, but inhabits the Arctic regions, and it is probably resident in northern Maine, like the Snowy Owl. The nest is built on trees, composed of grass, leaves, etc. Sometimes the eggs are laid in holes of trees, on any loose material that happens to be there.

Hab. Arctic America; in winter south into the northern border of United States.

401. Saw-whet Owl—*NYCTALE ACADICA*. White, chalky in appearance, nearly elliptical; three to six in number; size 1. by .87. The Acadian Owl is the smallest member of the family found in Eastern North America, and it inhabits the United States from the Atlantic to the Pacific, and goes further north into British America and ranges southward in wooded, mountainous regions, into Mexico. Its shrill, harsh notes, resembling the filing of a saw, have occasioned its name. The nest is usually made in the hollow of a tree or stump.

402. Little Screech Owl—*SCOPS ASIO*. Pure white, nearly round; four to eight in number, size about 1.25 by 1.40. In the spring of 1885 a farmer brought me nine young, with the parent birds, which he had taken

from a hollow tree. One of the old birds was gray, the other red, and some of the young were of the red, and some of the gray type of coloration, this being a common occurrence. The Mottled Owl is resident throughout Eastern United States and Canada; west to the Rocky Mountains; on the limits of its range shades into several varieties. The eggs of the different varieties of *Scops* are not distinguishable. The nest of the Little Horned or Red Owl, as it is often called, is made in a hollow tree or stump, sometimes in the topmost corner inside of an old barn or shed. I have found several nests between the broken siding of ice-houses along streams. The materials used are a few sticks, leaves, feathers, etc., on which the eggs are laid.

402*b*. Texan Screech Owl—*SCOPS ASIO MACCALLI*. Eggs and nesting habits are the same as those of *S. asio*. Hab. Texas and south to Guatemala.

405. Great Horned Owl—*BUBO VIRGINIANUS*. Pure white, nearly spherical; size about 2.25 by 1.90. There is a diversity of opinion as to the number of eggs laid by this bird. The number, however, varies from two to five, and this depends upon circumstances. I have frequently had sets of four eggs which were taken in Ohio. A family of four young birds in their light cinnamon brown dress was brought to me in the Spring of 1884. These were taken from one nest in a hollow tree. I have also a set of four eggs of the Dusky Horned Owl, *B. v. saturatus*, collected near Riverside, California. The Hoot or Cat Owl is the largest of all the owls with ear-tufts, and is a common bird throughout North America at large, and has several geographical varieties. The damage done by his depredations upon hen-roosts is well known. With all the wisdom accredited to him, he does not seem to be wise enough to keep away from the steel traps that are set on tall poles in farm-yards, and which so often are the cause of his death or the loss of toes. The nest is placed in the fork of a high tree or in a cavity; sometimes no material is used when in the latter place. Quite frequently they occupy the deserted nests of hawks, which they patch up to suit.

405*b*. Western Horned Owl—*BUBO VIRGINIANUS ARCTICUS*. Eggs and nesting habits same as those of *B. virginianus*. Hab. Boreal and Alpine North America.

405*c*. Dusky Horned Owl—*BUBO VIRGINIANUS SATURATUS*. Eggs and nesting habits same as *B. virginianus*. Four eggs from California measure 2.16 by 1.78, 2.20 by 1.74, 2.25 by 1.76, 2.16 by 1.78. Hab. Pacific Coast.

406. Snowy Owl—*NYCTEA SCANDIACA*. White, oval-oblong, with very smooth surface; five to ten in number; size 2.50 by 1.90. The eggs are

laid at intervals, so that fresh and partly incubated eggs and young may be found in the same nest. This large northern Owl, commonly called the White Owl, nests usually upon the ground and on rocks. It is of regular winter occurrence in the Northern and Middle States, and is resident from the Canadas and probably Maine, northward. In Central Ohio several specimens are taken regularly every winter. A fine, freshly-killed male specimen was sent me from Keyser, Va., November 13, 1885.

Hab. Northern portion of Northern Hemisphere ranging irregularly, southward in winter.

407. American Hawk Owl—*SURNIA FUNEREA*. White, rather spherical in shape; four to seven in number; size from 1.50 to 1.62 in length by 1.20 to 1.30 in breadth. The American Hawk Owl inhabits the northern portions of North America and breeds from Maine northward. The nest is usually placed in trees, often in cavities, sometimes on tall, decaying stumps, or on rocks; it is composed of sticks, lined with hay, grass and feathers. This being the least nocturnal of its tribe is called the Day Owl. It feeds chiefly upon field-mice and other small rodents, hawked for in broad daylight. It has the appearance of a hawk and the soft plumage of an owl. Hab. Northern North America. In winter occasionally south to Pennsylvania and Illinois.

408. Burrowing Owl—*SPEOTYTO CUNICULARIA HYPOGÆA*. Pure glossy white, nearly round; although in a large series any shape may be found, from globular to pyriform. The number of eggs laid varies from four to ten, usually six or eight. Mr. Evermann has a set of eleven which he collected near Santa Paula, California, April 14, 1881, and Captain Charles Bendire, in the "Ornithologist and Oologist," vol. vi, p. 42, mentions an extraordinary set of twelve, taken by one of his correspondents near Carson, Nevada. The average size given by Capt. Bendire in a series of two hundred and fifty specimens is 1.24 by 1.03; the smallest 1.17 by .97, the largest 1.35 by 1.09. The Burrowing Owl, made famous by popular stories of its living in burrows in the ground with rattlesnakes, gophers and prairie dogs, inhabits the treeless regions of western North America from the plains to the Pacific. It is found in all suitable places in Kansas, Colorado, Utah, Nevada, Nebraska, Indian Territory, Wyoming, Dakota, Montana, New Mexico, Arizona, Washington Territory, Oregon and California. They are usually abundant and congregate in large communities, breeding in deserted burrows of quadrupeds, such as the prairie dog, badger, or gopher, and the statements made by travelers that the owls, gophers and rattlesnakes dwell together in harmony has no foundation in fact. It is true, rattlesnakes may enter with the expectation of a good feast of young owls, but they certainly are unwelcomed

visitors. Plate IV is a sectional view of the home of the Burrowing Owl. In some localities it is lined with fine weed-stalks, feathers, bits of skin, etc., as Mr. Fred Corey informed me is the case in the vicinity of Santa Paula, Cal. Capt. Bendire says he never found any other material in the cavity occupied by the nest than broken pieces of horse or cow dung, in Washington Territory. Around the outside may be found bits of skins of gophers, rats, mice, and ears of small rabbits. Mr. Corey says the old birds have the curious habit, when they alight on the ground, of bowing several times in the gravest manner possible, and as nearly like a person as could be expected of a bird.

409. California Pigmy Owl—*GLAUCIDIUM GNOMA*. This rather diurnal little Owl is common in the wooded regions of United States from the Rocky Mountains to the Pacific, and southward. It nests in the hollows of trees, like others of the family. The eggs are white, spherical in shape and have a rough surface, like those of Whitney's Pigmy Owl.

411. Whitney's Pigmy Owl—*MICRATHENE WHITNEYI*. This very curious little Owl, of which few specimens have been taken, is found in Arizona and southward. It nests usually in the deserted excavations of woodpeckers in giant cactus trunks, at a considerable height from the ground. Mr. Brewster, writing on a Collection of Arizona Birds in Bull. Nutt. Club, viii, 1883, describes an egg as broadly ovate in shape and measuring 1.07 by .91. "The shell, which is clear white, is slightly roughened by numerous pores, but it nevertheless has a decided polish. Fresh eggs were found from May 10 to June 27, dates which indicate that the species breeds rather late in the season."

412. White Gyr Falcon—*HIEROFALCO GYRFALCO CANDICANS*. Varying from a creamy-white to yellowish brown, profusely sprinkled with reddish-brown of varying shades, usually so dense as to almost conceal the ground color; two to four in number. All the eggs of the several forms of Gyr Falcon present common characteristics, and do not differ from each other more than eggs known to belong to the same species of hawk are found to vary. This form of Gyr Falcon belongs to Greenland in the breeding season, straying south in winter, but is said not to occur in the United States. The nest is placed in trees or cliffs, rudely constructed, composed of sticks, moss, and sea-weed. Mr. J. Parker Norris, of Philadelphia, whose private collection is a very extensive one, and especially rich in fine sets of eggs of the *Raptors*, has favored me with a large number of detailed notes on the nests and eggs of various Gyr Falcons and others. A

set of three eggs of *H. g. candicans*, collected in Southern Greenland, by G. N. Proctor, May 26, 1884, was taken from a nest on a ledge of rocks. The eggs measure, respectively, 2.14 by 1.81, 2.19 by 1.80, 2.17 by 1.81. The ground color is creamy-white, with the markings of reddish-brown distributed over the surface; in one specimen the specks and spots form an indistinct circle near the large end.

412a. Iceland Gyr Falcon — *HIEROFALCO GYRFALCO ISLANDUS*. This form occurs in Iceland and Southern Greenland, and strays in winter into north-eastern United States. Mr. Norris has a set of two eggs of this bird, collected by Mr. Proctor in Southern Greenland, on the 30th of May, 1884. Incubation was just begun, and the parent bird was shot. The nest was placed on a shelving rock. One of the eggs is marked, over a whitish ground, with small light reddish-brown spots sparingly sprinkled over the surface, confluent at the small end, where they almost obscure the ground color. The rest of the egg has a whitish appearance. The other specimen is heavily marked over the entire surface. Sizes, 2.26 by 1.82, 2.25 by 1.86.

412b. McFarlane's Gyr Falcon — *HIEROFALCO GYRFALCO SACER*. This Gyr Falcon breeds abundantly in the interior regions of Arctic America, where numerous skins and eggs are annually taken. It not infrequently visits the northern States in winter, and it is recorded as even reaching the Middle States. A set of two eggs, taken in the vicinity of Great Slave Lake, is also to be found in Mr. Norris' collection. This was taken with the parent bird, by M. D. Smith, June 4, 1884. The nest was placed on a shelf of a cliff. The ground-color of the eggs is of a light brownish-red, very faintly speckled in a few places with a dark color of umber-brown and red. The surface is much granulated. They measure 2.18 by 1.70, 2.21 by 1.73.

413. Prairie Falcon — *HIEROFALCO MEXICANUS POLYAGRUS*. Cream or pinkish-white, marked with blotches of chestnut and reddish-brown, more or less confluent at either end; two to four eggs are laid. Many writers, however, say two or three. The Prairie Falcon is an abundant bird in western North America, and especially on the plains. It is usually found nesting on cliffs. A set of four eggs, collected by J. T. Clark at Malheur Lake, Oregon, April 28, 1885, measure as follows: 2.32 by 1.74, 2.22 by 1.74, 2.09 by 1.70, 2.09 by 1.77. Incubation had just begun, and the female was shot. The nest was on a high ledge of rock near the lake. This large set is in the possession of J. Parker Norris.

414. American Peregrine Falcon; Duck Hawk — *FALCO PEREGRINUS NÆVIUS*. Creamy-white to reddish brown, spotted, dotted and blotched, with reddish-brown and chocolate of varying shades, sometimes so thickly covered as to obscure the ground; two to five eggs are laid, oftener three or four. The Great-footed Hawk is much noted for its swiftness of flight and great daring; is cosmopolitan in its several geographical garbs; irregularly distributed throughout North America; is not considered common anywhere, and breeds from latitude 38° northward. A fine specimen was killed, a few years ago, in the vicinity of Columbus, Ohio, on the Scioto River. It is not rare in Northern Ohio. The Duck Hawk nests on trees, in their cavities, or cliffs, or on the ground. It follows ducks and other water-fowl in their migrations, pursuing and striking them down while on the wing; and is sometimes very bold, seizing the bird which the hunter has killed, carrying it off when almost within his reach. This imprudent courage often proves fatal to him. A set of three eggs, collected on Resolution Island, Hudson Bay, June 3, 1884, now in Mr. Norris' collection, exhibits the following dimensions: 2.07 by 1.65, 2.18 by 1.70, 2.12 by 1.71.

417. Pigeon Hawk — *ÆSALON COLUMBARIUS*. Varying from a whitish to a deep reddish-brown, spotted, dotted and blotched irregularly and usually very thickly with reddish-brown of varying shades; the eggs resemble those of the Duck Hawk; they vary in size from 1.50 to 1.80 in length by about 1.30 in width; four to six in number. This neat, spirited little Falcon is generally distributed throughout North America. It breeds from latitude 42° northward, and has been recorded as breeding in northern Ohio. It receives its name from its size and color rather than from any habit of preying upon pigeons. The nest is placed on rocky cliffs, on the branches or in holes of trees. Mr. Brewster, (Bull. Nutt. Club, October, 1882,) describes a nest which was built in a dense spruce, and was very bulky, as large as a Crow's, composed chiefly of bark, sticks, and a lining of finer bark and horse-hair.

419. Aplomado Falcon — *RHYNCHOFALCO FUSCO-CÆRULESCENS*. This beautiful Falcon, known also as the Femoral Falcon, is common, and has a wide range in South and Central America; and specimens of the bird, its nests and eggs, have been taken in Southern Texas, along the banks of the Rio Grande. The nest is placed in trees and bushes, composed of twigs and a little grass for lining. Three eggs measure 1.78 by 1.34, 1.84 by 1.29, 1.73 by 1.32. The ground color is white, thickly dotted with reddish; over these are somewhat heavier markings of deeper shades of brown.

420. Sparrow Hawk — *TINNUNCULUS SPARVERIUS*. Reddish, or light buff, blotched and dotted with light and dark brown, at times confluent enough to conceal the ground, and sometimes chiefly confined to the large end; five to seven are laid, usually five, nearly spheroidal in shape; size about 1.33 by 1.12. This beautiful little Hawk is abundant everywhere in North America, and is familiar to every boy who has been in the fields. Here it may be seen hovering almost motionless in mid air, then suddenly swooping down to the ground, arises again with perhaps a field-mouse in its talons. From this habit it receives the name of Mouse Hawk, although it also preys upon sparrows and other small birds. It is found almost everywhere, though most abundant along streams where the high sycamores furnish suitable nesting places, but meadows and fields are its retreats when in search of food. It builds no nest, but deposits its eggs in the natural cavities of high trees, often in the deserted holes of woodpeckers, or in crevices in rocks or nooks about buildings.

423. Caracara Eagle — *POLYBORUS CHERIWAY*. Deep chocolate or reddish-brown, more or less thickly covered with several darker shades of the same; usually two in number; size about 2.28 by 1.84. This bird, intermediate between the eagles and vultures, and resembling both in habits, is a constant resident in Mexico and northward into the United States as far as California, and eastward into Louisiana and Florida. It catches some of its prey living, but feeds readily upon dead animals. Although sluggish at times, it is said to fly well, moving in a direct line, resembling the Black Vulture somewhat, flapping and sailing alternately; but when high in air, circles like a hawk or eagle. The bird has been seen to chase a jackass-rabbit, and constantly gain on it, notwithstanding the animal's sharp turns and bounds. One bird has been seen to catch a snake or field-mouse, when its companions would instantly pursue, and a lively chase would follow, quite different from what is seen among true Vultures. The nests are bulky platforms of small branches, with a slight depression, lined with twigs, roots, and grasses; they are placed in trees and bushes.

425. American Osprey; Fish Hawk — *PANDION HALIAETUS CAROLINENSIS*. Yellowish or creamy-white, spotted and blotched with reddish-brown and umber, so thickly at the larger end as to completely obscure the ground; in a series of two hundred eggs before me, there is a wonderful diversity of coloring; the shapes and sizes also exhibit great variations. Mr. W. W. Worthington, of Shelter Island, N. Y., who has collected hundreds of the eggs of this species, and to whom I am indebted for the large series just mentioned, together with numerous notes, says the largest

set of eggs he has ever taken or seen is four; the usual number, however, is three, though sets of two are common; the size is about 2.50 by 1.75. This winged Fisher is nearly cosmopolitan, and inhabits the entire temperate North America, and breeds anywhere in its range. It is found about inland waters, and particularly along the sea-coast. Mr. Worthington says they are exceedingly variable in the choice of a nesting place. On Gardiner's Island they all build in trees at distances varying from ten to seventy-five feet from the ground; on Plum Island, where a great many breed, a large number place their nests *on the ground*, some being built up to the height of four or five feet, while others are simply a few sticks arranged in a circle, and the eggs laid *on the bare sand*. On Shelter Island they build on the chimneys of houses, and a pair has a nest on the cross-bar of a telegraph pole. Another pair has a nest on a large rock in Gardiner's Bay, near Gardiner's Island. They are made chiefly of coarse sticks and sea-weed and anything that is handy, such as pieces of dry cow-dung, bones, old shoes, straw, etc.

426. Swallow-tailed Kite — *ELANOIDES FORFICATUS*. White, greenish or yellowish-white, spotted and blotched with brown and umber of varying shades; in some, clustered about the large end. The markings are often large and of a rich chestnut and mahogany color. A set of two eggs in the collection of Mr. Norris, and mentioned by him in the "Ornithologist and Oologist" for January, 1886, measure 1.80 by 1.50, 1.88 by 1.48. These were taken in Lavaca county, Texas, April 20th, 1885. There seems to be a diversity of opinion in regard to the *number* of eggs laid by this species. I have received several communications correcting my statement in the first edition of this work, that the bird lays from "four to six" eggs. In making this statement I followed the best authorities, Audubon and Dr. Coues, and I am inclined to think they are not far wrong; but *two* eggs seem to be the usual number. N. S. Goss, in the "Auk," January, 1855, mentions finding in Kansas four nests; three with one egg each; in the other there were two nearly ready to hatch, and the shell of one at the foot of the tree, and says: "But I have it on good authority that in the near vicinity a nest with four and another with six eggs have been found." Mr. J. A. Singley, of Giddings, Texas, says he has never found a nest with more than two, but some of his friends say they have found as many as five. Mr. Norris says he is informed by an experienced collector, who has found the eggs repeatedly, that their number is always two. From these observations we must conclude that this Kite oftener lays *two* eggs, occasionally three, sometimes four, five and six. The beautiful and graceful Swallow-tailed Kite is an abundant summer resident of the Southern

United States north to Virginia, sometimes straying to the Middle States; regularly up the entire Mississippi valley, to Minnesota and Dakota, to latitude 49° . A skin of a fine specimen is before me, which was killed in Fairfield county, Ohio, one mile from Sugar Grove, by Frank Bowers, about July 10th, 1883; another specimen was taken near Pataskala, August 22th, 1878. Previous to these records it has not been heard of in the State since 1858. The nest of this Kite is built at the extremity of small branches near the tops of the tallest trees. The one represented in Plate V is taken from a sketch made on the spot by Mr. Singley. This nest, as represented, is placed in the top branches of a pecan tree; it is composed of sticks and pieces of green moss, some of the moss hanging over the sides, giving it a beautiful appearance when seen from the ground. Outwardly it measures eighteen inches in diameter; depth twelve inches. Two eggs from this nest measure 1.77 by 1.43, 1.81 by 1.45. In other localities the materials for the nest differ, no moss being used. Mr. Singley says the birds are very vicious while nesting; he says he has seen them attack and drive off Owls, Turkey Buzzards, Red-bellied Hawks, Black Vultures, and Crows. On April 25th, 1885, while his collector, Mr. Theodore Thassler, was climbing to the nest represented in the Plate, he was almost knocked out of the tree by the birds; and before he could secure the eggs was compelled to kill the most pugnacious one, which proved to be the male. Unlike the White-tailed Kite, when the nest is disturbed the birds will desert it.

427. White-tailed Kite—*ELANUS GLAUCUS*. Dull, creamy-white, thickly blotched, dotted and tinged with deep chestnut, in some almost completely covering the whole ground; nearly spherical; four to six; this is the number usually given, but four is almost invariably the number of eggs laid. A set of four eggs collected by Mr. B. W. Evermann in the Santa Clara Valley, California, now in my cabinet, measure 1.64 by 1.27, 1.62 by 1.27, 1.69 by 1.27, 1.62 by 1.27. The eggs of the European Kestrel and those of the White-tailed Kite are precisely alike in markings; the eggs of the latter, however, are much larger. The Black-shouldered or White-tailed Kite is distributed throughout Southern United States from the Atlantic to the Pacific, and south to South America. In the East it is found as far north as Southern Illinois; in the west as far north as Indian Territory and Middle California. The nest, like that of the Swallow-tailed Kite, is always placed just as high in the tree as possible; in fact, Mr. Evermann says of all he examined he did not notice an exception; and so slender are the limbs or twigs on which it is placed that he who attempts to climb to it stands about three chances to two of breaking his neck.

The nest is not very substantial, composed of sticks, forming scarcely more than a mere platform, the cavity being so shallow; it is very sparingly lined with the inner bark of the cottonwood, sometimes with straw. When robbed of a first set of eggs another is likely to be laid. Mr. Evermann says the usual time of nesting in the Santa Clara Valley is from April 1 to May 1.

428. Mississippi Kite—*ICTINIA SUBCÆRULEA*. Greenish-white, thickly spotted with deep chocolate-brown and black. (?) Mr. N. S. Goss, in the "Auk" for January, 1885, page 21, describes an egg in an advanced state of incubation as pure white; size 1.70 by 1.35. This was taken from *an old Crow's nest* which the Kite had fitted up with a few extra sticks and green twigs in leaf for lining. The locality was near Neosho Falls, Kansas. The nest, which was in the fork of a medium-sized oak, about forty feet from the ground, had previously been robbed, and, on July 5th, the egg described was taken. The nests of the Swallow-tailed and this one of the Mississippi Kite, which were examined by Mr. Goss and found to contain so few eggs, were on the breeding grounds of the common Crow, which accounts for the robbery and few eggs. This is another of the Kites whose graceful flight is so much admired. Mr. Goss says: "For grace and symmetry of action I would rank them first among the ærial birds, attaching the blue ribbon to the Swallow-tailed." It is confined to the Southern United States, regularly north to South Carolina, Illinois, Kansas and Indian Territory; casually to Pennsylvania, Iowa and Wisconsin; south to Mexico.

429. Everglade Kite — *ROSTRHAMUS SOCIABILIS PLUMBEUS*. Bluish-white, spotted and blotched irregularly with brown and umber of varying shades; one or two in number; rather oval in form; size about 1.72 by 1.45. This Kite is distributed as a constant resident throughout the marshy sections of Middle and Southern Florida and in some parts of South America. Mr. C. J. Maynard, in his "Birds of Eastern North America,*" says: "I have never met with this bird, except on the marshes of the Everglades, where it resides throughout the year; but it also occurs in all the fresh water marshes of Middle and Southern Florida." The nest is placed in bushes, not very bulky, composed of sticks, twigs, weeds, etc. The South American bird, *R. sociabilis*, Dr. Coues says, averages larger and is lighter-colored than the *R. s. plumbeus*.

* The Birds of Eastern North America; with original descriptions of all the species which occur east of the Mississippi River, between the Arctic Circle and the Gulf of Mexico, with full notes upon their habits, etc. By C. J. Maynard; containing thirty-two plates drawn on stone by the Author. Revised Edition. Newtonville, Mass.: C. J. Maynard and Co., 1881.

430. Marsh Hawk—*CIRCUS HUDSONIUS*. Greenish-white, either immaculate or faintly spotted with pale brown or lilac, rather oval in shape; three to six in number, often four or five, and measure from 1.80 to 1.90 in length by 1.38 to 1.45 in breadth. The Marsh Hawk, Blue Hawk or Harrier is distributed throughout the whole of North America. It is one of the most abundant and widely diffused of our birds and breeds from the fur country of Hudson's Bay to Texas, and from Nova Scotia to Oregon and California. It is found especially in swamp prairies or marshy places; here the nest may be found, placed on the ground, which is only a collection of twigs and hay, but from three to six inches in height and a foot or more in diameter. The eggs are sometimes laid on a bed of green moss, with the material arranged in a circular form. The bird may often be seen during the spring and summer months sweeping slowly over meadows and bottom lands in pursuit of mice, birds and large insects. It can readily be recognized by the entirely pure white upper tail-coverts, the male above bluish-ash, whitening below; the female above dark umber-brown.

Hab. North America.

431. Cooper's Hawk—*ACCIPITER COOPERI*. Pale bluish or greenish-white, usually spotted with pale reddish-brown; the eggs resemble those of the Marsh Hawk so closely as to be not certainly distinguishable; three, four or five in number and measure from 1.55 to 1.60 broad to 1.80 by 2.10 long. Cooper's Hawk, or the Chicken Hawk, is distributed throughout temperate North America at large as a summer resident. The nest of this chicken thief is usually placed in high trees; the birds generally build it themselves, but quite frequently a Crow's nest is fitted up, or the nest of some other Hawk sometimes is made to answer the purpose. The two birds of this genus—*A. cooperi* and *A. fuscus*, are perhaps the boldest depredators of the family. They do not hesitate to attack chickens in the presence of their owners; they also feed largely upon small quadrupeds, weasles, squirrels and young rabbits; snakes and reptiles are among their victims.

Hab. Temperate North America and Southward.

432. Sharp-shinned Hawk—*ACCIPITER FUSCUS*. Bluish-white, coarsely spotted and blotched with chestnut and umber of varying shades, spherical in shape; the eggs are so variable in color that it is difficult to give a concise description; four or five; of nearly equal size at both ends and measure about 1.50 by 1.18. This is one of the most abundant of hawks and is distributed at large throughout North America. It is also known by the name of "Pigeon" Hawk, but should not be confounded with *Æsalon columbarius*. The Sharp-shinned is one of the most dashing and daring of the family, frequently and successfully attacking birds of its own

weight. The nest is usually built in the branches of a tree, sometimes on a ledge of rocks. It is made of sticks, hay, moss, leaves and strips of bark.

Hab. Whole of North America South to Panama.

433. American Goshawk—*ASTUR ATRICAPILLUS*. Bluish-white, sometimes faintly spotted with yellowish-brown; size 2.30 by 1.90; three or four in number; the eggs are said not to be distinguishable from those of Cooper's Hawk only by their larger size. This large and handsome Hawk is known to breed from Northern New England northward, and in the mountainous regions of the west as far south as Colorado. The nest is placed in trees, and said to be very bulky, composed of sticks, twigs and weeds, lined with strips of bark and grass.

Hab. Northern North America; the northern half of United States, chiefly in winter, resident in some parts.

434. Harris's Hawk—*ANTENOR UNICINCTUS HARRISI*. White, with a yellowish tinge, sometimes marked with light dashes of yellowish-brown and dottings of purplish-drab; commonly two in number; the average size of six eggs is 2.08 by 1.62. This bird is an inhabitant of the warmer parts of America, extending over our Mexican border. In Texas it is common, especially about the mouth of the Rio Grande. Its habits resemble those of the Caracara Eagle, but it is not so active, and the nests are hardly distinguishable in situation and construction. It subsists entirely on carrion, and may be seen in company with the Turkey Buzzard, Black Vulture and Caracara Eagle. Hab. middle or northern tropical America, from the Isthmus of Panama northward.

436. Red-tailed Hawk—*BUTEO BOREALIS*. Bluish-white, spotted and blotched with brown and umber of varying shades; the eggs are generally three, sometimes two or four in number; size about 2. by 2.40. The Red-tailed Buzzard, in its light and dark geographical forms, is distributed throughout the whole of North America. This one is abundant in the Eastern portion. The nest is placed in high trees; it is large and bulky, though comparatively shallow; made of sticks and twigs, mixed together with corn-husks, grass, moss, and on the inside may be found a few feathers. Sometimes the deserted nest of another hawk is used. Mr. J. Parker Norris, in the "Ornithologist and Oologist" for January, 1886, mentions a nest occupied first by the Great Horned Owl and afterwards by the Red-tailed Hawk, every year; the young owls leave the nest before the hawk is ready to occupy it. This large Hawk is a notorious visitor in barn-yards, and though lacking much of the pluck and dash of the members of most of the preceding genera it has the equally successful quality of perseverance. During the summer they can be seen in pairs soaring high above the woods in which their nest is built, or neighboring fields.

436*b*. Western Red-tail—*BUTEO BOREALIS CALURUS*. Dirty bluish-white, marked more or less over the entire surface with dashes, lines and blotches of a light tint of brown, mixed with lighter purplish-brown. These markings run with the length of the egg; two to four in number, and measure about 2.25 by 1.80. A large series of eggs of the Eastern and Western varieties before me exhibit the same general variations in their markings. The nesting of both birds is the same, but in remote localities the nest is placed on the ledge of a cliff.

Hab. Western North America, especially in U. S., from Rocky Mountains to the Pacific.

436*c*. Saint Lucas Red-tail—*BUTEO BOREALIS LUCASANUS*. The eggs and nesting of this light-colored form of Red-tail are similar to those of *B. borealis* of the Eastern States.

Hab. Lower California.

439. Red-shouldered Hawk—*BUTEO LINEATUS*. Bluish-white, spotted and blotched irregularly with brown and umber of varying shades; the eggs are variable in the style of markings, but are, as a general rule, more highly-colored than those of the Red-tail, and range in size from 2. to 2.30 in length by 1.70 to 1.75 in breadth. The usual number is three or four, sometimes five, and rarely six. The nest is very much the same in character but is somewhat smaller. It is said not to be so long reoccupied by the same birds. This is one of the commonest hawks in the United States, especially in winter, from which it receives the name of Winter Falcon. It also shares the name of "Chicken" Hawk, commonly applied to all the large hawks. Although it does visit the barnyard, its diet is more humble, and it seeks for food in swamps and retired places.

Hab. Eastern United States and British Provinces. Var. *B. l. elegans* westward.

439*a*. Red-bellied Hawk—*BUTEO LINEATUS ELEGANS*. Dingy-white, with a brownish tinge, marked with blotches of an umber color; these look as though they were hastily brushed over lengthwise of the egg; two to four in number; size about 2.10 by 1.76, with the usual variations in color and size. The nest is placed in tall trees, and is essentially the same as that of the Red-shouldered. In Texas, Mr. Singley says this Hawk has the peculiar habit of placing green leaves in the nest. Sometimes the leaves are bruised and often stain the eggs, and by the time incubation is well advanced the nest is half full of green leaves. He says two or three eggs is the usual number.

Hab. Rocky Mountains to the Pacific.

441. White-tailed Hawk—*BUTEO ALBICAUDATUS*. This fine Hawk is a rather common resident on the Rio Grande of Southern Texas and southward. Dr. Merrill mentions two nests which he found May 2, 1878, placed in the top of a yucca growing in Palo Alto prairie, about seven miles



SWALLOW-TAILED KITE AND NEST.

(*Elanoides forficatus*.)

SEE DESCRIPTION NO. 426.

from Fort Brown. The nests were not more than eight feet from the ground, and were good-sized platforms of twigs, with scarcely any lining. While examining these nests, the parents sailed in circles overhead, constantly uttering a cry resembling the bleating of a goat. Each nest contained one egg. The first was fresh; size 2.35 by 1.91; dirty-white, with a few reddish blotches at the smaller end. The second, partly incubated, was like the first, but the blotches were rather sparsely distributed over the entire egg; size 2.35 by 1.85. Mr. Norris, in the "Ornithologist and Oologist" for January, 1886, mentions a nest which was taken near Corpus Christi, Texas, May 2, 1884, placed on the top of a chaparral bush, only seven feet from the ground. It contained two eggs; these measure 2.20 by 1.80, 2.19 by 1.80.

442. Swainson's Hawk — *BUTEO SWAINSONI*. Greenish-white or colorless, sometimes stained with rusty-brown; size about 2.25 by 1.75; one, two, or three in number. In many places of the West this is the commonest and most characteristic of the large hawks. The nest is built almost anywhere; on the ground, the ledges of rocky cliffs, on bushes, and in trees. It is constructed of sticks, roots, and coarse grass, lined with leaves and finer grasses.

Hab. Western North America, from the Mississippi Valley to the Pacific; occasionally eastward through northern States to Canada and New England.

443. Broad-winged Hawk — *BUTEO PENNSYLVANICUS*. Grayish or dirty-white, more or less thickly spotted and blotched with light umber, reddish, yellowish and purplish-brown, with a dull shading approaching black; three to five eggs are laid, measuring from 2. to 2.15 long by 1.70 to 1.72 broad. This is a common Hawk in temperate eastern North America. The nest is built in trees at varying distances from the ground, composed of sticks, weeds and grasses. A fully identified nest with eggs has been taken at Yellow Springs, Ohio, by W. M. Wilson. This was placed in the fork of a moderately high tree.

Hab. Temperate Eastern North America.

447. American Rough-legged Hawk — *ARCHIBUTEO LAGOPUS SANCTI-JOHNIS*. Yellowish or dingy-white, with faint markings and blotches of a purplish-brown, over these are diffused confluent blotches of russet-brown; three to five in number; size from 2.10 to 2.25 long by 1.75 to 1.80 broad. The "Black Hawk" breeds from New England northward, placing the nest in large trees, frequently on a ledge of rocks. It is a bulky structure, composed of sticks, grasses, weeds, and various other materials which are soft and easily matted together. The bird is found in plumage that varies exceedingly. In general, the whole plumage is dark

brown or blackish and light brown, gray, or whitish. From the variegated stages the bird varies to more or less uniform blackish; but in either plumage it is easily recognized by the feathered shank. The Rough-legged Buzzard frequents swamps, marshes and the vicinity of lakes and rivers. It appears to be more numerous near the coast than in the interior east of the Mississippi. It is less active than most Hawks, and approaches the Owls in the habit of hunting by twilight. Its food consists of mice and frogs.

Hab. North America at large; rather northerly.

448. Ferruginous Rough-leg — *ARCHIBUTEO FERRUGINEUS*. This is a common Hawk in the West; its habitat is as far north as to the Saskatchewan country, south to Texas and Mexico, and from the Plains to the Pacific. The nest is placed in trees at various heights, and is very large. Mr. Dille, of Greeley, Colorado, says: "One very fine set of eggs, three in number, was taken April 20th. I was camping out at the time, and within one hundred yards of my camp, in a large tree, was the nest of this species, and I could easily watch these immense birds at their domestic duties. They paid little attention to my presence, and were very noiseless in their demonstrations when I approached the nest; this was composed of large sticks, some three feet in length, lined with tufts of grass and roots. It was about three feet in diameter and two in depth, and situated twelve feet from the ground." Two eggs collected near Estes Park, Colorado, June 3, 1885, now in the collection of J. Parker Norris, measure 2.21 by 1.72, 2.10 by 1.72; they are bluish-white, faintly marked with pale brownish spots. Two or three is the usual number laid; in some, the markings are scarcely visible.

449. Golden Eagle — *AQUILA CHRYSÆTUS CANADENSIS*. Creamy or dirty-white, occasionally immaculate, but usually spotted and blotched with pale reddish-brown, sometimes there is added a faint tinge of purple; subspherical and equal-ended. Dr. Coues gives the measurements of four selected specimens as 2.65 by 2.15, 2.90 by 2.40, 3. by 2.35, 3.10 by 2.25, and says in twelve specimens only one is white, like a Bald Eagle's, the rest are whitish, wholly indeterminately spotted, splashed and smirched with rich sienna and other shades of brown, with neutral-tint shell markings. The eggs are two, three, and sometimes four in number. This far-famed bird inhabits North America at large, but rather northerly, also Europe and Asia. It breeds in mountainous or boreal regions. In this country, the nest is placed on inaccessible rocks, and composed of large sticks, the whole being a massive structure. The same eyrie is occupied by the same pair for many years. Within the last ten years seven specimens

have come into my possession, all having been taken in Central Ohio, in winter or early spring. It is not, however, nearly so abundant as the Bald Eagle.

Hab. North America, northerly. South, ordinarily to about 35° Europe. Asia.

451. Bald Eagle; Gray Eagle—*HALIÆTUS LEUCOCEPHALUS*. White, unspotted; size about three inches long by two and a half broad; commonly two eggs are laid. This great bird is common anywhere throughout North America. Three years are required for it to attain a perfectly white head and tail. The first year the young are very dark colored, and are called "Black" eagles, the second they are "Gray" Eagles, and are usually larger than the old birds. Although the White-headed Eagle has been adopted as the emblem of our country, a far better one might have been selected. It is true he has a noble and bold appearance, but this exists in many of the smaller hawks. His robbing the Fish Hawk of its well-earned prey has made him notorious. His filthy habit of feeding on dead fish, which he finds along the banks of streams, and upon decaying carcasses, should place him on the same level in character with the "repulsive" Buzzard or Vulture. I have skinned and mounted as many as nine Bald Eagles in a winter season, which were killed in Central Ohio with guns or poisoned with strychnine placed on the carcasses the birds were wont to devour. It has been recorded by Dr. Kirtland as breeding near Rockport, Ohio, the nest being placed in a lofty oak, and the birds occupying the same eyrie for many seasons; but of late years we have no record of it breeding in the State, which it doubtless does. The nest is usually built in a tree, and it is probably the largest structure of the kind placed in trees in our country, unless it be some of the augmented hawks' nests.

453. Californian Condor—*PSEUDOGRYPHUS CALIFORNIANUS*. Pale greenish-blue or whitish ground, unspotted; size about 4.50 by 2.50. This large Vulture, whose habits are exactly like those of the common Turkey Buzzard, is restricted to the area of the Pacific coast region as far north as the Columbia River in Oregon. South of this it is more common, and especially in the warm valleys of California. Here it is associated with the Buzzard, often feeding together on the same carcass. Like this bird its flight is easy and graceful, sailing majestically with almost motionless wings, in wide circles at great heights, over a large space of territory, in search of food. The eggs are laid on the ground between old logs, in hollow stumps, in crevices of rocks, with little or no attempt at nest building.

Hab. Pacific coast region of U. S. and southward.

454. Turkey Buzzard—*CATHARTES AURA*. Creamy or yellowish-white, variously blotched and splashed with different shades of brown and usually showing other spots of lavender and purplish-drab; usually two in number, sometimes only one; size about 2.73 by 1.87. The common Turkey Buzzard inhabits the United States and adjoining British Provinces from the Atlantic to the Pacific, south through Central and most of South America, and is resident north to about 40°. Every farmer knows it to be an industrious scavenger, devouring at all times the putrid or decomposing flesh of carcasses. It is essentially gregarious, not only flying and feeding in company, but resorting to the same spot to roost; breeding also in communities and sometimes by single pairs; depositing its eggs on the ground, on rocks, or in hollow logs and stumps, usually in thick woods or a sycamore grove, in the bend or fork of a stream. In a place like the latter a colony of about ten pair made their breeding grounds on the Olentangy river, Ohio, about one mile from Columbus, in May last (1885), and I secured one fine set of two eggs from a hollow stump. The flight of this Vulture is truly beautiful, and no landscape with its patches of green woods and grassy fields, is perfect without its dignified figure, high in air, moving in round circles; so steady, graceful and easy, and apparently without any effort. It rises from the ground with a single bound, gives a few flaps of its wings and soon begins its gyrations, soaring to immense heights. It is a very silent bird, only uttering a hiss of defiance or warning to its neighbors when feeding, or a low guttural croak of alarm when flying low overhead.

455. Black Vulture; Carrion Crow—*CATHARISTA ATRATA*. Yellowish or creamy white, blotched and spotted with very dark brown and umber; two in number; size about 3.25 by 2. This Vulture is very common along our South Atlantic and Gulf States, and is resident from South Carolina southward; in many places it is more numerous than the Turkey Buzzard. Its general traits and nesting habits are the same, breeding in hollow logs, decayed trunks of trees, stumps, etc. In the Southern Atlantic cities the Black Vulture is said to be a semi-domestic bird, and even protected by law. Their services as scavengers in removing offal render them valuable and almost a necessity in Southern cities. Several specimens of this Vulture were observed near Madisonville, Ohio, in December, 1876, and a single one was killed January 1, 1877, in the same place. Its occurrence in Ohio, or anywhere in the Mississippi Valley north of the Ohio river, has heretofore rested solely on Audubon's account of its range which has been quoted by all subsequent writers.

Hab. Chiefly South Atlantic and Gulf States; north regularly to North Carolina, thence straggling to Massachusetts and Maine.

456. Band-tailed Pigeon—*COLUMBA FASCIATA*. Glistening white; two, equal-ended, size about 1.50 by 1.20. The Banded-tailed Pigeon is found from the Rocky Mountains westward to the Pacific. It is common but irregular in distribution. These birds sometimes congregate together in flocks even while breeding, and nest in trees and bushes along the banks of streams, or in the thick forests near water. The nest is a mere platform of sticks, and the eggs are also placed on the ground without any nest, which is sometimes the case with the Mourning Dove, *Z. carolinensis*. White-collared Pigeon is its other name.

457. Red-billed Pigeon—*COLUMBA ERYTHRINA*. Pearly-white, one, and average in size about 1.50 by 1.08. This large and handsome Pigeon is common in the valley of the Rio Grande and southward. In some localities on the Rio Grande in Texas it is found in abundance during the summer months. It loves the deep, dense woods, where it can dwell in quiet and retirement. The nests are frail platforms of twigs and grasses, such as are usually built by other Pigeons, placed in trees and bushes. The eggs are laid in April and May.

458. White-crowned Pigeon—*COLUMBA LEUCOCEPHALA*. Opaque-white; two in number, oval in form, and the surface very smooth; size about 1.40 by 1.05. The White-crowned Pigeon occurs in summer on the Florida Keys, and it breeds abundantly on some of the smaller islands; it is resident in the Bahamas and West Indies. The nest is built in low trees and bushes, composed of twigs carefully arranged, with little or no lining of grasses. It is, on the whole, a bulky structure for a pigeon.

459. Passenger Pigeon—*ECTOPISTES MIGRATORIA*. White; one or two, equal-ended; size about 1.45 by 1.05. The Wild Pigeon wanders in search of food throughout all parts of North America, but chiefly temperate North America east of the Rocky Mountains. At times it is abundant in particular districts. The greatest roosts and flights are now said to be seen in the Upper Mississippi Valley. Of late years it has become rather scarce in localities where it was once formerly abundant; and, in fact, in many places it is now seen only occasionally in small flocks of a dozen or fifteen. Wilson's and Audubon's graphic accounts of the "congregated millions" which they saw in Ohio, Indiana and Kentucky seem hardly credible to those who have not seen them. The extensive forests which once served as breeding and feeding grounds have been partially or wholly destroyed, and we are no longer favored with the sublime sight of immense, unbroken, and apparently limitless flocks. Until about 1855, these Pigeons were extremely abundant in Central Ohio, having at that time a

roost and breeding place near Kirkersville, Licking county, and large numbers were to be seen from sunrise till nine o'clock and after flying westward from the roost, and in the afternoon about four o'clock till sundown returning. At these hours they were never out of sight, and often dozens of flocks were in sight at once. Dr. Kirtland states that near Circleville, in 1850, one thousand two hundred and eighty-five were caught in a single net in one day, and the average price for the birds in Columbus was five or six cents per dozen. The only large flight of Pigeons I have ever witnessed was in the spring of 1872, when different large flocks were passing westward in the morning, and continued in sight about an hour. The Wild Pigeons breed in vast communities, placing the nest in trees and bushes; it is a mere platform of sticks.

460. Mourning Dove—*ZENAIIDURA CAROLINENSIS*. Pure white, elliptical; two in number; size about 1.12 by .82. The Turtle dove is distributed throughout temperate North America; it is to be found everywhere, both in woodland and in open places. During the breeding season they are found in pairs, but at other times are highly gregarious, though flocks of them never attain the size of those of the Wild Pigeon. The nest is placed on the horizontal branches of trees, on stumps, on the top rail of old snake fences, on rocks in bushes, and on the ground. It varies in construction with its location. When placed in small branches of trees it is made of a few sticks, somewhat after the style of the Cuckoo's; but if on a large limb or stump, it is often but a rim of twigs to retain the eggs; when on the ground, a few straws and twigs are used to indicate the nest. The Carolina Dove rears two, sometimes three broods in a season.

462. Zenaida Dove—*ZENAIIDA AMABILIS*. This Dove was found by Audubon only on the Florida Keys. It is resident in the Bahamas and West Indies. The nest is similar in construction to that of the Carolina Dove. The eggs, one or two in number, are pure white, with a very smooth surface; size 1.25 by 1.03. Audubon says it spends most of its time on the ground, and that its habits are not dissimilar to those of the Ground Dove.

464. White-winged Dove—*MELOPELIA LEUCOPTERA*. This is a very abundant bird in suitable localities in Texas, New Mexico, Arizona, Southern California, and southward. "The nests, as a rule, are smaller and more frail than those of the Mourning Dove, and the eggs have a decided creamy tinge, which is rarely lost after blowing, at least not for months. Thirty-four eggs average 1.17 by .88; extremes 1.30 by .95 and 1.05 by

.80." The note of this Dove is a deep sonorous *coo* frequently repeated, and heard at a great distance.

465. Ground Dove—*CHAMÆPELIA PASSERINA*. Bright white or creamy, slightly more pointed at one end than at the other; two is the usual number; size about .87 by .63. The Ground Dove is a common bird in Southern United States, from the Atlantic to the Pacific. It is found as far north as the Carolinas, and casually to Washington, D. C. The nest is small and rather compact, placed on the horizontal branch of a stout bush or tree; and the bird sometimes constructs a roughly-made nest on the ground.

466. Scaled Dove—*SCARDAFELLA INCA*. White; two; size .90 by .70. The nest of this Dove is placed in trees and bushes, varying in heights from five to eight feet from the ground. It is rather compact, and composed of twigs and grasses.

Hab. Mexico to Texas, New Mexico and Arizona, and along the border.

467. Key West Dove—*GEOTRYGON MARTINICA*. According to Audubon, the eggs are two in number, pure white, and about the size of those of the White-headed Dove. The nests are placed in low bushes, or on the ground. This Dove is a constant resident in the West Indies, and occurs in summer at Key West, Fla.; none, however, have been observed at the latter place of late. Mr. Maynard flushed a couple of Doves at Key West in 1870 which he took to be this species.

468. Blue-headed Dove—*STARZENAS CYANOCEPHALA*. It appears that the Blue-headed Quail Dove has been found only by Audubon on the Florida Keys; it is resident in the West Indies. The nest is described as being placed on trees and bushes, and composed of sticks carelessly arranged. The eggs are one or two in number, pure white; size about 1.40 by 1.05.

469. Chachalaca; Texan Guan—*ORTALIS VETULA MACCALLI*. In some localities on the Lower Rio Grande in Texas and southward, this is one of the most characteristic birds. It is a curious bird, and "rarely seen at any distance from woods or dense chaparral; they are abundant in those places, and their hoarse cries are the first thing heard by the traveler on waking in the morning. Their cry consists of three syllables resembling *cha-cha-lac* continually repeated in a loud, hoarse tone. Shortly before sunrise and sunset they mount the topmost branch of a dead tree and make the woods ring with their discordant notes. The nests are shallow structures, often made entirely of Spanish moss, and placed on horizontal limbs a few

feet from the ground. The eggs, commonly three in number, are about the size and shape of common hens' eggs; buffy-white, and are roughly granulated. They are large for the bird; size from 2.18 to 2.35 long by 1.55 to 1.60 broad.

470. Mexican Turkey—*MELEAGRIS GALLOPAVO*. This Turkey is found in Texas, New Mexico, Arizona, and southward; in suitable localities it is found in abundance. The nesting habits are the same as the common Wild Turkey. The eggs are described as resembling those of the domestic turkey in ground color and markings; dark buff or creamy-white, more or less thickly sprinkled with spots of dark umber brown; they measure about 2.40 by 1.80.

470*a*. Wild Turkey—*MELEAGRIS GALLOPAVO AMERICANA*. Rich, dark cream color, thickly sprinkled with rounded spots of rusty-brown or umber. The number laid varies from ten to eighteen. Some writers say ten to twenty and twenty-four, but I have never seen this many in a set. Four typical specimens collected in Morrow county, Ohio, May 10, 1884, measure 2.54 by 2., 2.56 by 1.95, 2.56 by 1.97, 2.69 by 1.94. This is the bird which so very much resembles the domestic turkey, but is more brilliant in color. It is a constant resident in suitable localities throughout Eastern United States. It is said to occur as far north as Canada; is probably extinct in New England, and is found as far northwest as the Missouri River, and southwest as Texas. But this grand bird is rapidly becoming exterminated, not only in New England but in other sections of the country. In Ohio it was formerly an abundant resident, breeding throughout the State; now quite unknown in the more thickly settled portions, but still common in some of the northwestern counties. Dr. Kirtland (1850) speaks of the time when Wild Turkeys were more common than tame ones are now. The nest of the Wild Turkey is made on the ground, hidden in some dense thicket or tangled brush.

471. Dusky Grouse—*CANACE OBSCURA*. Pale cream color, marked all over with small round spots of reddish-brown, but generally more numerous towards the greater end; eight to fifteen are laid; size about 2. by 1.50. The Dusky Grouse is distributed chiefly throughout the wooded and especially the evergreen regions of United States, from the Rocky Mountains to the Pacific. In its habits it resembles the Ruffed Grouse. It nests on the ground, often under shelter of a hollow log or projecting rock, with merely a few pine needles scratched together on which the eggs are laid.

Hab. Rocky and other Mountains of the United States; south to New Mexico; and in the White Mountains of Arizona. Northerly in the Rocky Mountains, shades into the next variety, *C. o. richardsoni*.

471*b*. Richardson's Grouse — *CANACE OBSCURA RICHARDSONI*. Cream color, marked with small dots of reddish-brown, similar to those of the Dusky Grouse; in fact, not distinguishable. Nesting the same.

Hab. Northern Rocky Mountains of United States and northward.

472. Canada Grouse; Spruce Partridge — *CANACE CANADENSIS*. Fawn color, irregularly splashed, dotted and spotted with different tints of brown; eight to fourteen in number; size about 1.70 by 1.20. The shape is characteristic of Partridge eggs; being like those of the Ptarmigan in form, and sometimes resemble them in ground-color and markings. This bird is a constant resident from Northern New England to the Arctic Circle. The nest is placed on the ground, usually in swampy, quiet localities. It is made of twigs, leaves and grasses, and much art is often displayed to conceal it.

Hab. Spruce forests and swamps of Northern United States to the Arctic Seas; west nearly to the Rocky Mountains.

473. Ruffed Grouse — *BONASA UMBELLUS*. Dark cream color, sometimes faintly blotched with a darker shade of the same, or even speckled with brown; size about 1.66 by 1.20. They are from seven to ten in number. The Ruffed Grouse, Partridge or Pheasant is distributed in wooded districts throughout Eastern North America. This is the typical form in United States to the high central plains, in Canada and the interior fur countries, north to Alaska. But the Eastern birds are said to be more or less referable to the Western varieties, *B. u. umbelloides* of the Rocky Mountain Region and *B. u. sabinii* of the Pacific Provinces, from Oregon northward. Like others of its family, this Grouse makes its nest on the ground, between logs, usually in a dense thicket, but wherever placed it is well concealed. It is composed of a few leaves, without any attempt at construction. The "Pheasant" is the game-bird so well known to sportsmen and epicurians throughout United States, but under this name or "Partridge" it is not properly named.

473*b*. Oregon Ruffed Grouse — *BONASA UMBELLUS SABINEI*. I have a set of six eggs of this species, collected in Coos county, Oregon, April 28, 1880. Their color is a rich creamy-white, unspotted. The nest was a hollow of the ground, made by the bird, and lined with leaves; it was situated partly under a fallen tree, and quite hidden by a growth of bushes. The inside diameter of the nest was about six inches, and the depth about four. The eggs exhibit the following dimensions: 1.55 by 1.16, 1.55 by 1.16, 1.55 by 1.16, 1.56 by 1.16, 1.57 by 1.17.

Hab. Pacific coast region from the northern boundary of California to Alaska.

474. Willow Ptarmigan — *LAGOPUS ALBUS*. Cream color, tinged with reddish shading, marked with large, bold and confluent blotches of dark chestnut and mahogany; ten to sixteen; size about 1.80 by 1.20. This Ptarmigan is distributed in summer throughout Arctic America. It breeds abundantly in the valleys of the Rocky Mountains on the barren grounds and along the Arctic coasts. The winter dress of this bird is snow white, with the central tail feathers black, tipped with white. In summer, the head and neck are yellowish red, back black, barred rather finely with yellowish-brown and chestnut; most of the wings and under parts remain white as in winter. The nest of this beautiful bird is made on the ground, composed of a few leaves, weeds, etc., carelessly thrown together.

Hab. Arctic and Northern North America from ocean to ocean, into the northernmost United States.

475. Rock Ptarmigan — *LAGOPUS RUPESTRIS*. Deep reddish-cream color, nearly covered by blotches of reddish chestnut; ten to fifteen or more; average smaller than those of *L. albus*. The summer distribution of the bird is the same. The winter and summer plumage is similar to that of *L. albus*.

Hab. Arctic America, not south to United States.

476. White tailed Ptarmigan — *LAGOPUS LEUCURUS*. The Rocky Mountain Snow Grouse inhabits the alpine regions of Western North America from British America south to New Mexico. In summer it is found on the mountain ranges from the timber-line to the highest peaks; at this season, the upper parts of the plumage of this species are minutely marked with black, white, grayish-brown and tawny, with the tail, wing and lower parts white. In winter the plumage is entirely white. Mr. Dille informs me that it breeds commonly in Lamar and Weld Counties, Colorado, making the nest on the ground under bushes on hillsides. It is composed of leaves and grass. The eggs are from ten to fifteen in number, creamy ground-color, marked very finely over the entire surface with umber brown; size about 1.74 by 1.20.

Hab. Western North America, from Arctic regions South to New Mexico (lat. 37°).

477. Prairie Hen — *CUPIDONIA CUPIDO*. Light clay or dark tawny-brown; sometimes, not always, sprinkled with brown; usually eight to twelve in number; size about 1.75 by 1.23. This well-known game bird was once found throughout United States; at present it is found on the Western plains, east of the Rocky Mountains, in favorable locations in the States that border the Mississippi River on the east. It is a rare resident in Northwestern and Central Ohio. Probably breeds. The nest is made on the ground, composed of a few leaves and dry grass.

Hab. Fertile prairie country of the United States, nearly to eastern foot-hills of the Rocky Mountains in some latitudes—especially Illinois, Iowa, Missouri, eastern half of Minnesota, Southeastern Dakota, Middle and Eastern Kansas and Nebraska, Arkansas and Eastern Texas. Var. *C. c. pallidicincta* from Southwestern prairies. Still lingers in certain localities in the Middle States and New England.

478a. Common Sharp-tailed Grouse — *PEDICETES PHASIANELLUS COLUMBIANUS*. Light clay to a dark rusty-brown, uniformly speckled with fine dottings of darker brown; from six to twelve in number; average size about 1.77 by 1.25. The Pin-tail Chicken inhabits the western parts of Minnesota and a small part of Iowa, the whole of Dakota, across Nebraska and Kansas to northern Colorado and Platte regions; from thence westward in suitable localities to the Sierra Nevada and Cascade Ranges. The nest is placed on the ground, composed of a few dry grasses arranged in a circular form. The bird is esteemed as highly for the table as the Prairie Hen.

479. Sage Cock — *CENTROCERCUS UROPHASIANUS*. Light greenish-drab to a drab shaded with buff, thickly freckled with small rounded spots of reddish-brown and dark chestnut, very much resembling the eggs of the Turkey; six to fifteen in number; size about 2.20 by 1.50. The Sage Hen, Sage Grouse, or Cock of the Plains inhabits the sage-bush regions of the West. It is to be found in these places in the territories of Wyoming, Montana, Idaho and Arizona. They are also to be met with in abundance in Colorado, Utah, Nevada, Eastern California and Oregon; in fact, it is a characteristic species in the barren sage-bush regions from the Eastern slopes of the Rocky Mountains, south into New Mexico and Arizona, north to about 49°, wherever the march of civilization has not destroyed their favorite food, the leaves of the wild sage. The nest is but a mere hollow in the sand among the large and small sage-bushes; it is furnished with a few blades of long, dry grass and small twigs. This is the largest of the American Grouse.

480. Bob-white; American Quail — *ORTYX VIRGINIANA*. Pure white; fifteen to twenty-five, pointed at one end and very blunt at the other; size about 1.30 by 1. The celebrated game bird of this country, found in Eastern United States, from Florida to Maine and from the Atlantic to Texas; in the two southern extremes of its habitat it is found in two light and dark climate varieties. The nest is placed on the ground, lined with a few leaves and a little grass. It is hidden beneath the shelter of overhanging grass, weeds or bushes; often under a heap of brushwood and at the side of logs in thickets.

Hab. Eastern United States. North to Massachusetts and slightly beyond; Canada West; Minnesota. West to High Central Plains. Up the Missouri to White River. Salt Lake Valley, introduced. Var. *O. v. texana*, in Texas. Var. *O. v. floridana*, in Florida, and very similar specimens up the Mississippi Valley to Southern Illinois. Introduced in Bahamas and Santa Cruz.

480a. Florida Quail — *ORTYX VIRGINIANA FLORIDANA*. Eggs and nestings same as those of *O. virginiana*; the colors of the bird are darker.

Hab. Florida, with similar specimens from the lower Mississippi Valley.

480*b*. Texan Quail — *ORTYX VIRGINIANA TEXANA*. Eggs smaller than those of *O. virginiana*; nesting the same. Color of the bird paler than that of *O. v. floridana*.
Hab. Texas.

481. Mountain Quail — *OREORTYX PICTA*. Cream color with a reddish tint, distinguished from those of the Ruffed Grouse by their smaller size; six to twelve are the usual numbers laid; size about 1.45 by 1.15. The beautiful Plumed Partridge, which is much larger than our Bob-white, inhabits the mountainous regions of Oregon, California, and Nevada. The nest is made on the ground. Mr. Otto Emerson informs me that this species nests in the higher mountain ranges, not much below 4,000 feet.

482. Californian Quail — *LOPHORTYX CALIFORNICA*. Creamy-white, marked with scattered spots of chestnut-brown, golden-red, and sometimes light drab; the number ranges from eight to twenty-four; size about 1.25 by 1. In shape they are like those of *O. virginiana*. The Californian Partridge or Valley Quail inhabits the lower portions of California and Oregon, where it is very abundant, and also Eastward nearly to the Colorado River. The nest is made on the ground and it is often found in curious places. Mr. Emerson says it is sometimes placed in the garden, within twenty feet of the doorway; he saw eggs of this Quail laid in the nest of chickens that had hidden their nests in a barn-yard, and it is commonly found under hedges, bushes, brush-heaps; even in the grass by the wayside.

483. Gambel's Quail — *LOPHORTYX GAMBELI*. Creamy-white, marked with spots of chestnut-red and golden-brown, like the California Quail; eight to sixteen in number; size and shape the same. Nest like that of any other partridge. This is a characteristic game bird of Arizona and New Mexico, and it is abundant on mountains and in valleys. It is found as far east as Western Texas, west to the Colorado River, north to Southern Utah. In Texas it is replaced by the Massena Quail.

484. Scaled Quail — *CALLIPEPLA SQUAMATA*. Creamy-white, speckled with dots of grayish or drab, sometimes reddish; eight to sixteen in number; size 1.25 by .98. The nesting habits are the same as the other partridges. The beautiful Blue Quail is distributed throughout Texas, New Mexico, Arizona and southward, but is far less numerous than the crested quails.

486. Great White Heron; Wurdemann's Heron — *ARDEA OCCIDENTALIS*. Light bluish-green, rather elliptical in form, unspotted; size from 2. to 2.45 long by 1.80 to 1.85 broad. This beautiful, majestic bird

known as the Florida Heron breeds on Florida Keys, but is said not to be so abundant as in former years. It usually breeds in colonies, and in company with the Great Blue Heron. The nests are generally built low, not more than five feet from the ground, sometimes in high mangroves. They are simply a platform of sticks, like the nests of other herons. The birds begin to lay in February.

Hab. Southern Florida. Cuba. Jamaica.

487. Great Blue Heron — *ARDEA HERODIAS*. Greenish-blue, unspotted, varying from elliptical to oval in form; three to six eggs are laid, commonly three or four; size about 2.50 by 1.50. As with other Herons, this one breeds in communities, and many nests may be found in an area of a few rods. The nests of this species are placed in high trees or bushes, in sycamores along rivers, but generally in retired and almost impenetrable swamps. In localities destitute of trees, the nest is placed on rocks. When these birds are disturbed while nesting they will fly overhead and utter their hoarse *honks* and guttural cries. It breeds in suitable places throughout its range. It is often erroneously called "Sand-hill Crane."

Hab. North America; north to Hudson's Bay and Sitka; south to Guatemala and Galapagos. West Indies. Winters in the South.

489. American Egret — *HERODIAS ALBA EGRETTA*. Blush-green, unspotted, varying from elliptical to oval; two to four in number, and measure from 2.20 to 2.35 long by 1.40 to 1.65 broad. The Great White Egret is distributed in summer from New Jersey southward. It is one of the most abundant of the Herons in Florida, where it nests about the middle of March, placing their domiciles in trees or bushes not far from the ground. The nest is simply a platform of sticks.

Hab. United States, southerly, straggling northward to Nova Scotia, Canada, Minnesota, Etc. West Indies. Mexico. Central and South America.

490. Snowy Heron — *GARZETTA CANDIDISSIMA*. Pale greenish-blue, unspotted, varying from elliptical to oval in form; the eggs are from two to five in number, and measure from 1.80 to 1.85 long by 1.20 to 1.25 broad. The Snowy Heron, or Little White Egret, is distributed in summer from New Jersey to Key West, throughout which range it breeds, and winters in Florida. The nest is placed in trees or bushes, composed of sticks, loosely arranged.

Hab. United States, southerly. California. North regularly to the Middle States, casually to New England and Nova Scotia.

491. Reddish Egret; Peale's Egret — *DICHROMANASSA RUFA*. Light bluish-green, unspotted, somewhat elliptical in form; two to four in number; size from 1.85 to 2. long by 1.40 to 1.50 broad. The Reddish Egret is confined strictly to the Gulf States, where it is resident, and very abundant.

It breeds in communities with other species, the nest being simply a platform of sticks, loosely arranged, placed in trees and upon low bushes, and sometime on the ground.

492. Louisiana Heron — *HYDRANASSA TRICOLOR LUDOVICIANA*. Bluish-green, unspotted, varying from elliptical to oval in form; two to four; size from 1.75 to 1.80 long by 1.30 to 1.40 broad. The Louisiana Heron is distributed in summer from the Carolinas to Key West, and it is resident along our Southern Gulf Coasts. It breeds in communities, placing the nest in trees or bushes; it is composed of sticks loosely arranged.

Hab. South Atlantic and Gulf States, chiefly maritime, rarely north to the Middle States.

493. Little Blue Heron — *FLORIDA CÆRULEA*. Dark Bluish-green, unspotted; two to four, of the usual shape; size from 1.60 to 1.82 in length by 1.25 to 1.35 in breadth. The Little Blue Heron is an abundant resident of the South Atlantic and Gulf States, and is often found as far north as the Middle States in summer, and casually to New England. The nest of this species, like others, is placed in trees or bushes, composed of sticks inartistically arranged, and forming nothing more than a mere platform for the eggs. The young of this Heron are *pure white*, and should not be confounded with immature specimens of *G. candidissima*, Snowy Heron, which is of the same size, and similar form. I have frequently had skins of the Young Little Blue Heron sent me for those of the Little White Egret. The tips of the primaries and the top of the head of the former are, however, tinged with blue, by which it is distinguished from the latter, as well as by the bill and feet, though at first the legs are greenish-blue with yellowish tinge.

494. Green Heron — *BUTORIDES VIRESCENS*. Light greenish-blue, unspotted, elliptical; three to six, four being the usual number; size 1.37 by 1.15. The nest of this Heron is placed in trees or bushes, on the border of a stream or near a swamp, sometimes in an orchard at a distance from water. The Fly-up-the-Creek is distributed throughout United States generally, and breeds anywhere in its range. It winters in the South and beyond. Notwithstanding the vulgar name by which it is so well known it is a pretty bird, and as clean and interesting as any of those of immaculate plumage with magnificent trains of long fastigated feathers.

495. Black-crowned Night Heron — *NYCTIARDEA GRISEA NÆVIA*. Pale bluish-green, unspotted, varying from elliptical to oval; three to five; size from 1.90 to 2.15 long by 1.35 to 1.55 broad. Mr. M. B. Griffing, of

Shelter Island, New York, who has collected large quantities of these eggs from the heronry on Gardiner's Island, says that four is the usual number laid. Out of all the sets that he and Mr. Worthington had collected for three years there were but four sets containing more than four eggs; these were three of five and one of six. The Qua-bird or Squawk, as it is sometimes called, is distributed in summer throughout the United States from the British Provinces southward. It breeds abundantly in New England, wintering from thence southward to Florida. This species like others breed in communities; hundreds, and even thousands, colonize and form extensive heronries. Tall trees are usually selected for the nesting sites, and they are not always easy of access. The nests are bulky platforms of twigs, and considerably hollowed. Mr. Griffing says as many as four nests were found in one tree, all containing eggs. Mr. Delos Hatch, of Oak Center, Wisconsin, says that this bird in that locality nests on the ground in a large marsh, miles from any bush or tree, the nests being made of cat-tails, flags, and long grasses.

496. White-crowned Night Heron—*NYCTHERODIUS VIOLACEUS*. Greenish-blue, unspotted, varying from elliptical to oval; two to four; size from 1.90 to 2. long by 1.40 to 1.50 broad. This Heron is distributed in summer from the Carolinas southward, but it is not abundant, and is confined chiefly to the coast. Occasionally it strays north to the Middle States. A constant resident in Florida. The nest is built as usual in trees and bushes, and the birds congregate in communities to breed. Yellow-crowned Night Heron is its other name.

497. American Bittern—*BOTAURUS LENTIGINOSUS*. Brownish-drab with gray, unspotted, elliptical; three to five; size from 1.90 to 2. long by about 1.50 broad; This noted bird is known by various names, such as Indian Hen, Stake Driver, Bog-bull, and Thunder Pump. It inhabits the entire temperate North America, north to 58° or 60° , and breeds chiefly from the Middle districts northward, wintering thence southward. The name last mentioned is occasioned by its hoarse, gurgling cry of alarm, and the bird is often spoken of by the poets as the "booming bittern." In the breeding season it has a love-note that resembles the stroke of a mallet on a stake, *chunk-a-lunk-chunk*, *quank-chunk-a-lunk-chunk*. This bird inhabits almost impenetrable swampy places: the bog, the reedy marsh, and the tangled brake, where its nest is placed on the ground.

498. Least Bittern—*ARDETTA EXILIS*. Pale blue, or rather bluish-white, unspotted, elliptical; three to five; size about 1.92 by 1.22. This neat little Bittern is distributed throughout the United States and British

Provinces, breeding in its entire range. Like the last, it inhabits reedy swamps and marshes where the quagmire abounds with a luxuriant growth of rushes, which is also the home of the Rails. The nest is placed on the ground or in the midst of the rankest grass, or in a bush. It is simply a platform of dead rushes. When this little bird is standing on the edge of a stream, with its neck drawn in, it is often taken for a woodcock; the long bill giving it this appearance.

500. Wood Ibis — *TANTALUS LOCULATOR*. Chalky-white, sometimes spotted with pale reddish-brown, somewhat elliptical; the shell is rough, with a flaky substance; two or three eggs are laid; but almost invariably three; size from 2.70 to 2.75 long by 1.70 to 1.75 broad. The American Wood Stork or Colorado Turkey, as it is sometimes called, inhabits the South Atlantic and Gulf States north to the Carolinas and across in corresponding latitudes to the Colorado River, where it is abundant; it is found as far up the Mississippi as Southern Illinois; casually straying to Pennsylvania and New York. An abundant resident of the Southern States where it frequents thickly wooded swamps and bayous, breeding in large communities, placing the nest in high trees. It is a platform composed of sticks loosely arranged.

501. White Ibis — *EUDOCIMUS ALBUS*. Ashy-blue, spotted and blotched irregularly with yellowish, reddish and umber-brown of varying shades; two or three in number, and measure about 2.25 by 1.60. The White Ibis or Spanish Curlew is distributed in summer throughout the South Atlantic and Gulf States from the Carolinas southward. Stragglers wander even as far north as New England. It winters in Florida. This Ibis breeds in communities by thousands in the tangled marshes of the southern coast; fastening the nest to broken down or upright living reeds; it is composed of reeds compactly woven together, is deep and much hollowed, which is unlike the frail platform nests of the Herons.

502. Scarlet Ibis — *EUDOCIMUS RUBER*. Bluish, covered with white calcareous deposit, oval; two eggs are generally laid; size about 3.25 by 2. This beautiful bird inhabits South America and the West Indies and is accidental in the United States. It nests on the ground in marshy places.

503. Glossy Ibis — *PLEGADIS FALCINELLUS*. Deep greenish-blue, unspotted; the number of eggs laid is two, three or four; size from 1.85 to 2.15 long by 1.38 to 1.50 broad. This Ibis is found occasionally anywhere east of the Mississippi River, especially southerly, sometimes straying north to Massachusetts and Ohio. There is probably only one record of its being

taken in Ohio—that of Dr. Kirtland's in 1850. Two specimens were seen and one was taken near Fairport, Lake County. This species breeds in marshy places, placing the nest in the reeds and rushes.

504. White-faced Glossy Ibis — PLEGADIS GUARAUNA. This beautiful, lustrous Ibis inhabits southwestern United States and south into tropical America. It is found as far north as Kansas, west through New Mexico and Arizona to California. It is especially abundant in southern Texas; and in some localities along the banks of the Rio Grande swarms by thousands. At this place Dr. Merrill, on the 16th of May, 1877, visited a large patch of tule reeds growing in a shallow lagoon, about ten miles from Fort Brown, in which large numbers of this Ibis and several kinds of Herons were breeding. The reeds covered an area of perhaps seventy-five acres or less. Besides the Ibises, the Great and Little White Egrets, Louisiana and Night Herons, and several other birds were breeding here. The reeds grew about six feet above the surface of the water, and were either beaten down to form a support for the nests, or dead and partly floating stalks of the previous year were used for that purpose. He says it was impossible to estimate the number of the Ibises and different Herons nesting here, and further says: "Both nests and eggs of the Ibises were quite unlike those of any of the Herons, and could be distinguished at a glance. The nests were made of broken bits of dead tules, supported by and attached to broken and upright stalks of living ones. They were rather well and compactly built, and were usually well cupped, quite unlike the clumsy platforms of the Herons. The eggs were nearly always three in number, and at this date were far advanced in incubation; many of the nests contained young of all sizes. Fifty eggs now before me average 1.95 by 1.35, the extremes being 2.20 by 1.49 and 1.73 by 1.29; they are decidedly pointed at the smaller end, and are of a deep bluish-green color."

505. Roseate Spoonbill—AJAJA ROSEA. Ashy-white, spotted and blotched rather sparsely with a reddish-brown, nearly elliptical in shape, usually three in number; size about 2.56 by 1.80. The Roseate Spoonbill inhabits the South Atlantic and Gulf States, and southward into Tropical America. It is a constant resident in Florida and is rare as far north as the Carolinas. In vol. 1, "Random Notes," there appears a very interesting article entitled: "The Roseate Spoonbill in Florida Rookeries." The writer found them breeding in a cypress swamp in which grew numerous small trees and large bushes. In this herony was also found breeding the American Egrets, Snowy Herons, Great Blue, Louisiana and Little

Blue Herons, White and Black-crowned Night Herons, the Snakebird, White Ibis and others, the whole making up a scene which one might expect to see in a tropical clime, in the midst of a dismal swamp. The first nest of the Spoonbill that was found was situated about eight feet from the ground and contained three eggs. The writer says that the nests of the Spoonbills, Herons, and Snakebirds are all made nearly alike. In eight nests of the Spoonbill four contained three eggs each, one two eggs and one young, two others four eggs, and another five. The nest which contained the five eggs was placed about twelve feet high. He says the set of five is probably the largest known and the measurements are given as follows: 2.56 by 1.76, 2.54 by 1.71, 2.53 by 1.79, 2.49 by 1.79 and 2.43 by 1.83. One pure white egg was taken from a bird, and in the next rookery visited an immaculate one was taken from a nest that had a spotted one for a companion, and one or two others obtained were sparingly spotted. In size and shape they resemble the Wild Turkey's eggs.

507. American Oystercatcher — *HÆMATOPUS PALLIATUS*. Creamy or white, spotted and blotched irregularly with varying shades of brown, rather oval in shape; two or three, rarely four in number; size from 2.12 to 2.30 in length by 1.50 to 1.62 in breadth. The Brown-backed Oystercatcher breeds along the coast from Florida to New Jersey. It breeds abundantly but irregularly in different localities. There are extensive breeding resorts along the coast of Virginia. The nest is simply a hollow in the ground supplied with a little grass, etc.

Hab. North, Central and South America almost entirely along the coast, chiefly the Atlantic, but also on the Pacific.

508. Black Oystercatcher — *HÆMATOPUS NIGER*. The eggs and nesting of this bird is similar to those of *H. palliatus* of the Atlantic coast.

Hab. Pacific Coast.

509. Turnstone — *STREPSILAS INTERPRES*. Greenish-ash, spotted, blotched and dotted irregularly and thickly with yellowish and umber-brown; two to four; abruptly pyriform in shape and average about 1.55 by 1.15. This bird, so easily recognized by its conspicuous colors, has received the name of "Calico-back." It breeds throughout Arctic America, wintering from the Carolinas southward. In the Hudson's Bay country the eggs are laid in June; the nest is nothing but a hollow scratched in the earth, lined with bits of grass. Brant Bird is another name for it.

Hab. Sea coasts of nearly all countries. Less frequent in the interior.

510. Black Turnstone — *STREPSILAS MELANOCEPHALA*. The nesting and eggs of the Black-headed Turnstone are the same as those of *S. interpres*

Hab. Pacific Coast.

513. Black-bellied Plover — *SQUATAROLA HELVETICA*. Brownish-drab or clay color, thickly and heavily marked with spots and blotches of brownish-black, often confluent and sometimes very irregular at the greater end; pyriform; four in number; size from 1.40 to 1.45 broad by 1.90 to 2.30 long. This bird is known by several different names: Ox-eye, Whistling Field Plover, Bull-head Plover and Swiss Plover. In America it breeds in the Arctic regions and possibly further south on the Pacific coast; flocking south and north in fall and spring. The nest, like that of all members of the order so far as known, is placed on the ground—the eggs being laid in a depression of the soil.

Hab. Nearly cosmopolitan.

515. American Golden Plover—*CHARADRIUS DOMINICUS*. Deep chocolate-brown, spotted and blotched irregularly with confluent markings of varying shades of brown; two to four in number; size about 2.10 by 1.40. The eggs look very large for the size of the bird. Nest composed of a few leaves within a natural cavity of the ground. This bird breeds in the Arctic regions. It inhabits North America at large, passing north and south in spring and fall. In the latter season it is well known to the gunners, and it is generally highly esteemed for the table on account of its size, abundance and other qualities. The Golden Plover has a number of names, some of which are also applied to the Black-bellied: Field Plover and Bull-head.

516. Killdeer—*OXYECHUS VOCIFERUS*. Drab or clay-color, thickly spotted and blotched with blackish-brown and umber, small end quite pointed, as is usually the case with all eggs of birds of this order; the eggs are generally four in number, measuring from 1.50 to 1.60 long by about 1.10 broad. This familiar bird whose notes, *kil-deer, kil-deer*, are heard in the day-time and often in moonlight nights, more frequently during the breeding season than at any other time, is very abundant in North America at large, breeding anywhere. The nest is placed on the ground, usually in the vicinity of a stream or pond, and often on an elevated spot in the grass. It is merely a slight depression of the ground. The bird frequents both high and low grounds, pastures and fallow fields as well as borders of streams.

517. Semipalmated Plover — *ÆGIALITES SEMIPALMATUS*. Varying from greenish to yellowish-ash, spotted, blotched and dotted with varying shades of brown; pyriform; scarcely distinguishable from those of the Killdeer, excepting in size; length 1.20 to 1.40 by .90 to .95 in breadth; two to four in number. The Ring Plover or Ring-neck is abundant, and is gener-

ally diffused throughout the whole of North America, breeding in the far north. It has, however, been recorded as breeding in Massachusetts, and both young and old birds have been taken near Chicago, Ills., in July. Its habits resemble those of the Killdeer, and its note is a soft, mellow whistle. Nesting the same as the Killdeer.

520. Piping Plover — *ÆGIALITES MELODUS*. Clay or creamy-brown, marked nearly uniformly all over, but sparsely, with small, blackish-brown dots and specks, but no spots or irregular lines. The dottings are sometimes extremely fine, mere points, mingled with a few obscure shell-markings of lilac and lavender; the eggs are almost exactly like those of Wilson's Plover but are smaller, averaging as Mr. Capin states in "Oology of New England," about 1.28 by .92. Four is the usual number. This species is abundant in summer along the Eastern coast of United States, breeding from the Carolinas as far north as the Gulf of St. Lawrence. The eggs are laid either upon the bare sand or upon a few pieces of dry grass or sea-weed carelessly thrown together.

Hab. United States and British Provinces, east of the Rocky Mountains. Abundant along the Atlantic coast of U. S., breeding north to the St. Lawrence, and wintering from the Carolinas southward.

521. Snowy Plover — *ÆGIALITES CANTIANUS NIVOSUS*. The Snowy Ring Plover inhabits the United States chiefly west of the Rocky Mountains. It is a constant resident along the California coast, and a specimen has been taken on the coast of Texas in the latter part of June. Mr. W. Otto Emerson, of Haywards, California, informs me that it nests along the sandy beaches of the ocean coast, and says he has no doubt that it breeds along the bay beach, as he shot the young there in June. The eggs are three in number, in ground color and markings they very much resemble Wilson's Plover, but the markings are more numerous and scratchy; about the size of the eggs of the Piping Plover, *melodus*, 1.20 by .90.

522. Wilson's Plover — *OCHTHODROMUS WILSONIUS*. Wilson's Plover is common along the sea-coast of the South Atlantic and Gulf States. It is found along the Eastern coast, but rarely beyond New Jersey. It is also one of the "beach birds" and may be found in company with others of the genus *Ægialites*. The eggs are deposited in a hollow of the loose pebbles of the beach; they are usually three in number. The ground color is a pale olive-drab or clay-colored, some have a greenish tint, marked all over with blackish-brown, well defined spots, small splashes and fine dots. Size from 1.30 to 1.45 long by 1. to 1.05 broad.

523. Mountain Plover — *PODASOCYS MONTANUS*. Olive-drab with a brown shade, finely and thickly dotted with very dark brown and black,

the markings not larger than a pin's head; size from 1.40 to 1.50 long by 1.10 to 1.12 broad. This Plover seems to have been badly named, for it certainly is a prairie bird, inhabiting the most barren prairies as well as the watered regions of the Western United States, from the plains to the Pacific. It can readily be recognized by its large size, the lack of rings on the breast, with the uniform, pale yellowish-brown above. It is quite independent of water, and is said to be not the least aquatic, even on the Pacific coast; it frequents the plain, never the marsh or beach. Nests anywhere on the prairie in June and July. Mr. C. J. Maynard is credited with having taken the first and only specimen of this bird east of the Mississippi, at Key West, Florida, in December, 1870. It is also called "Prairie Plover."

525. American Woodcock—*PHILOHELA MINOR*. Creamy or buff, irregularly and thickly spotted with pale, reddish-brown of varying shades; pyriform, but more rotund than those of most of the small waders, and some are quite broad, varying from 1.40 to 1.55 long by 1.15 to 1.20 broad. The usual number of eggs is four. This noted game bird frequents the bogs, swampy fields, and wet woodlands of Eastern United States and Canada, and breeds throughout its range. The nests are mere depressions in some dry spot in swampy land, generally under the cover of a clump of briars or other wild shrubbery, often in more open places. The eggs of the Woodcock are laid early in April, and in some localities not until sometime in May. In Ohio, I have found eggs as early as April 3, and young have been seen as early as April 9, near Cleveland, Ohio. There are records of eggs of this species averaging in size 1.80 by 1.25, but I have never seen any so large, although they exhibit considerable variations. The Woodcock is often called "Bog Sucker," from its habit of boring in the mud for worms and animalculæ of which its food consists.

Hab. Eastern United States and Canada. North to Nova Scotia; northwest to Minnesota; Fort Rice, Dakota; west to Kansas, Nebraska, Indian Territory and Texas.

526 a. Wilson's Snipe—*GALLINAGO MEDIA WILSONI*. Varying from a grayish-olive to greenish-brown and yellowish-ash, spotted and blotched with reddish-brown, umber, and sometimes with lines of black; the markings are bold and numerous, particularly on the larger end, usually also sharp scratchy lines of blackish and shell-spots, hardly noticeable. The shape of the eggs is pyriform; three or four in number; size from 1.50 to 1.60 long by 1.05 to 1.10 broad. This favorite game bird, well-known as the Jack Snipe, breeds from Northern United States northward. It is found in open and marshy places in North America at large, but through-

out the greater part of the United States it occurs only during the migrations. In winter it goes south into South America, though many remain in the States. The nest is only a slight depression in the grass or moss of a bog. It has been erroneously called "English" Snipe, for it is a native of this country, and distinct from any European species, though resembling two of them, *G. media* and *G. gallinula*.

527. Red-breasted Snipe; Gray Snipe — *MACRORHAMPHUS GRISEUS*. The eggs of this species cannot, with certainty, be distinguished from those of Wilson's Snipe; four eggs is the usual complement laid; they are generally long, narrow, and pointed in shape, measuring from 1.62 to 1.75 long by 1.10 to 1.15 broad. This variety of the Red-breasted Snipe is supposed to inhabit Eastern North America. It breeds in high latitudes, even to the Arctic coast of North America. On the Atlantic coast it may be seen on the shores in small flocks during the migrations. It is chiefly migratory in the United States, but winters in the south, Mexico, West Indies and Central America. Nests in a depression of the ground. Brown-back and Dowitcher are other names for it.

527a. Red-bellied Snipe; Greater Gray-back — *MACRORHAMPHUS GRISEUS SCOLOPACEUS*. This bird, whose size is larger and bill longer than those of the last, inhabits North America at large, but is supposed to be rare on the Atlantic coast. Breeds in the far north. In the West the birds gather in dense flocks, and they being of a gentle and confiding disposition and so closely huddled together that great slaughter may be effected by the gunner if so disposed. Eggs and nesting same as the last. It is also called Western Dowitcher and Greater Long-beak.

529. Knot; Robin Snipe — *TRINGA CANUTUS*. Varying from greenish to yellowish-ash, dotted irregularly, with different shades of umber and reddish-brown; pyriform; usually four eggs is the nest-complement; size about 1.46 by 1.10. This handsome species, so remarkable for its seasonal differences of plumage, is the largest of the North American Sandpipers. It inhabits most parts of the world; in America chiefly coastwise, and breeds in high latitudes. It is migratory, and is also found in the interior about large bodies of water and rivers. I mounted a fine male specimen in full breeding plumage which was killed at Licking Reservoir, Ohio, May 27, 1878. The eggs are deposited in a slight depression of the ground. Red-breasted Sandpiper, Ash-colored Sandpiper and Gray-back are other names for it.

530. Purple Sandpiper — *ARQUATELLA MARITIMA*. Clay color, shaded with olivaceous, with large and distinct markings of rich umber-brown of different depths of intensity all over the shell, but most numerous as well as largest on the greater half; pyriform; the eggs are usually four in number, and measure about 1.40 by 1. The Purple Sandpiper is a species of circumpolar distribution, breeding only in the high north, where it often winters. In America it is found as far south as the Middle States, but is chiefly maritime, and it also occurs on the Great Lakes. In New England it is chiefly a winter resident, appearing late in the fall and remaining until spring. It is a rare visitor on Lake Erie. The nest is a mere depression in the ground.

532. Prybilov Sandpiper — *ARQUATELLA PTILOCNEMIS*. The Black-breasted Sandpiper is only known from the Prybilov or Fur Seal Islands, where it breeds; and is found northward to St. Matthew and St. Lawrence Islands. The eggs are four in number, and like those of the Purple Sandpiper.

537. Baird's Sandpiper — *ACTODROMAS BAIRDI*. Buff or clay-colored, spotted and blotched with varying shades of chestnut brown; in most instances the markings are fine and innumerable, of indefinite size, irregular in shape and thickest at the greater end, where they are occasionally massed in blotches; size about 1.30 by .90. Baird's Sandpiper is distributed throughout North America generally, but is said not yet to have been observed west of the Rocky Mountains. It is found chiefly in the interior. It is only known to breed in the Arctic regions; and winters south of United States. The eggs are deposited in a slight depression of the soil.

Hab. North America, chiefly the interior. Rare on the Atlantic coast; not observed west of Rocky Mountains; wintering in Mexico; Central and South America.

539a. Red-backed Sandpiper — *PELIDNA ALPINA AMERICANA*. The Red-backed Sandpiper is distributed throughout the whole of North America, breeding in the Arctic regions. It migrates through and winters in the United States, especially coastwise. It is a common spring and fall migrant on Lake Erie, where specimens have been taken near Cleveland, Ohio, in full breeding plumage. Rather common in the fall and rare in spring in the interior of the State. The eggs of this sandpiper are deposited in a slight depression of the ground on a little grass, etc. It is known by several other names: American Dunlin, Black-bellied Sandpiper, and Ox-bird.

541. Semipalmated Sandpiper — *EREUNETES PUSILLUS*. This little "Peep" is found everywhere in North America. In the summer it is distributed from Labrador northward, this being its breeding grounds. In spring and fall it is an abundant migrant in United States, thronging the beaches, the gravelly and sandy shores of streams and muddy banks of ponds, in company with the Spotted Sandpiper and others, with which it is usually confounded. It winters from the Carolinas southward. It has the same 'tweeet, 'tweeet' as the Spotted Sandpiper, and utters it frequently, both on the shore and when flying. The Semipalmated Sandpiper arrives in the Saskatchewan River country about the middle of May, where it deposits its eggs early in June on a few pieces of withered grass in a slight hollow in the ground. These are three or four in number, and measure from 1.20 to 1.25 long by .82 to .85 broad. In a large series the usual variations in color are noticeable; the ground color varying from clay to grayish or greenish-drab or positive olive tint; usually boldly spotted and splashed with umber or chestnut-brown; thickest about the largest end; and again, in some, very fine dots are distributed over the entire surface.

542. Sanderling — *CALIDRIS ARENARIA*. Ashy or greenish-brown, spotted and blotched with brown of different shades, pyriform in shape; two to four in number, and measure from 1.35 to 1.45 long by .40 to .45 broad. The Sanderling, or Ruddy "Plover," inhabits the sea coasts of nearly all countries; in North America everywhere, but more abundant coastwise. It is found inland on the large bodies of water. It is a common spring and fall migrant on Lake Erie, but is less common in the interior of Ohio. Breeds in the Arctic regions, and winters from the Carolinas southward. The "Beach-bird," as it is called by some, is one of the most abundant of its tribe along the New England shores during the spring and autumn migrations. Mr. Maynard, in "Birds of Eastern North America," says: "Their pale colors render them quite conspicuous when flying over the green waves or against the black sky; but when they alight on the sand they correspond so nearly with the ground that when they are quiet, it is almost impossible to distinguish them a short distance away. It is seldom, however, that they remain inactive, for they are lively birds, and are constantly chasing the waves out, in search of food left by that great store-house of Nature,—the sea. Then, when the huge billows come rushing in and expend their fury on the shelving beach in a long, wide sheet of seething foam, the little Sanderlings run so quickly before the advancing water that the spray seldom wets their delicate feathers. After a storm hundreds of these birds may be seen thus engaged, spread-

ing out in long lines in order that they may not interfere with one another, and many lonely reaches of sea board, from Maine to Florida, are enlivened by the presence of these true children of the sand. The Sanderlings arrive in New England in August, remain until quite late, then gradually move southward. They are abundant from the Carolinas to Key West during winter, but migrate northward in May." The eggs are placed on the ground in a slight depression, on a little grass, etc.

543. Marbled Godwit — *LIMOSA FÆDA*. Creamy-buff or light oliveaceous-drab spotted and blotched, rather sparsely, with yellowish and umber-brown of varying shades, long oval; size about 2.28 by 1.60; three or four in number. The Great Marbled Godwit, or Marlin, inhabits the entire temperate North America, and it is a common bird during the migrations and in winter. It breeds chiefly in the Mississippi and Eastern Missouri regions in Iowa, Minnesota and Dakota, thence to the Saskatchewan. This is the largest of the "Bay birds," except the Long-billed Curlew, and can readily be distinguished, its bill being either straight or bent a little upward, and not decurved like the Curlew's. It frequents muddy pools, sandy shores and marshes, usually in flocks of greater or less extent. The bird is held in high esteem for the table, and they are eagerly hunted by the gunners when flocks of ten or a dozen birds appear on the marshes. The sportsmen call them "Dough" or "Doe" Birds. The eggs are placed on the ground in a slight hollow.

545. Hudsonian Godwit — *LIMOSA HÆMASTICA*. Heavily shaded olive-drab, almost as dark as in a Loon's egg, obscurely spotted and blotched with dark brown; usually four in number; size 2.18 by 1.40. The Hudsonian Godwit, though not common anywhere in the United States, is distributed throughout North America generally, but has not been observed west of the Rocky Mountains. It passes the winter South of the United States and breeds in the most northern sections of the country. It associates with *L. fæda*, and has the same habits and characteristics, and is called by the gunners the "Smaller Doe-bird." American Black-tailed Godwit and Ring-tailed Marlin are its other names.

548. Greater Yellow-legs; Tell-tale—*TOTANUS MELANOLEUCUS*. Grayish-white, marked with spots of dark-brown, varying in intensity of shade, together with obscure shell-markings of lilac. The markings are over the entire surface, but more numerous at the larger end; three or four in number; size from 1.70 to 1.80 long by 1.20 to 1.38 broad. The Greater Tell-tale is found in North America at large, and breeds in the Arctic re-

gions. It was found breeding in the Calumet Marshes, Illinois, June 10th, 1875. It winters from the Carolinas southward; is abundant during the migrations, and is well-known to the gunners. The stately form of this bird may be seen moving along the gravelly banks of streams, wading in pools or the shallow margins of rivers and lagoons, feeding upon small fishes, crustaceans, etc. It is generally found in pairs, less often in small flocks, and its association with other Sandpipers is merely accidental. In the Eastern States it appears to be much more wary than in Ohio, and is said to give warning to ducks and other game birds on the approach of the gunner. About four rapidly repeated, loud and shrill whistling notes are uttered, which is a signal to the rest of his feathered neighbors, when the whole take wing, often to the disappointment of the fowler. From this habit it derives the name of Tell-tale, and it is also known by several other names: Stone Snipe, Greater Yellow-shanks, Long-legged Tattler. When this bird is feeding, its graceful movements are remarkable; in stooping for food in a pool, or stepping off in its long strides, the graceful symmetry of outline is quite different from that which we are accustomed to see represented in specimens "stuffed" by taxidermists who make their observations in books. The eggs of the Tell-tale are deposited on the ground, in a slight depression, lined with grass-stems, etc.

549. Yellow-legs—*TOTANUS FLAVIPES*. Varying from a clay to buffy or creamy color, sometimes light brown, the markings are bold and heavy, with great diversity of heavily splashed blotches of chocolate, umber-brown and blackish, these being chiefly at the larger end and sometimes confluent. Paler shell-markings are also numerous and noticeable; pointedly pyriform in shape; three or four in number; size 1.58 to 1.78 long by about 1.16 broad. The common Yellow-legs, or Lesser Tell-tale is found throughout North America. It breeds from northern United States northward, and winters in the Southern States and southward. In some localities during the migrations, it is more abundant than the Greater Tattler, and its general habits and characteristics are the same; its cries are clearer and not so loud. It is fond of wading about in pools of water seeking for food, which consists of larvæ of insects and small crustaceans. Usually it is quite tame and unsuspecting.

550. Solitary Sandpiper—*RHYACOPHILUS SOLITARIUS* The Solitary Tattler, or the American Green Sandpiper is found throughout the entire North America; breeds in northern United States and northward, and probably throughout most of its United States range. It winters chiefly

beyond our limits, in Mexico, Central and South America and in the West Indies. A common or abundant bird during the migrations. Although common, the eggs of this species have been until a comparatively recent date of special desideratum, and only a few specimens are as yet to be found in the numerous collections. Mr. Capin, in his superb work, "Oology of New England," describes and figures an egg collected at Lake Bombazine, Castleton, Vt., May 28, 1878, by Mr. Jenness Richardson. The ground-color is light drab, finely spotted with dark brown and slate-colored shell markings over the entire surface; pyriform in shape, and measures 1.37 by .95. The nest from which this egg was taken was a mere depression in the ground, partly sheltered by a thicket of small hemlocks, in a swampy tract of land of several acres. While out collecting one day in the latter part of May, 1877, on the banks of the Scioto River, Ohio, a boy came to me with an egg which he had found in a nest on the ground; there were two in the nest and he had just smashed one. Dr. Wheaton, in his "Report on the Birds of Ohio," says of this egg: "Though without any positive claims, possesses characters which entitle it to consideration, as possibly that of this species. It is of a pointed oval shape, and not nearly so pyriform as are the eggs of most of this family, and measures 1.25 by .88, so that it is smaller than the eggs of the Spotted Sandpiper. The ground color is clay-color with a reddish tinge, thickly marked with reddish and blackish-brown. The nest was on the ground in as exposed a locality as is ever frequented by this bird. It contained two eggs, both far advanced in incubation, only one of which was preserved. The fragments of this egg are now in the collection of the Smithsonian Institution." The Solitary Sandpiper is well named, when its personal habits or the localities which it frequents are considered. It is found, except during and shortly after the breeding season, about small ponds in woods, remote shaded ditches or small brooks, just such localities as are frequented by the Water Thrush.

552. Willet — *SYMPHEMIA SEMIPALMATA*. Varying from a brownish-olive to a greenish or grayish-white, marked with bold spots of various shades of umber-brown, with obscure shell-markings. They are less pointedly pyriform than the eggs of the smaller Tattlers and Sandpipers; almost invariably four in number; size from 1.90 to 2.15 long by 1.45 to 1.58 broad. The Semipalmated Tattler or Willet is found throughout temperate North America, north to about 56°, but chiefly in United States, breeding throughout its United States range. It is resident in the Southern States. It breeds in pairs or small companies in fresh or salt marshes; building quite a bulky nest in a tussock of grass just out of the water,

the nest being raised to as much as five and six inches; composed of rushes, reeds and grass.

555. Bartram's Sandpiper; Field Plover — *BARTRAMIA LONGICAUDA*. Pale clay or buff, thickly spotted with umber and yellowish-brown, especially about the larger end; commonly four in number; size from 1.70 to 1.90 long by about 1.28 broad. Bartram's Sandpiper inhabits North America at large, but is rare west of the Rocky Mountains. Breeds from the middle districts northward, and winters south of United States. This elegant species is very numerous on the prairies of the interior and common eastward. It is a favorite game bird and large numbers are annually killed for the table. It is less aquatic than most of the other Sandpipers, frequenting old pastures, upland fields, stubble fields and meadows, and seldom seen along the banks of streams. Nests on the ground in a slight hollow. This bird has the frequent habit in spring of alighting on the tops of fences, like the Meadow Lark, and seem to act as sentinels for the flock feeding below. It has often been seen to perch on the tops of trees. Bartram's Tattler, Upland "Plover," Grass "Plover" and Prairie Pigeon are its other names.

556. Buff-breasted Sandpiper—*TRYNGITES RUFESCENS*. Clay color of various shades, sharply spotted and blotched with rich umber-brown; there is a great diversity in the shades of the ground color in a large series of specimens, and there is also the same variations in the markings; the eggs are pointedly pyriform in shape; commonly four in number, and measure from 1.40 to 1.50 long by 1.02 to 1.10 broad. This interesting little Sandpiper is of general distribution in North America, but apparently nowhere very common. It is migratory in the United States and breeds in the Arctic regions. Winters South of United States. A specimen which I shot August 31, 1876, now in the museum of the Ohio State University, was in company with Semipalmated Plover and Semipalmated Sandpipers, on a gravelly bank of the Scioto River. The Buff-breasted is said, however, to resemble the preceding species in frequenting upland fields and meadows.

557. Spotted Sandpiper—*TRINGOIDES MACULARIUS*. Of a creamy, buff or clay color, blotched, spotted and dotted with blackish-brown; usually four in number, and measure about 1.34 by .92. The nest of this Sandpiper is made on the ground, usually in the shelter of high weeds or grass on a sandy island or border of a cultivated meadow, near water, and often at a considerable distance from any water. It is simply a mere depression

in the soil, but sometimes constructed with hay and moss. The familiar little Spotted Sandpiper is an extremely abundant bird throughout North America, breeding everywhere. It winters in the Southern States and beyond. Every lazy fisherman and idle school boy, who has whiled away many a balmy and hot summer day along the banks of streams, knows this bird well by the bobbing and tilting movements of its body and tail and its peculiar note, *peet-weet*, *peet-weet*, as it flies up and down and across the streams. It is known by many a curious nickname; "Teeter-tail," "Tip-up," "Sandlark," "Peet-weet" and others.

558. Long-billed Curlew—*NUMENIUS LONGIROSTRIS*. The large Sickle-bill inhabits the entire temperate North America, breeding nearly throughout its range. It is migratory northward and is resident from the Carolinas south to Mexico. It nests very abundantly on the South Atlantic coast, and on the prairies of the Northwest. Unlike others of its genus it is not a bird of high latitude. The eggs of the Long-billed Curlew are three or four in number; and almost exactly resemble those of the Willet, but are larger, measuring from 2.45 to 2.80 in length by 1.80 to 1.90 in breadth; they are, however, more of a pyriform shape than the eggs of the Willet. In common with other waders the eggs are deposited on the ground in a slight hollow lined with a few grasses. This Curlew may be known from all others by its large size and very long, curved bill, measuring from four to six or eight inches. Two specimens of this species have come into my hands which were killed at the Licking Reservoir, Ohio. It may sometimes breed at St. Mary's Reservoir, in Mercer county, and other localities of Northwestern Ohio, as it is known to breed in Northern Illinois.

559. Hudsonian Curlew—*NUMENIUS HUDSONICUS*. Ashy-yellow, the markings are large and bold, of different shades of chocolate and umber-brown. The eggs of this species can only be distinguished from the following species by their larger size; from 2.12 to 2.30 in length by about 1.60 broad; generally four in number; of the usual shape. The Short-billed, or Jack Curlew, though not so abundant as the Long-billed or Eskimo Curlews, is generally distributed in North America, breeding in the far north. It is a spring and fall migrant in the United States, wintering in the Southern States and beyond. American Whimbrel is another name for it.

560. Eskimo Curlew — *NUMENIUS BOREALIS*. The Dough-bird, or Eskimo Curlew, is found in North America at large and breeds within the Arctic circle. It migrates through the United States, where it is rarely

known to winter and never to summer; wintering in Central and South America. It is exceedingly abundant in certain places during the migrations. In Labrador it is said to fairly swarm in August. Of this bird's nest and eggs Dr. Coues says (Birds of the Northwest, page 512): "This species breeds in great numbers in the Anderson River region, usually making up its nest complement of four eggs by the third week in June. The nest is generally in an open plain, and is a mere depression of the ground, lined with a few dried leaves or grasses. The eggs vary to the great extent usually witnessed among waders. The ground is olive-drab, tending either to green, gray or brown in different instances. The markings, always large, numerous and bold, are of different depths of dark chocolate, bistre and sepia-brown, with the ordinary stone-gray shell spots. They always tend to aggregate at the larger end, or, at least, are more numerous on the major half of the eggs; though in a few instances the distribution is nearly uniform. Occasionally the butt end of the egg is almost completely occupied by confluence of very dark markings. Eggs vary from 1.90 by 1.40 to 2.12 by 1.33, averaging about 2.00 by 1.45."

563. Red Phalarope—*PHALAROPUS FULICARIUS*. Greenish or yellowish ash, blotched and spotted with brown of various shades. The eggs of this species cannot, with certainty, be distinguished from those of the following species; in fact, the range of coloration is so varied that they are difficult to describe satisfactorily in a brief manner. They are three or four in number, averaging larger than those of the Northern Phalarope; from 1.15 to 1.30 long by .90 to .95 broad. The Coot-footed Tringa, Red or Gray Phalarope, as it is differently called, is distributed in summer throughout the Arctic regions, wandering far south in winter. The Phalaropes are curious birds, partaking of the nature of a wader and a swimmer. The three species of this family resemble Sandpipers, but are at once distinguished by the lobate feet; the toes have plain or scalloped membranes, like those of the coots and grebes. The body is depressed and the under-plumage thick like that of a duck; on this the birds swim with perfect ease. They ride the waves lightly along the coast, and when on the margin of a stream or pool often surprise their associates, the Sandpipers, by swimming out into deep water. The Red Phalarope appears to be more exclusively maritime than other species of the family. The nest is a slight hollow in the ground, sparsely lined with moss and grass. Mr. Capin, in "Oology of New England," quotes a letter from Mr. Boardman in which he says: "Twice I have found the Red Phalarope breeding in Maine." The eggs, Mr. Capin says, are laid the first part of June.

564. Northern Phalarope—*LOBIPES HYPERBOREOUS*. Greenish or yellowish ash, thickly blotched with varying shades of brown; three or four; size from 1.10 to 1.30 long by .75 to .82 broad, averaging 1.20 by .8; like the last, there is a great variation in size, shape and color. The Northern, or Red-necked Phalarope is found throughout the Northern Hemisphere, sometimes migrating into the tropics. Its distribution, however, is chiefly maritime. Breeds in the Arctic regions. Several specimens of this bird were taken on the Scioto River, Franklin county, Ohio, a few years since by Dr. Jasper, and I have one which a boy killed out of a flock of Sandpipers, September 17, 1885, on the Olentangy River. The nesting habits are substantially the same as those of the others. The eggs are laid in June.

565. Wilson's Phalarope—*STEGANOPUS WILSONI*. Ashy-yellow, usually coarsely spotted and blotched with brown of varying shades, with numerous specks and scratches; three or four in number; size from 1.20 to 1.35 in length by 1.00 in breadth, making them elongate pyriform in shape. This Phalarope was named after the renowned Alexander Wilson, but Mr. E. W. Nelson (Bull. Nutt. Orn. Club II., 1877, p. 58), has probably written the most complete biography of the bird which has yet appeared. On account of very limited space I am only able to quote the following, respecting its nests, eggs, etc., from this interesting article: "In Northern Illinois, where the following observations were made, Wilson's Phalarope is the most common summer resident, occurring about grassy marshes and low prairies, and is not exceeded in numbers by even the ever-present Spotted Sandpiper. As is the case with several other species of birds, Lake Michigan appears to form a limit to its common occurrence in the eastern portion of its range. On the west it extends to the Rocky Mountains, and between these limits it has been recorded during the breeding season from the Saskatchewan to the Arkansas (Coues) and to the city of Mexico (Nuttall.) It is more closely confined to its favorite haunts than most water birds, and this may, in a measure, account for the little hitherto known regarding its habits. During the first two weeks of May, the exact date varying with the season, this beautiful bird first makes its appearance in Northeastern Illinois. Its arrival is heralded by a few females, which arrive first, and are found singly about the marshes. At this time the females have a peculiar harsh note, which I have heard but a few times, and only from solitary individuals before the arrival of the main body. A few days later, small flocks, embracing both sexes, may be found along the borders of grassy pools, or lying at midday on

the sunny side of some warm knoll in the marsh. As the breeding season approaches they become more restless, flying from place to place, and finally separate into small parties of two or three pairs. About the middle of May their love-making commences, and is at first indicated by the increasing solicitude they show for each other's welfare. The appearance of a person in their vicinity at this time is a signal for all the birds near to come circling about, though generally not within easy gunshot. By a careful approach one may now and then find a small party swimming about in some secluded pool. The charming grace of movement exhibited at such times, combined with their tasteful elegance of attire, forms one of the most pleasing sights one could witness, as they swim buoyantly from side to side of the pool, gracefully nodding their heads; now pausing an instant to arrange a feather, or to daintily gather some fragment of food, and now floating idly about, wafted by the slight breeze which at intervals ripples the surface of the water. * * * * The nesting-site is usually in some thin tuft of grass on a level spot, but often in an open place concealed by only a few straggling blades of small *carices*. The male scratches a shallow depression in the soft earth, which is usually lined with a thin layer of fragments of old grass blades, upon which the eggs, numbering from three to four, are deposited about the last of May or first of June. Owing to the low situations in which the nests are placed, the first set of eggs is often destroyed by a heavy fall of rain, causing the water to rise so as to submerge the nest. In this case, the second set, numbering two or three, is often deposited in a depression scratched in the ground, as at first, but with no sign of any lining. Accidents of this kind cause the second set of eggs to be sometimes deposited as late as the last of June." Mr. Nelson says that the incubation is attended to by the male alone.

566. American Avocet—*RECURVIROSTRA AMERICANA*. Varying from a dark olive to buff, pretty uniformly and profusely spotted with chocolate-brown of various shades; the eggs vary in size, shape and markings like the birds themselves; three or four in number; size from 1.80 to 2.10 in length by 1.25 to 1.45 in breadth. The Avocet is irregularly distributed over nearly all temperate North America, from ocean to ocean, and from rather high latitudes in British America to Mexico. It is very abundant in the West, especially in the alkaline regions, such as those of the Yellowstone and Milk River regions, Utah, etc. It is rare in eastern United States; casual in New England. In Ohio it is an extremely rare visitor. In October of 1884 a freshly-killed specimen of this bird came into my possession which was taken at the Licking County Reservoir.

The only record of its being taken in the State before this is that of Dr. Kirtland's. It is a bird of striking appearance, of odd coloration, having long legs like any wader, but extraordinarily long; feet webbed like those of a swimming bird, body flattened underneath, and duck-like plumage to resist the water. The most striking characteristic of the bird is its long, decidedly upturned bill, and from its blue legs it received the name of Blue-stocking. The nest of this bird is built in tall grass in marshy or wet places on the lonely prairies west of the Mississippi.

Hab. United States and British Provinces. North to the Saskatchewan and Great Slave Lake. Rare or casual in New England. Breeds throughout. Winters on our southern border and beyond (to Guatemala).

567. Black necked Stilt — *HIMANTOPUS MEXICANUS*. Brownish-olive, spotted, blotched and lined quite thickly and irregularly with brownish-black of varying shades; pyriform in shape; three or four; size from 1.60 to 1.85 long by 1.15 to 1.25 broad. The eggs appear very large for the size of the bird. This exceedingly long-legged bird is distributed throughout United States, and like the Avocet, is rare in the eastern portion. It is abundant in the West, but its range is rather more southerly than the Avocet. In Ohio it is a rare summer visitor. Perhaps breeds. The nest of the Stilt is often only a slight depression in the ground, lined with dry grasses, situated along some stream or ditch, or near water; some collectors have found the nest at the water's edge, or a heaped mass of vegetation just above the surface of shallow water. A. M. Shields, in the "Young Oologist" for July, 1884, says that the Stilt arrives in large numbers in the vicinity of Los Angeles, California, about May 1st, and the eggs may be found fresh until the middle of June. He says the birds usually congregate in large flocks in some suitable locality and build their nests close together, a score or more are often found within a few yards of each other; the nests being composed of small sticks and roots, closely put together and placed among the grass on the margin of a lake or river.

Hab. United States generally. Rare on the eastern coast north of the Carolinas. Winters south of the United States.

569. Red-breasted Rail—*RALLUS ELEGANS*. Varying from a dull white to cream or pale buff, sparsely dotted and spotted with reddish-brown and lilac; six to twelve in number; size from 1.55 to 1.72 long by 1.15 to 1.25 broad, averaging 1.67 by 1.12. The King Rail or Fresh-water Marsh Hen is distributed in summer from New York southward, breeding throughout the inland marshes. It is probably a summer resident in Ohio, Dr. Jones having taken the young in the vicinity of Circleville. It is frequently confounded with the Clapper Rail; the latter, however, is confined to the vicinity of salt water, and is a bird of duller plumage.

The nest of this Rail is placed on the ground in a marsh, often fastened in a tussock of grass. It is composed of grass and weeds.

Hab. Fresh-water marshes of Eastern United States from the Middle States, Northern Illinois, Wisconsin and Kansas southward casually to Massachusetts and Maine.

570. Californian Clapper Rail — *RALLUS OBSOLETUS*. The Californian Clapper Rail is found in the salt marshes of the coast of California. It has a deep cinnamon-colored breast; the back and scapulars grayish-olive, obscurely striped with dusky. Below it is quite reddish. Mr. W. Otto Emerson in the "Ornithologist and Oologist" for September, 1885, describes the nest as bulky, rather flat and solid, and in some instances as placed on long salt grass bent down in a mass, some of the blades woven in and out of the standing stocks to keep it in place; others are placed on salt weeds in open ground, instead of on the long salt grass. These nests were found in the salt marshes bordering the San Francisco Bay, Cal., four miles from Haywards. Mr. Emerson says there is no variation in the ground color in five sets of eggs which he collected, except in three, which have single eggs with a grayish ground, and the markings in one set being different, having more blotches than others. Another has eggs with a number of lines over the larger end. Two complements seem to have the lavender spots and specks predominating and more scattered over the whole shell. One hundred eggs of *R. l. crepitans* before me have the same characteristics which Mr. Emerson mentions in the eggs of *R. obsoletus* and these variations, more or less, are to be found in large series of nearly all eggs. He also says the ground color is of a creamy-buff, but not so strong as in a set of the eggs of the Eastern Clapper Rail before him. One set of seven was taken June 3, 1883; two of nine April 18, 1885, and three of eight May 4, 1885. A set of eight measure as follows: 1.75 by 1.20, 1.69 by 1.20, 1.66 by 1.18, 1.77 by 1.22, 1.79 by 1.22, 1.73 by 1.24.

571. Clapper Rail — *RALLUS LONGIROSTRIS CREPITANS*. Pale buffy-yellow, dotted and spotted with reddish-brown and obscure lilac; six to fifteen, averaging 1.67 by 1.12. The eggs are ovoidal in shape, tapering slightly toward the smaller end. The Clapper Rail or Salt-water Marsh Hen is an abundant bird on the salt marshes of the Atlantic coast from New Jersey southward and is resident from the southern border of Maryland southward. It is found casually north to Massachusetts. Breeds in profusion in the marshes of the Carolinas, placing the nest on the ground in a marsh, sometimes in a tussock of grass or a pile of seaweed just out of the water; it is made of a large mass of dried grasses and weeds and is slightly hollowed. It is often called Mud Hen, a name commonly ap-

plied to the Coot. This Rail is by far the most abundant aquatic bird at all seasons in the extensive marshes from South Carolina to Florida, and their harsh voices may be heard at all hours of the day and night as they skulk through the grass or run along the margins of streams in search of food.

572. Virginian Rail—*RALLUS VIRGINIANUS*. Cream or buff, sparsely spotted with reddish-brown and obscure lilac; the eggs are like those of the King or Clapper Rail, but of course, like the bird, much smaller; size from 1.20 to 1.28 long by .90 to .93 broad. The number in a set varies from six to twelve. The Virginia Rail is an exact miniature of *R. elegans*, the coloration being exactly the same; the legs, iris and bill brown—the latter reddish—orange at the base of the lower mandible. In summer it is distributed from Canada to Florida; frequenting marshes and boggy swamps. The nest is built in a tuft of reeds or grasses close to the water; it is compact and slightly hollowed. The Virginia Rail and the Sora have habits that are very similar; when on the wing they will fly in a straight line for a short distance with dangling legs, and suddenly drop into the grass. One not accustomed to their flight would at once conclude the birds were wounded. The Virginia rail is almost exclusively a fresh water bird.

Hab. North America, from the British Provinces south to Guatemala and Cuba.

574. Sora Rail—*PORZANA CAROLINA*. The little slate-colored Carolina Rail breeds from the Middle States northward. In the reedy swamps of the Atlantic States great numbers of this Rail are killed every year. It is a highly esteemed game bird, and is usually abundant during the migrations. In Ohio the Carolina Crake, Common Rail, Sora or Ortolan, as it is variously called, is a common summer resident, breeding in the extensive swamps and wet meadows throughout the State. On different occasions I have killed in the latter part of May female birds containing perfect eggs which would have been laid within a few hours. The Carolina Rails are equally abundant on both salt and fresh water marshes, but the latter places are preferable to them as breeding places. The nest is a rude affair made of grass and weeds, placed on the ground in a tussock of grass in a boggy tract of land, where there is a growth of briers, etc.

Hab. Temperate North America, but most common in the Eastern Province, breeding chiefly northward. South to the West Indies and Northern South America.

575. Little Yellow Rail—*PORZANA NOVEBORACENSIS*. Rich buffy-brown, marked at the larger end with a cluster of reddish-brown dots and spots; about six in number; size from .80 to .85 broad by 1.05 to 1.15 long; usual shape. The small Yellow Crake appears to be quite rare every-

where in Eastern North America or wherever found. It winters in the Southern States. Dr. Wheaton has a specimen taken by Dr. Howard E. Jones in the vicinity of Circleville, Ohio, who has taken it frequently there, and considers it nearly as common as other species, and believes it breeds there, which is probably the case throughout the State. This Rail has the same general traits of the others, frequenting marshy places, skulking and hiding in the wet grass and aquatic plants, to elude observation.

Hab. Eastern North America from Nova Scotia and Hudson's Bay west to Utah and Nevada. No extralimital record, except Cuba and the Bermudas.

576. Little Black Rail—*PORZANA JAMAICENSIS*. Dr. Elliott Coues, in his excellent work, "Key to North American Birds,"* says that this bird is "not often found in the United States, being one of the rarest of our birds." It may be readily known by its small size and dark colors, the upper parts blackish, finely speckled and barred with white, back and neck dark chestnut; head and under parts dark slate-color, paler or whitening on the throat; the lower belly, flanks and under wing and tail-coverts barred with white; length of bird about 5.50. Dr. Coues says: "Eggs from New Jersey are altogether different from those of the Sora, or Yellow Crake, being creamy-white, sprinkled all over with fine dots of rich, bright reddish-brown, and with a few spots of some little size at the great end; most like the more finely speckled examples of the eggs of the large *Ralli*; dimensions 1.05 to .80."

Hab. Temperate North America, north to Massachusetts, Northern Illinois and Oregon; south to West Indies and in Western South America to Chili.

578. Purple Gallinule—*IONORNIS MARTINICA*. Creamy, finely and rather sparsely dotted with chestnut-brown and umber, rather elliptical; six to ten in number; size from 1.70 to 1.75 long by 1.15 to 1.20 broad. This beautiful Gallinule inhabits the South Atlantic and Gulf States, and strays occasionally northward as far as Maine, New York, Wisconsin and other northern States. Dr. Wheaton, in "Report on the Birds of Ohio," records several specimens taken in the State. The bird is resident in the South. From its bright purplish-blue colors it may quite readily be distinguished from the Florida Gallinule, even at a long distance. In Florida it breeds in the latter part of May. The nest is made on the ground in swamps and marshy places, concealed in the tall rank grass; it is composed of dry grasses, weeds, etc.

Hab. South Atlantic and Gulf States, casually northward to Maine, New York, Wisconsin, etc.; south through the West Indies to Brazil.

*Key to North American Birds. Containing a concise account of every species of living and fossil bird at present known from the Continent north of the Mexican and United States boundary, inclusive of Greenland. Second Edition, revised to date, and entirely rewritten: with which are incorporated General Ornithology: an outline of the structure and classification of birds; and Field Ornithology: a manual of collecting, preparing, and preserving birds. By Elliott Coues, M. A., M. D., Ph. D., Member of the National Academy of Sciences, etc., etc. Profusely illustrated. Boston: Estes and Lauriat. 1881.

579. Florida Gallinule—*GALLINULA GALEATA*. Creamy or brownish-buff, rather thickly spotted and blotched with brown and umber, some of the spots are as small as pin-heads; size from 1.75 to 2.00 long by 1.20 to 1.30 broad; shaped like an average hen's egg. The number of eggs varies so greatly that there is little doubt that more than one bird sometimes occupies a single nest when large numbers are found breeding together; they range from seven to thirteen. This Gallinule inhabits temperate and tropical America, from Canada to Brazil and Chili. Its center of abundance is in the South Atlantic and Gulf States, and it breeds as far north as Massachusetts. It is not an uncommon summer resident in Ohio, breeding in the extensive swamps and marshes throughout the State. The nest is usually fastened in the sedges and marsh grass above shallow water, or among the flags. The foundation is often made by breaking down the flags so as to form a little platform, which will to a certain degree rise and fall with the water. On this the nest proper is built of the last year's flags. In Florida, where the bird is remarkably abundant, the nest is placed in the drier portions of the marshes, among thick reeds and rushes. A set of eight eggs collected by Dr. Jones near Circleville, Ohio, measure 1.70 by 1.20, 1.81 by 1.18, 1.81 by 1.17, 1.78 by 1.23, 1.84 by 1.25, 1.84 by 1.22, 1.77 by 1.24, 1.83 by 1.16. Common Gallinule and Red-Billed Mud Hen are its other names.

Hab. Temperate and tropical America from Canada to Brazil and Chili.

580. American Coot—*FULICA AMERICANA*. Clay or creamy-white, uniformly and finely dotted all over with specks of dark brown and blackish; six to twelve, and fifteen eggs are often found in a single nest; in shape and general style of color and markings resemble those of the Florida Gallinule; size from 1.77 to 2.00 long by 1.40 to 1.45 broad. The common Mud Hen breeds throughout its range, and it is a very abundant bird in the entire temperate North America. This is the water fowl that the young sportsman persists in shooting as a game bird, but at a riper age he does not "hanker" after its flesh. It is easily known by its slate-colored plumage, white or flesh-colored bill, marked with reddish-black near the end and at the base of frontal plate, with greenish leg and carmine iris. The Coot is a good swimmer and diver, having lobate feet like the phalaropes and grebes. It can also move swiftly through tangled grass and aquatic plants. On almost any large or small body of water sufficiently secluded and whose margins are overgrown with reeds and rushes, or on sluggish streams, swamps, pools or reedy sloughs, there you will find the Coot during the breeding season. Sometimes immense numbers breed together. Mr. A. M. Shields, writing under the title of

"Egging in a California Swamp," in the "Young Oologist" for October, 1884, records taking five hundred Coot eggs, together with large numbers of those of ducks and grebes. The nest of the Crow Duck, as it is sometimes called, is made of dead reeds and grasses, placed on the ground, just out of the water or on floating vegetation; the flags on which it rests being broken down, rises and falls with the water.

581. The Limpkin—*ARAMUS PICTUS*. Ashy-yellow, lined, sprinkled, spotted and blotched irregularly with reddish-brown and umber; rather elliptical. Some writers state that the eggs of this bird are only two or three in number. Messrs. Southwick and Jencks, who have had considerable experience in handling the eggs of this species, say the number ranges from four to seven; their sizes from 1.70 by 2.35 to 1.75 by 2.50. The Limpkin is a constant resident in middle and southern Florida, where its long, loud and oft-repeated cries have given it the name of Crying-bird. Mr. Maynard says the birds are particularly abundant in the marshes on either side of the St. Johns, from Blue Spring to the mouth of the Wekiva and also on this stream and the Oclawaha River further north. He says the Limpkin has a habit of standing and stupidly gazing at an intruder. He found one standing this way on the end of a log, jerking his head up and down, much in the manner of a Rail. He says it breeds in February, placing the nests on bushes which overhang the water.

Hab. Florida, West Indies and the Atlantic coast of Central America.

582. Whooping Crane — *GRUS AMERICANA*. Light brownish-drab, sparsely marked, except at the greater end, with large irregular spots of a pale dull chocolate-brown and obscure shell-markings; elliptical; the shell is very rough, covered with numerous elevations like little warts; Dr. Coues says two (or three?) in number; size about 3.75 by 2.65. This fine Crane inhabits the interior of North America, from the Fur Countries to Florida, Texas and Mexico, and is found from Ohio to Colorado. It formerly strayed casually to the Atlantic coast. Its principal line of migration appears to be the Mississippi Valley at large, and it is known to breed in Minnesota and Dakota and also further north. Dr. Jasper has a live specimen of this stately white bird which he has had for eighteen years. It was accidentally caught in a steel-trap fifteen miles north of Dubuque, Iowa. It has become perfectly domesticated and walks about the yard with the chickens and ducks and is as much at home as any of them, feeding from the hand, and promptly answering to the name of "Coco." When first captured it was very wary, but in a few years it became tame and was allowed its liberty. It formerly took spring and autumn flights to a neighboring creek, but lately it believes there is no place like

home, and never leaves it. Its utterance is a loud, prolonged gobbling noise like that of a turkey, but louder. The nest of this species is made on the ground in the midst of rank grass near marshes.

583. Sandhill Crane—*GRUS CANADENSIS*. Ashy-yellow, spotted and blotched with reddish-brown, of the same general character as those of the preceding species; rather elliptical; size about 3.42 to 2.15, with considerable variation. The Brown Crane breeds apparently in sufficiently wild places throughout its range. Dr. Wheaton, in his "Report on the Birds of Ohio," records it as a rare migrant; probably occasional summer resident, and that it has been reported to him as breeding within a few years in the vicinity of Toledo. Mr. Maynard says: "Sandhill Cranes breed in March in Florida, placing their nests in the shallow water of one of the marshes which occasionally occur in the piney woods. The birds heap up a mass of mud, roots, grass, weeds, etc., forming a conical pile which is elevated about six inches above the water, and which is some eighteen inches in diameter on the top. This is slightly hollowed and the two eggs are deposited on it, while the female sits on them in the ordinary manner by doubling her long legs beneath her." A fine specimen of this Crane came into my hands which was killed out of a flock of eleven near Springfield, Ohio, November 12, 1885. Both this bird and the Great Blue Heron are sometimes confounded under the common name of Blue Crane.

Hab. Southern half of North America; now rare near the Atlantic coast, except Georgia and Florida.

585. American Flamingo—*PHŒNICOPTERUS RUBER*. This magnificent bird of scarlet plumage is a constant resident of the Bahamas and southward, and is rare on the Florida Keys. It is a remarkable bird and of striking appearance, having long legs and neck, the former of a lake-red color. The bill is unique in shape, being abruptly bent in the middle, so that when feeding the upper surface faces the ground. The plumage is scarlet throughout, except the primaries and secondaries, which are black. The stature of the bird is nearly five feet and it weighs in the flesh six or eight pounds. The nest of the Flamingo is described as a mass of earth, sticks and other material scooped up from the immediate vicinity to the height of several feet and hollow at the top. On this the birds sit with their legs doubled under them. The old story of the Flamingo bestriding its nest in an ungainly attitude while incubating is an absurd fiction. The eggs are one or two in number, with a thick shell, roughened, with a white flakey substance, but bluish when this is scraped off. It requires thirty-two days for the eggs to hatch.

Hab. Atlantic coasts of subtropical America; Florida Keys.

588. Whistling Swan—*OLOR AMERICANUS*. The Common American or Whistling Swan inhabits the whole of North America, breeding in the far north. It is found in the United States in winter and during the migrations. The bill of this species normally has a small yellow spot not extending to the nostrils. The tail-feathers are normally twenty in number. The nest is made on the ground in marshy places and is composed of grass, weeds, etc. The eggs are from two to five in number and measure from 2.25 to 2.50 in breadth by 4.00 to 4.50 in length. They are dull white with more or less brownish or reddish discoloration; the surface of the shell is rough.

Hab. The whole of North America, breeding far north.

589. Trumpeter Swan — *OLOR BUCCINATOR*. The Trumpeter Swan chiefly inhabits the interior of North America from the Gulf coast to the Fur Countries. It breeds from Iowa and Dakota northward. This species may be distinguished from the Whistling Swan by its entirely black bill, and having normally twenty-four tail-feathers. The nesting of this species is the same as the last. The eggs are similar but average larger, like the bird; size from 2.50 to 2.76 broad by 4.03 to 4.50 long.

Hab. Chiefly the interior of N. A., from the Gulf coast to the Fur Countries, breeding from Iowa and Dakota northward; west to the Pacific coast, but rare or casual on the Atlantic.

591. Snow Goose—*CHEN HYPERBOREUS*. Yellowish-white; elliptical; five to eight in number; size about 3.00 by 2.00. The Snow Goose or White Brant is distributed throughout North America at large, breeding in the far north, migrating and wintering in the United States. It is abundant in the interior and along the Pacific coast, but less so on the Atlantic. The plumage of the adult bird is pure white; the head, however, is usually washed with rusty-brown like a swan's. The feet are of a dull lake-red color; the bill, carmine-red or pale purplish with a salmon tinge. The weight of the bird is five or six pounds. The nest is made on the ground in marshy places, of grass, weeds, etc. Dr. Richardson says this bird breeds in the barren grounds of Arctic America in great numbers, that the young fly in August and that by the middle of September all have departed for the South.

593a. American White-fronted Goose — *ANSER ALBIFRONS GAMBELI*. Dull greenish-yellow, with obscure darker tints; elliptical; six or seven in number; size from 2.90 to 3.30 in length by 2.05 to 2.10 in breadth. The White-fronted Goose inhabits the whole of the North American Continent, breeding in high latitudes. It winters in the United States and southward to Mexico and Cuba. It is more abundant on the Pacific coast than in the interior or along the Atlantic. This Goose, of large size and

robust form, may be known by its white forehead and spotted breast, and the tail has normally sixteen feathers; the feet are yellow. It is, in all, a very handsome bird and a favorite with sportsmen; large numbers are often killed on the lakes and reservoirs in spring and fall. The nest of this species is made on the ground in marshy places among reeds and grass.

Hab. North America, breeding far northward; in winter south to Mexico and Cuba.

594. Canada Goose—*BERNICLE CANADENSIS*. The Canada or Common Wild Goose is generally distributed throughout North America at large, breeding in the Northern United States and British Provinces. It winters from New Jersey south to Mexico, and is the most abundant goose of our country. It may be readily known by its large size and general brownish-gray color; bill, feet, head and neck black, with a broad white patch on the throat mounting each side of the head. The tail is black with normally eighteen feathers and the upper coverts are white. This species makes its nest on the ground. Dr. Coues, in "Birds of the Northwest," records its nesting in trees in various parts of the Upper Missouri and Yellowstone regions. The most interesting information I can offer on the breeding habits, migration, etc., of this Goose in a semi-domestic state, is as follows: Twelve years ago this March (1886) Mr. Geo. Sackett, of Delaware, Ohio, shot three specimens while they were passing over his farm. Upon examination they were found to have only been "winged." The wounds were dressed and the birds allowed their freedom on the farm for two successive summers, but from the lack of sufficient water and the annoyance of the cattle they did not prosper in their domestic affairs. On two occasions the cattle destroyed their nests and young. The wild, timid creatures were finally transferred to Mr. F. P. Vergon, proprietor of an artificial lake of water which has a surface of about thirty acres. It is used as a pleasure resort and is interspersed with many little islands. Here the two that were mated made their nest in the rank grass and rubbish at the most secluded end of the lake; the young were hatched and from some unknown cause were again destroyed. The next season they took up their quarters on one of the islands, made a nest of sticks and straws, and commenced laying in the latter part of March, incubating until the middle of May, bringing forth eight young. During the ten years on the lake only two eggs have failed to hatch. The young were not taken into the water until they were six days old, and this was in early morning and evening, at which times the old birds would float off from their island with their well-known *conk*, the young following single file behind them, feeding at the extreme end of the lake. This was kept up until August, when the young could fly and take care of themselves.

The eggs were always seven and never more than eight in number. What is most remarkable about these birds is that they go south every fall and return every spring; their number always being diminished by the time they return, some probably being killed by the ever-watchful sportsman. Mr. Vergon says the geese often stray away from "home" as far as ten and fifteen miles on the Olentangy River and other waters in the neighborhood. He feeds them on a high ridge near the lake and on this ridge they are always first seen in spring when they return. Mr. Vergon says he thinks they always come at night and is very sure they always depart in autumn at night. While the flocks that leave in the fall and return in the spring have often been diminished in numbers, yet as many as twenty-two new ones have come with them and stayed at the lake. Out of thirty that departed last fall only three have returned this spring (February, 1886). The birds are very much afraid of strangers, but with Mr. Vergon they are very familiar, allowing him to handle and caress them at pleasure. The eggs are ellipsoidal in shape, smooth, pale, dull greenish color, and measure about 3.50 by 2.50.

595. Brant—*RERNICLA BRENTA*. Dirty-white; elliptical; six to ten in number; size from 2.75 to 2.90 long by 1.84 to 1.90 broad. The Brant Goose breeds in high latitudes, to the Arctic coast. In North America it is found chiefly along the Atlantic coast, and is more maritime than other United States geese. It is, however, also found inland occasionally on the lakes and rivers. During the migrations it is abundant in the United States and seem to prefer the coast to the interior, seldom passing over any large tract of land, following the windings of the shore and nearly always keeping over water. It may readily be known by its small size, dark colors and crescent-shaped streakings on the neck. The bill, feet and claws are black; the iris brown. The Brant Geese are particular favorites with sportsmen and many are shot from points of land which project out into the sea. Here blinds are built in which the sportsmen conceal themselves, and near which they induce the wary Brant to alight by using decoys of the same species. The nest is made on the ground in marshy places, of grass and weeds.

Hab. Northern parts of the Northern Hemisphere; in North America chiefly on the Atlantic coast; rare in the interior or away from salt water.

598. Emperor Goose—*PHILACTE CANAGICA*. The Painted or Emperor Goose is a notable species of variegated plumage inhabiting the coast and islands of Alaska. It winters chiefly in Southern Alaska and the Aleutian Islands. Breeds north to Behring Strait and also on the Siberian side. The color of the plumage is a bluish-gray, with lavender shading and

positive black crescent-shaped marks. The head is white, often with a yellowish tinge; the throat black speckled with white, and the tail is also white; feet flesh-color. Dr. Coues says the eggs of this species are about five in number; size 3.35 by 2.00; white, with fine pale brown dotting, giving a general pale dirty-brown color. Hab. Coast and islands of Alaska

599. Black-bellied Tree Duck—*DENDROCYCNA AUTUMNALIS*. The Autumnal Tree Duck is a species of variegated plumage and long legs inhabiting the southwestern border of the United States and southward to Mexico, West Indies, Central and South America. Along the Rio Grande in Mexico and Texas it is abundant from April to October and later. Dr. J. C. Merrill, in "Notes on the Ornithology of Southern Texas," says: "This large and handsome bird arrives from the South in April, and is soon found in abundance on the river banks and lagoons. Migrating at night it continually utters a peculiar chattering whistle, which at once indicates its presence. Called by the Mexicans *patos maizal*, or Corn-field Duck, from its habit of frequenting those localities. It is by no means shy, and large numbers are offered for sale in the Brownsville market. Easily domesticated, it becomes very tame, roosting at night in trees with chickens and turkeys. When the females begin to lay, the males leave them and gather in large flocks on sand-bars in the river. My knowledge of the breeding habits is derived from Dr. S. M. Finley, U. S. A., who had ample opportunity of observing these birds at Hidalgo. The eggs are deposited in hollow trees and branches, often at a considerable distance from water (two miles), and from eight to thirty feet or more from the ground. The eggs are placed on the bare wood, and are from twelve to sixteen in number. Two broods are raised, and the parent carries the young to the water in her bill. Twelve eggs received from Dr. Finley average 2.11 by 1.53, with but little variation in size: they are of the usual duck shape, and in color are a rather clear yellowish-white. The birds leave in September, but a few late broods are seen as late as November. The soft parts in a full-plumaged living male were as follows: iris, brown; bill, coral-red, orange above; nail of bill, bluish; legs and feet, pinkish-white."

600. Fulvous Tree Duck—*DENDROCYCNA FULVA*. The breeding habits and the eggs of this species are similar to those of the last, *D. autumnalis*, and like it, is common on the Rio Grande. In a fresh specimen the bill is bluish-black, legs and feet slatey-blue.

Hab. Southern border of the United States (Louisiana, Texas, Nevada, California) and southward.

601. Mallard—*ANAS BOSCAS*. Pale, dirty, yellowish-drab to olivaceous-

green, but most generally the latter color when fresh; elliptical; six to ten in number; size about 2.25 by 1.60. This is one of the most highly esteemed ducks, and its habitat is nearly cosmopolitan, almost everywhere domesticated, and is the original of our barnyard duck. It is a common bird in North America at large, breeding sparingly throughout the United States. Rare in New England, scarcely found beyond Massachusetts, and is replaced farther northeast by the Black Mallard or Dusky Duck. The nest is made on the ground in wet places, of weeds, grass, feathers, etc.

602. Black Mallard—*ANAS OBSCURA*. The Dusky Duck or Black Duck, as it is commonly called, is distributed throughout Eastern North America from Labrador to Texas and it is found as far west as Utah. It is much less common in the interior than along the Atlantic coast. The characteristic and one of the commonest ducks of New England, where it breeds at large, and from thence northeastward, but is most numerous during the migrations. Mr. Capin, in "Oology of New England," says the eggs are from six to twelve in number, usually seven or eight; are elliptical or nearly so in shape; measure about 2.30 by 1.70, and vary from creamy-white to a pale buff color. He says the incubation period is from the last of April to the early part of June. The nest he describes as placed on the ground, in grass or rushes in the neighborhood of ponds, pools or streams, in meadows, and sometimes in swamps. It is a large and neatly arranged structure of weeds and grass, nicely hollowed and lined with down and feathers from the breast of the bird. In rare instances it has been known to nest in the hollow of a tree, or a "stub" projecting from the water of a swamp. The bird may be known by its resembling the female of the Mallard, *A. boschas*, but darker in color.

Hab. Eastern North America, west to Utah and Texas, north to Labrador, breeding southward to the Northern United States.

603. Florida Dusky Duck—*ANUS FULVIGULA*. This is a local, lighter-colored race which is resident in Florida. Mr. Maynard says they are smaller than the northern birds. According to his observations the eggs are deposited during the first and second weeks in April. Nesting and eggs are the same as those of the Black Mallard.

Hab. Florida; Kansas.

604. Gadwall—*CHAULELASMUS STREPERUS*. Clay or creamy-buff; elliptical; measuring a trifle over 2.00 by about 1.50; eight to twelve in number. The Gadwall or Gray Duck has nearly a general distribution throughout North America and is also widely diffused in most parts of the world. In North America it is not specially confined to the Arctic regions in the

breeding season, but is found to breed chiefly in the United States. The nest is made on the ground, of grass, weeds, feathers, etc., and the bird has been known to nest in trees.

Hab. Nearly cosmopolitan. In North America breeds chiefly within the United States.

605. Pintail—*DAFILA ACUTA*. Dull grayish-olive, without any buff or creamy shade; elongate ellipsoidal in shape; six to twelve in number, and measure from 2.10 to 2.30 long by about 1.52 broad. The Pintail Duck or Sprig-tail inhabits the whole of the Northern Hemisphere. It is distributed throughout North America at large, breeding from the northern parts of the United States northward, and migrates as far south as Panama and Cuba. The Sprig-tail is one of the easiest of the ducks for sportsmen to bring to bag; when alarmed they will arise and cluster confusedly together, giving the gunner a fair opportunity of raking them with advantage. They are abundant in the States during the spring and fall migrations. The male may be known by its long central tail-feathers. The nest is made on the ground in marshy places, of grass, weeds, etc.

Hab. Northern Hemisphere.

607. Baldpate — *MARECA AMERICANA*. Pale buff; eight to twelve in number; measuring about 2.00 by 1.50, with slight variations. The American Widgeon or Baldpate inhabits North America at large, breeding anywhere in suitable localities. This is one of the neatest of our ducks and may be known by the spotted neck and head, the latter is white on top; the speculum green and black; the lower neck, scapulars, sides and upper breast chestnut-red, tinged with ashy, finely banded all but the breast with dark brown. The greater upper wing coverts are white tipped with black and the under parts are pure white; the bill and feet are grayish-blue. The female is similar but lacks the white crown and iridescence on the head. The young resemble adult females. There is a great variation in the normal coloration of the plumage, aside from age or sex, but as Dr. Coues says: "the bird cannot be mistaken under any condition; the extensive white of the under parts and wings is recognizable at gun-range." The nest of this species is made on the ground in marshes, composed of grass and weeds, neatly arranged and nicely hollowed; it is usually lined with the down and feathers from the breast of the bird.

Hab. North America, from the Arctic Ocean south to Guatemala and Cuba.

608. Shoveller—*SPATULA CLYPEATA*. Greenish-gray or faintly bluish; elliptical; six to ten in number; averaging in size about 2.10 by 1.50. This peculiar-looking duck inhabits North America at large and breeds throughout its range in suitable places; wintering chiefly in the south. It

may easily be recognized by the broad bill, blue wing coverts and green speculum. The bill widens rapidly to the end, where it is twice as wide as at the base, and is dull greenish in color. The iris is yellow and the feet bright orange. The female may be known by the bill and the wings. The Spoonbill, as it is often called, makes its nest on the ground in the most boggy and difficult places of access, near waters. It is composed of grass and weeds.

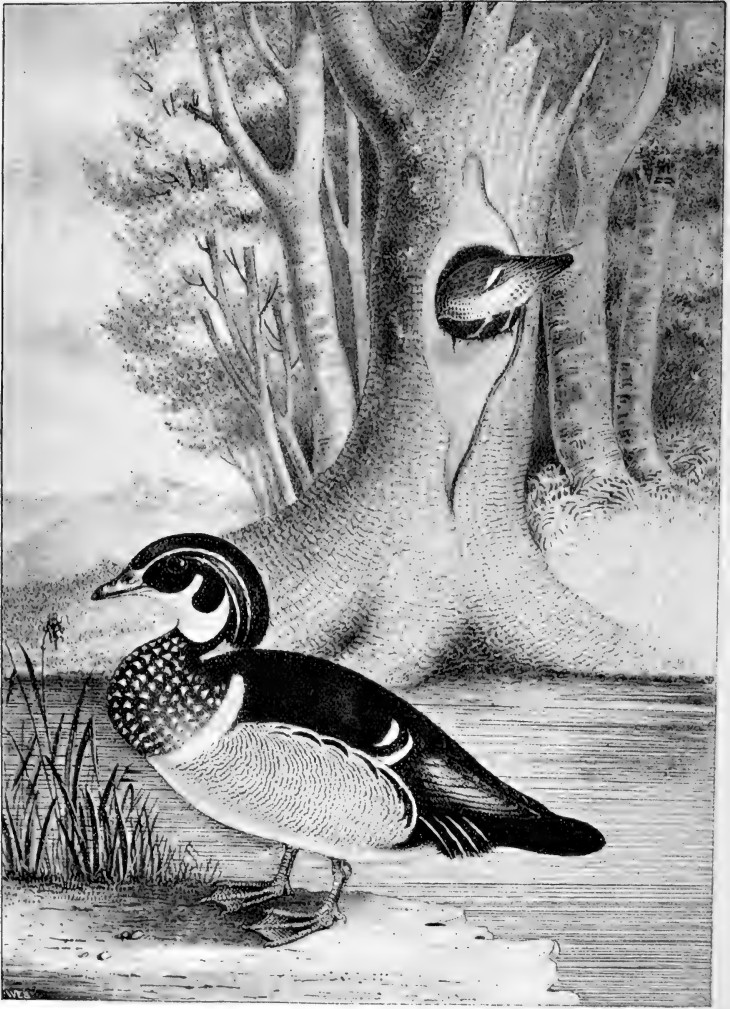
Hab. Northern Hemisphere. In North America breeding from Alaska to Texas. Not abundant on the Atlantic coast.

609. Blue-winged Teal—*QUERQUEDULA DISCORS*. Greenish or buff, lighter in color than those of the Green-winged Teal; they vary from ovate to ovoidal, and are sometimes nearly oval in shape; six to ten in number, and vary in size from 1.30 to 1.35 broad by 1.90 to 1.95 long. This beautiful little duck inhabits North America in general, but chiefly the Eastern Province. It breeds from the Northern United States northward. Readily known by its small size, blue wings and narrow bill. The feet are yellowish. The male has a white, crescent-shaped spot in front of the eye. The female is brown throughout, with the feathers edged with whitish which becomes prominent below. The throat is creamy; the wings are as in the male. Besides its beauty it is also noted for its excellence of flesh. The nest is made on the ground, in a thick patch or tussock of grass, usually in meadows, the border of ponds or streams and swampy places. It is composed of soft pieces of grass and weeds, lined with down and feathers from the breast of the bird.

Hab. North America, but chiefly the Eastern Province; north to Alaska and south to the West Indies and Northern South America.

610. Cinnamon Teal—*QUERQUEDULA CYANOPTERA*. Creamy-white or pale buff; six to twelve; one end smaller than the other; size from 1.90 to 2.10 long by 1.30 to 1.40 broad. This pretty South American Teal is now abundant in the United States west of the Rocky Mountains, and breeds anywhere in this range; Colorado, Utah, Nevada, California, Idaho, Oregon, etc. In the adult male the head, neck and under parts are rich chestnut, the wing coverts are sky-blue, as in the Blue-winged Teal. The bill is black, feet orange with dusky webs and joints; iris orange. The speculum is green and is set between the white tips of the greater coverts and the secondaries. The female is not easily distinguished from that of the Blue-winged species, but is larger, the bill longer and dusky; iris brown and the feet yellowish-drab. The nest of this Teal is made on the ground in swampy places; it is composed of grass, lined with down and





WOOD DUCKS AND NESTING PLACE.

(*Aix sponsa*.)

SEE DESCRIPTION NO. 613.

feathers. Its habits on the whole do not differ from those of its well-known ally, the Blue-winged.

Hab. Western America from the Columbia River south to Chili, Patagonia and Falkland Islands; east in North America to the Rocky Mountains; casual in the Mississippi Valley.

612. Green-winged Teal—*NETTION CAROLINENSIS*. Greenish or buff; usually ovoidal, sometimes nearly oval, and vary in size from 1.73 to 1.90 long by 1.22 to 1.32 broad; they are from five to eight in number. This handsome little Duck is exceedingly abundant throughout North America and breeds from the northern borders of the United States northward. During the spring and fall migrations it is one of the most abundant of water-fowl, frequenting the small brooks and ponds as well as the larger waters. It may be recognized by its small size; the primaries of the wing-coverts are of leaden-gray; speculum velvety purplish-black on the outer half, the inner half rich green; bordered in front with chestnut, fawn or whitish tips of the greater coverts, behind by white tips of the secondaries, interiorly with purplish-black stripes on the outer webs of the lengthened secondaries. The head and upper neck of the male are rich chestnut, blackening on the chin with a glossy green patch behind each eye. There is a white crescent in front of the wing. The female differs in the head markings, but those of the wing are the same. It is a well-known and highly esteemed game bird. The nest is placed on the ground, in a thick growth of grass, and is essentially the same as that of the Blue-winged Teal.

Hab. North America, breeding chiefly north of the United States, and migrating south to Honduras and Cuba.

613. Wood Duck; Summer Duck — *AIX SPONSA*. This is the most beautiful of all our ducks; in fact, no description can give a sufficient conception of the variety and lustre of its plumage. It is crested, the head iridescent green and purple, with parallel curved white superciliary and post-ocular stripes and a broad white throat-patch. The iris and edges of eyelids are red, the feet orange with black claws. In the female the head is mostly gray. A freshly-killed specimen has all the variegated tints to be seen in the rainbow. It is well-named Bridal Duck. This exquisite bird is found in North America at large and especially the United States, breeding throughout its range. It frequents the wooded portions of the country near water. The nest is made in the hollow of decayed trees, often at the depth of four to six feet. It is composed of twigs, weeds or grass, warmly lined with the down from the breast of the bird. What is remarkable about the entrance to the nest is, that it is often so small that it would seem almost impossible for the bird to pass in and out. I have seen the tree in which the nest was made situated a considerable distance

from water, but always in a retired place. Plate VI. represents the male in the foreground; the female is entering her nest in a hollow tree. The young are carried to the water in the bill of the parent bird. The eggs number from eight to twelve, and I know of several sets of fourteen; they are of a dirty yellowish-white color, and average in size about 2.00 by 1.50, but there is a great variation in this respect when a large series of specimens from different parts of the country are examined. When robbed of their eggs the birds will often lay a second set.

614. Scaup Duck—*FULIX MARILA*. Ashy-green; elliptical; six to ten in number, and average about 2.45 by 1.72, with considerable variation. The Big Black-head or Greater Scaup Duck inhabits the whole of North America and breeds in the far north. It is larger than the next species and is not so abundant in the United States. In the male the head, neck and the front part of the body are black, the former with a green gloss; the back and sides whitish, finely waved in zig-zag with black; underneath and speculum of wing white. The bill is blue, with black nail; iris yellow. In the female the head and anterior parts brown; face pure white. Blue-bill, Raft Duck, Flocking Fowl, and Shuffler are its other names. The nest is made on the ground in swampy places, of grass and weeds, lined with the down from the breast of the bird.

615. Little Blackhead—*FULIX AFFINIS*. Ashy-green; elliptical; six to ten in number; size from 2.25 to 2.30 long by 1.60 to 1.65 broad. This is doubtfully a distinct species from the last, with which it is found associated under the same circumstances. It may be known by its smaller size. Breeds from the northern border of the United States northward.

Hab. North America in general, breeding chiefly north of the United States, migrating south to Guatemala and the West Indies.

616. Ring-billed Blackhead—*FULIX COLLARIS*. Ashy-green; elliptical; six to ten in number; size from 2.25 to 2.30 long by 1.60 to 1.65 broad. The Ring-necked Duck inhabits the whole of North America. In the United States it is an abundant spring and fall migrant. Breeds in the far north—from the northern border of the United States northward. In plumage the bird is similar to the forgoing, but the adult male has an orange-brown ring around the neck; the female has no collar and the head and neck are brown. The bird may be known in all stages of plumage by the broad bill and gray speculum.

Hab. North America, breeding far north and migrating south to Guatemala and the West Indies.

617. Canvas-back — *ÆTHYA VALLISNERIA*. Greenish-buff; elliptical; six to ten in number; size from 2.25 to 2.50 long by 1.70 to 1.75 broad.

This is *the* highly (?) esteemed and wonderfully overrated table duck. When feeding on wild celery the flesh is said to acquire a peculiarly fine flavor, but under other circumstances not one person in ten thousand can tell it from any other duck, on the table. The Canvas-back breeds from the Northwestern States northward to Alaska. It is often confounded with the Redhead, but there is no occasion for this, even when the different sexes come to hand in any state of plumage. Although both species are similar in plumage, their heads alone will differentiate them. The Redhead has a high forehead, while the Canvas-back's head slopes gradually down to the bill and the bill rises high on the forehead. In the male Redhead the entire head is clear chestnut-red with a coppery tint, and the bill pale grayish-blue with a dark tip. In the Canvas-back nearly the whole head is blackish-brown and the bill blackish. The general color of the females of both is brownish throughout. The nest of the Canvas-back is made on the ground in marshy places—tall, rank grass is usually selected. It is composed of grass and weeds, lined with feathers.

Hab. Nearly all of North America, breeding from the Northwestern States northward to Alaska.

618. Redhead—*ÆTHYA AMERICANA*. Creamy-white; elliptical; seven or eight (?) in number; size about 2.25 by 1.70. Mr. A. M. Shields (Young Oologist, October, 1884), in his article entitled "Egging in a California Swamp," mentions finding sets containing seven to fourteen eggs in number. This is undoubtedly correct; I have frequently had sets of twelve. The Redhead is found throughout North America generally and breeds from California and Maine northward. The description given above in comparison with the Canvas-back will answer the purpose for identification. This is one of the commonest market ducks in eastern cities in winter and is readily sold for Canvas-back. Poachard is another name. The Redhead nests on the ground, often among a mass of reeds over water, after the manner of the Coot. It is composed of aquatic plant stems and rank grass, lined with the down from the breast of the bird.

619. Barrow's Golden-eye—*CLANGULA ISLANDICA*. Ashy-green; rounded-oval in shape; eight to ten in number, and measure from 2.40 to 2.45 long by 1.70 to 1.75 broad. This handsome duck inhabits northern North America, and is found in winter as far south as New York, Illinois and Utah. It breeds from the Gulf of St. Lawrence northward, and south in the Rocky Mountains of Colorado. It may be known by the large triangular white spot before the eye running up to a point, applied against the entire base of the bill and the division of the white area on the wing. The head is moderately puffy, with an occipital crest, and the color of the

gloss is chiefly purple and violet. The bill is black or greenish-dusky and the iris golden-yellow. In the female the head is snuff-brown and no white patch in front of the eye. This bird makes its nest in hollow trees, of grass, sticks and weeds, lined with feathers. Rocky Mountain Garrot is another name.

620. American Golden-eye—*CLANGULA GLAUCIUM AMERICANA*. Ashy-green; rounded-oval; eight to ten in number; size from 2.25 to 2.55 long by 1.70 to 1.78 broad. The Golden-eye, Whistler or Garrot inhabits North America at large, breeding from Maine and the British Provinces northward. It is very similar to the last, but has a large round white spot before the eye, not touching the base of the bill throughout. The nest is built in hollow trees and decayed trunks. It is made of grass, leaves and moss, lined with down from the bird's breast.

Hab. North America, breeding from Maine and the British Provinces northward; in winter, south to Cuba.

621. Butterball; Bufflehead—*CLANGULA ALBEOLA*. Varying from buff to a creamy-white or grayish-olive; ellipsoidal in form; the number of eggs range from six to fourteen; size about 2.00 by 1.50. The Butterball or Dipper inhabits the whole of North America. It is an abundant spring and fall migrant in the United States, and also winter resident. Breeds from Maine northward through the Fur Countries and Alaska. The male is one of the handsomest little ducks to be found anywhere. The head is particularly puffy, of varied rich iridescence, with a large showy white patch on each side behind the eye. The broad black and white pattern of his upper coat stands out in strong contrast against a glossy white breast. The female is smaller and a very insignificant-looking duck; the head is scarcely puffy, dark gray with traces of the white auricular patch. This Duck dives with the greatest of ease, slipping under water almost as quickly as a Grebe. The ease with which it disappears beneath the surface has gained for it the elegant name "Hell-diver." The nest of the Butterball is made in hollow trees, of grass, etc., warmly lined with feathers.

Hab. North America; south in winter to Cuba and Mexico. Breeds from Maine northward through the Fur Countries.

622. Harlequin Duck—*HISTRIONICUS MINUTUS*. Greenish-yellow; six to eight in number; size about 2.10 by 1.60. This beautiful but singularly marked duck inhabits Northern North America, breeding from Newfoundland, the Northern Rocky Mountains and the Sierra Nevada northward. In winter it is found as far south as the Middle States and California. The male Harlequin is second only to the Wood Duck in beauty, and the female will bear no comparison to the same sex of that species. The male's

general color is bluish-ash, the sides of the head and of the body behind are chestnut; a white patch at the base of the bill and one on the side of the occiput, also on the side of the breast and tail; two transverse ones on the neck, nearly forming a collar, and several on the wings. The speculum is violet-purple. The female is dark brown, with a white patch on the auriculars and before the eye. Bill very short and small. The nest of this species is built in hollow trees and stumps. It is composed of weeds, grass, etc., warmly lined with the down from the breast of the bird. In some places the Harlequins are called "Lord and Lady Ducks."

Hab. Northern North America, breeding from Newfoundland, the Northern Rocky Mountains and the Sierra Nevada northward; south in winter to the Middle States and California; Eastern Asia; Iceland.

623. Long-tailed Duck; Old Squaw—*HARELDA GLACIALIS*. Greenish-ash; six or seven; size from 1.90 to 2.20 long by 1.40 to 1.50 broad. This handsome duck breeds in the far north. It inhabits the Northern Hemisphere and is especially maritime, but it is also found on inland waters. Found in the United States only in winter. In Ohio it is considered not a common winter visitor on Lake Erie and rare in the interior of the State. February 21st, 1885, I prepared five skins of this Duck, all males, which were killed in the immediate vicinity (Franklin Co., O.), and a number were seen hanging at the restaurant doors. I have seen this February (1886) several males in the market. The Duck may be recognized by its long tail and peculiar reddish-brown and brownish-black and white markings. The female is without the lengthened tail feathers, and is otherwise different—in fact, a very inferior-looking bird. South-southerly and Old-wife are its other names. The nest is placed on the ground in marshy places, made of grass, weeds, etc.

Hab. Northern Hemisphere; in North America south to the Potomac and the Ohio. Breeds far north,

625. Steller's Duck—*POLYSTICTA STELLERI*. The habitat of this Duck is in the Arctic and sub-Arctic coasts of the Northern Hemisphere. Dr. Coues says the bird is not yet common in collections, though abounding and sometimes gathering in enormous flocks on the islands and both shores of Behring's Sea and the Arctic coast of Northeastern Siberia. It winters mainly on the Aleutian Islands, and is usually found in company with the Pacific, Spectacled and King Eiders. The nest is placed on the ground, and is made of grass lined with down and feathers from the breast of the bird. The eggs are from seven to nine in number; size 2.25 by 1.60. They are of a dark greenish-drab, sometimes discolored with an oily substance.

626. Spectacled Eider—*LAMPRONETTA FISCHERI*. This Eider, with a

peculiarly dense and puffy patch of velvety feathers about the eye suggesting spectacles, has nesting habits similar to *S. m. dresseri*. The eggs are also similar.

Hab. Coast of Alaska, north to Point Barrow.

627a. American Eider—*SOMATERIA MOLLISSIMA DRESSERI*. The American Eider breeds along the Atlantic coast of North America from Maine to Northern Labrador. It is one of the most characteristic summer Ducks of Labrador and Newfoundland. The nest is built on the ground and consists chiefly of mosses, lichens, hay and seaweed, lined with feathers which the bird plucks for the purpose. The eggs are from six to ten in number, but often fewer; they are plain dull greenish-drab; measuring about 3.00 by 2.00.

Hab. Atlantic coast of North America, from Maine to Labrador; south in winter to the Delaware.

628. Pacific Eider —*SOMATERIA V-NIGRA*. This Eider inhabits the coasts of the North Pacific. It is common in suitable places on both coasts and islands of Behring's Sea, and the polar coasts of Siberia; replacing the Common Eider, *S. mollissima*, Spectacled and Steller's Eiders. Nesting and eggs as usual.

Hab. Coasts of the North Pacific; in the interior to the Great Slave Lake, and Eastern Siberia.

629. King Eider—*SOMATERIA SPECTABILIS*. Dirty-green; six to ten in number, and measure from 2.60 to 2.65 long by 1.75 to 1.80 broad. This beautiful Eider breeds in the Arctic regions. It is abundant in various places along the shores of the Arctic Ocean, thence south in winter on the Pacific side in great numbers to the Aleutian Islands and beyond. Rare on the Alaskan coast of Behring's Sea. It is one of the rarest sea Ducks which occur on the New England coast. In Ohio it is a very rare winter visitor. On November 4, 1880, Dr. Wheaton found a specimen of this species in process of preparation for the table by a market-dealer in Columbus, taken about fifteen miles southeast of the city. A few others have been recorded as taken in the State. The nest of this Eider is placed on the ground and is composed of grasses and weeds, lined with down and feathers from the bird.

Hab. Northern part of Northern Hemisphere, breeding in the Arctic regions; in North America south casually in winter to New Jersey and the Great Lakes.

630. American Scoter —*CEDEMIA AMERICANA*. Pale yellow or buff; oval; six to ten in number; size about 2.25 by 1.60. The American Scoter or Sea Coot is an abundant bird along the coast of Northern North America and also on the larger lakes. In the United States it is found generally in winter. Breeds in Labrador and the northern interior, nesting in June and July. The plumage of the adult male is entirely black; that of the female is a sooty-brown, becoming paler below; the female is

much smaller than the male. The nest is placed on the ground near water, composed of sticks, weeds, etc., with a warm lining of down and feathers.

Hab. Coasts and larger lakes of Northern North America; breeds in Labrador and the northern interior; south in winter to New Jersey, the Great Lakes and California.

632. American Velvet Scoter—*MELANETTA VELVETINA*. Dirty-cream color; oval in shape; six to ten in number, and measure from 2.60 to 2.65 long by 1.80 to 1.85 broad. The White-winged Scoter inhabits Northern North America. Breeds in Labrador and the Fur Countries. In winter it is found in the Middle States as far south as Southern Illinois and Southern California on large waters. The general color of the adult male is black, paler below, with a small white spot under the eye. The speculum is white and is formed by most of the secondaries and tips of the greater coverts. Iris yellow. Feet orange or carmine-red, with black webs. The female is sooty-brown, pale gray below, but retaining the white speculum. It is also called Sea Coot and Surf Duck. The nest is made on the ground near water, composed of grass, sticks and weeds, with a soft lining of feathers.

633. Surf Duck—*PELIONETTA PERSPICILLATA*. Greenish-buff; six to twelve in number; size from 2.25 to 2.30 long by 1.60 to 1.65 broad. This Surf Duck and the two preceding species are called Coots by the gunners, their habits, appearance and general characteristics being similar. The plumage of the male of this species is glossy black, no white on the wings, but a triangular white patch on the forehead pointing forward. The female is sooty-brown, below silvery-gray; side of the head much whitish. Breeds in the far north, nesting on the ground in the usual manner.

Hab. Coasts and larger inland waters of Northern North America; in winter south to the Carolinas, the Ohio River and Lower California.

634. Ruddy Duck—*ERISMATURA RUBIDA*. The Ruddy Duck inhabits North America at large and breeds throughout most of its range, more especially from the northern borders of the United States northward. In spring and fall it is an abundant duck on the large bodies of water, as well as rivers, small streams and ponds. It is exceedingly difficult to kill, being very tenacious of life, and when wounded dives with the greatest of ease, remaining under the water for a long time—in fact, no duck excels this one in diving, and I have heard many a sportsman utter words that he should have repeated to himself as his gun “went off” and the poor wounded fowl disappeared beneath the surface of the water. I have had several males in perfect plumage; they are handsome birds. The

general color is glossy chestnut, and the lower parts silvery-white; the chin and sides of the head are dead white, the crown and nape glossy black. The female is brown above, finely dotted and waved with dusky; below paler and duller; crown and nape dark brown; crissum white. From its peculiar stiff tail feathers I have often heard hunters call it the "Sprig-tail," a name, however, applied to the Pin-tail Duck. The nest of the Dipper Duck, as it is also called, is made on the ground, of grasses well matted together. The eggs range from eight to fourteen and are of a grayish-white in color; somewhat elliptical in shape, and measure from 2.35 to 2.50 long by 1.70 to 1.75 broad.

636. American Sheldrake—*MERGUS MERGANSER AMERICANUS*. The Sheldrake, Goosander or Merganser, as it is variously called, is a common bird throughout North America, breeding from the Northern States northward. It winters in the south. Is very abundant on fresh as well as salt waters in spring and fall. The three species of Sheldrakes with the "saw-bill" are commonly called "Fish Ducks." Their flesh is rank and unpalatable. The male may be recognized by his large size, white breast and green gloss on the head and neck, the latter scarcely crested: the female, which is much smaller than the male, has a deep red head and neck, with the crest better developed; under parts salmon-tinted. The nest is made in hollow trees, after the manner of the Wood Duck, and is composed of moss, leaves and grasses, warmly lined with down from the bird. The eggs are six or eight and sometimes ten in number; of yellowish or buff color, and measure from 2.50 to 2.80 by 1.70 to 1.80.

637. Red-breasted Sheldrake—*MERGUS SERRATOR*. The Red-breasted Merganser inhabits North America at large, and is a more abundant bird than the Goosander. It is very common in the United States in winter, and it breeds in suitable places as well as further north. In many places in the interior it appears to be the rarest of the three species. This is the case in Ohio. Unlike the other two Mergansers, this one makes its nest on the ground amongst tall grass. It is composed of dry leaves, moss and grass, lined with down and feathers. The number of eggs in a set varies from six to twelve, usually about nine or ten; oval or elliptical in shape, and vary in size from 2.48 to 2.65 long by 1.65 to 1.82 broad. The color is a yellowish or reddish-drab, sometimes a dull buffy-green.

Hab. Northern portions of Northern Hemisphere; south in winter through the United States.

638. Hooded Sheldrake—*LOPHODYTES CUCULLATUS*. Delicate pearly-white; spherical; six to ten or fourteen in number, and average about 2.13 by 1.75. This handsome Merganser is distributed throughout North

America generally, and breeds nearly throughout its entire range. Anyone can recognize the male of this species by its striking black and white colors and its magnificent, erect, compressed semi-circular black and white crest. The general color of the head, neck, sides and upper portions of the female are grayish-brown; white beneath, and the crest is not so prominent. The nest is built in the hollow of a tree or stump, made of grass and weeds, lined with feathers and down. W. S. C., in the "Young Oologist," July, 1884, writing from Peoria, Illinois, says: "I found a nest on April 20th. 1881, in the hollow of a willow tree, about fifteen feet from the ground. In the nest, or rather hole, for there seemed to be no nest other than rotten wood, were twelve eggs, these hidden under a covering of down from the breast of the bird."

Hab. North America generally, south to Mexico and Cuba.

639. Frigate Pelican—*TACHYPETES AQUILA*. The Man-o'-War Bird or Frigate Pelican is a maritime bird, inhabiting tropical and subtropical coasts of the globe. In North America it inhabits the South Atlantic and Gulf coasts. A constant resident on the coast of Florida and on the Bahamas. Its majestic flight and aerial evolutions, often at immense elevations, causes even the most casual observer to gaze on it with admiration. It may be recognized by its immense wings, deeply forked tail and general dark colors of brownish-black glossed with green. It has a small gular sac which is capable of considerable distension. A fine mounted specimen of this noted bird, which was killed in the spring of 1880 by Emmet Adcock, in Fairfield county, Ohio, is now in the office of Dr. S. Renshaw, of Sugar Grove, Ohio. The nest of the Frigate is a huge, shallow, flat structure of sticks, placed on low bushes by the water's edge. Mr. Maynard says that thousands gather to breed in one rookery, and that in Florida they breed late, about the first of June. The eggs are two or three in number; greenish-white, thick and smooth-shelled.

Hab. Tropical and subtropical coasts generally; in America, north to Florida, Texas and California, and casually on the Atlantic coast to Nova Scotia.

640. American White Pelican—*PELECANUS ERYTHORHYNCHUS*. White, covered with a calcareous deposit; one or two in number, and I have had positively identified sets of three eggs; size from 3.15 to 3.30 long by 2.20 to 2.35 broad. This fine white bird, of very large size and robust form, ranges irregularly over temperate North America at large, being rare or accidental in the Northeastern States. Along the South Atlantic and Gulf States it is common. West of the Mississippi it is generally abundant, and breeds from Utah northward. It is common along the coast of California and Western Mexico. The bird breeds usually in colonies,

sometimes of vast extent. The nest is a heap of earth scraped up to the height of a few inches. This species has a large gular pouch, but its greatest development is found in the next species, the Brown Pelican.

641. Brown Pelican — *PELECANUS FUSCUS*. White, covered with a white calcareous deposit; elliptical in form; two or three in number, and measure 3.00 by 2.00, with considerable variation. The Brown Pelican is exclusively maritime, inhabiting both coasts of America from the tropical regions to North Carolina and California. It is an abundant bird and a constant resident in Florida. When breeding, the Brown Pelicans select particular localities and will return to them year after year to nest. Mr. Maynard mentions Pelican Island in the Indian River as a place where thousands congregate for this purpose from miles around. At this place he says the eggs are deposited early in March, a month earlier than those laid on the west coast of Florida. The nests are bulky structures placed on the ground or in trees, composed of sticks, lined with weeds, grass, etc.

642. Common Cormorant — *PHALACROCORAX CARBO*. Bluish-green, coated with a white chalky substance; three or four in number; size 2.60 by 1.75. The Cormorants are curious birds of strange figure, and the outer surface of the plumage in most species normally is of a dark lustrous greenish-black but subject to great changes, making their study very difficult. The eyes as a rule are green, a color rarely seen in birds. They feed principally upon fish and their voracity is proverbial. They have a small gular pouch, forming a naked space under the bill; this is usually of bright color. The eggs are, as far as known, pale greenish in color and elliptical in form. This species breeds in vast numbers on the rocky shores of Labrador and Newfoundland; making the nest upon the tops of ledges or on projections and in the crevices of precipitous rocks, which are covered with the excrement of the birds. It is composed of sticks, moss and sea weed and is very filthy and offensive. Like all the Cormorants this species is gregarious and breed in communities. They are all known under the common name of Shag.

Hab Coasts of the North Atlantic, south in winter on the coast of the United States, casually, to the Carolinas; breeding (formerly) from Massachusetts northward.

643. Double-crested Cormorant — *PHALACROCORAX DILOPHUS*. Eggs same as those of the preceding species, but average smaller, about 2.30 by 1.40. Nesting habits the same, but it also nests in hollow trees, stubs, etc. This is the commonest species and the only one diffused over the interior.

Hab Eastern coast of North America, breeding from the Bay of Fundy northward; southward in the interior to the Great Lakes and Wisconsin.

643a. Florida Cormorant — PHALACROCORAX DILOPHUS FLORIDANUS. Eggs as usual; two to four; size 2.40 by 1.40, with great variation. This species is resident in Florida and along the Gulf coast, and breeds by thousands on the mangrove bushes.

Hab. Coast of the South Atlantic and Gulf States, northward in the Mississippi Valley to Southern Illinois.

644. Mexican Cormorant — PHALACROCORAX MEXICANUS. Eggs and nesting like the last.

Hab. West Indies, South and Central America to Southern United States; north in the interior to Kansas and Southern Illinois.

645. Brandt's Cormorant — PHALACROCORAX PENICILLATUS. Eggs as usual. This is a very common Cormorant along the Pacific coast of the United States, especially the California coast. Breeds in great numbers on the Farallone Islands, where also is found Baird's Cormorant. Tufted Cormorant is its other name.

Hab. Pacific coast of North America, from Cape St. Lucas to Washington Territory.

646. Violet-green Cormorant—PHALACROCORAX VIOLACEUS. The Violet-green Cormorant is very abundant in suitable places along the Alaskan coast. It breeds in communities, as usual, nesting on cliffs and ledges of rocks. The eggs are three or four in number, of the usual color; size about 2.50 by 1.52.

Hab. Coast of Alaska, from Norton Sound to Sitka.

646a. Baird's Cormorant — PHALACROCORAX VIOLACEUS RESPLENDENS. Baird's Cormorant is like the last, but is a much smaller bird, with extremely slender bill. The nesting is like that of *P. violaceus*.

Hab. Pacific coast of North America, from Cape St. Lucas to Washington Territory.

647. Red-faced Cormorant—PHALACROCORAX BICRISTATUS. This species inhabits both the coast and islands of Alaska. It is resident on the Seal Islands of Behring's Sea, where it is found in thousands, nesting on rocky cliffs. Its habits correspond with those of the others.

Hab. Priybilof and Aleutian Islands, and coast of Kamtschatka.

649. American Anhinga; Snake Bird—PLOTUS ANHINGA. Bluish or dark greenish-white, with a white, chalky incrustation; like a Cormorant's eggs in color and texture of shell, but narrow and elongate; size about 2.60 by 1.25. This singular-looking bird is very common in summer in the South Atlantic and Gulf States to North Carolina, frequenting the almost impenetrable swamps. It is a constant resident in Florida. This bird dives with amazing ease, and when alarmed will drop from its perch with scarcely a ripple on the surface of the water, and will swim beneath the surface to a safe distance before reappearing. It also has the curious habit of quietly sinking like a Grebe, and it often swims with the body

submerged, its head and long neck in sight like some kind of a water serpent—hence its name. The nest is placed on trees and bushes over water. It is bulky and composed of sticks, leaves and moss and occasionally lined with downy catkins of willow. It is usually deeply hollowed. Darter and Water Turkey are its other names.

Hab. Tropical and subtropical America, north to the Carolinas and the mouth of the Ohio.

650. Gannet—*SULA BASSANA*. Greenish-blue, covered with a calcareous deposit; one egg is laid; size about 3.00 by 2.00, with variations. The White Gannet or Solan Goose breeds from Nova Scotia and the British Islands northward. In particular places along the Atlantic coast, during the breeding season, it is found in thousands. One place is "Gannet Rock," in the Gulf of St. Lawrence. It is a bird of large size, pointed bill and general white colors, and it has somewhat the appearance of a goose. The nest is made of sea-weed and is placed on rocky cliffs.

Hab. Coast of North Atlantic; south in winter to the Gulf of Mexico and Africa.

652. Booby Gannet—*SULA LEUCOGASTRA*. Greenish-blue; one or two (?) in number; size 2.50 to 1.75. The Booby is very abundant along the coasts of the South Atlantic and Gulf States, congregating by thousands at its breeding places along the low shores and islands. The general plumage is dark brown; from the neck below white. It is called Brown Gannet. The nest is placed in bushes and is very bulky, composed of sticks and weeds.

Hab. Coasts of tropical and subtropical America, north to Georgia.

654. Yellow-billed Tropic Bird—*PHAETHON FLAVIROSTRIS*. Chalky-white, usually very thickly spotted with reddish-chocolate of varying shades; one in number; oval in form, and measure from 2.15 to 2.25 long by 1.50 to 1.60 broad. This bird, whose general figure resembles that of a large tern, is not uncommon on the Bahama Islands, where it breeds, but is rare on the coast of Florida and Gulf coast. The general plumage of the bird is white, tinged with salmon, and it has long tail feathers. It is gregarious at all times, nesting in communities along coasts and on islands, depositing the single egg usually in crevices of rocks.

Hab. West Indies and Atlantic coast of Central America; north to Florida; accidental in Western New York.

655. Red-billed Tropic Bird—*PHAETHON ÆTHEREUS*. Eggs same as those of the preceding. General habits the same.

Hab. Coasts of tropical America, north on the Pacific coast to Lower California; accidental on the Newfoundland Banks.

656. Black Skimmer—*RHYNCHOPS NIGRA*. White, spotted and blotched rather coarsely with brown, blackish-umber, and lilac of varying shades, with neutral-tint shell blotches; three or four in number; size from 1.65

to 1.98 long by 1.35 to 1.40 broad. Authorities say three, but I have had a number of sets of four eggs. In summer the Black Skimmer is abundantly distributed from New Jersey southward, and it is strictly maritime. It may be known by its singularly shaped bill, the under mandible of which is much longer than the upper, and compressed like a knife blade, its end being obtuse. The bird seems to feed as it skims low over the water, the under mandible probably grazing the surface. Like the Terns, the Skimmers breed in communities, depositing the eggs on the bare sand.

Hab. Warmer parts of America, north on the Atlantic coast to New Jersey, and casually to the Bay of Fundy.

658. Kittiwake Gull—*RISSA TRIDACTYLA*. Yellowish-buff, spotted and blotched with rounded marks of brown and lilac of varying shades; oval; two or three in number; size about 2.25 by 1.80, with great variation. The Kittiwake Gull breeds from New England northward. It is a very abundant species coastwise, nesting not always on the ground, like most Gulls, but on rocky cliffs overhanging water. The nest is composed of sea-weed, etc.

Hab. Arctic regions, south in Eastern North America in winter to the Great Lakes and Middle States.

659. Red-legged Kittiwake—*RISSA BREVIROSTRIS*. This beautiful species is exceedingly abundant on the islands of Behring's Sea, where it is a constant resident, nesting in June and July on shelves of the most inaccessible crags, building a strong nest of grass, moss and sea-weeds, mixed with mud. The eggs are two or three, of the size and shape of a hen's eggs, but like those of the last species. Short-billed Kittiwake is its other name.

Hab. Coast and islands of Behring's Sea.

660. Glaucous Gull; Burgomaster—*LARUS GLAUCUS*. Varying from bluish-white to dark brownish-yellow, spotted, blotched and sprinkled with brown and lilac of varying shades; three or four in number; size from 2.95 to 3.00 long by 2.18 to 2.25 broad. This large and handsome Gull breeds in the far north, placing its nest on the most inaccessible rocky cliffs. It is composed of sticks, sea-weeds, etc.

Hab. Arctic regions; south in winter in North America to the Great Lakes and Long Island. North Pacific.

661. White-winged Gull—*LARUS LEUCOPTERUS*. The Iceland or White-winged Gull breeds in the Arctic regions, placing the nest on rocky cliffs; it is composed of sticks, sea-weeds, etc. The eggs are three or four in number, deep brownish-yellow, spotted and blotched with rather round

marks of brown and lilac of varying shades; size from 2.70 to 2.76 long by 1.85 to 2.00 broad.

Hab. Arctic regions; south in winter in North America to Massachusetts, occasionally much further.

662. Glaucous-winged Gull—*LARUS GLAUDESCENS*. The nesting habits and eggs of this species are similar to those of *L. glaucus*. It is common along the North Pacific coast, breeding northerly.

Hab. Pacific coast of North America, from Alaska south to California; on the Asiatic side south to Japan.

663. Great Black-backed Gull—*LARUS MARINUS*. Varying from a bluish-white or olive-gray to deep yellowish-brown, irregularly spotted and blotched with reddish-brown and lilac of various shades; usually three; they vary in shape from pointedly to broadly oval, and measure about 2.95 by 2.25. Like all of the eggs of the gulls, there is a great variation in ground color and markings. This very large Gull breeds north of the borders of the United States, especially in Labrador. The nest is placed on the naked rock and is composed of sea-weed, etc.

Hab. Coasts of the North Atlantic; south in winter to Long Island and Italy.

664. Western Gull—*LARUS OCCIDENTALIS*. This is probably the most abundant Gull on the coast of California, breeding from the southern portion northward. A large number of eggs before me are not distinguishable from those of the next species.

Hab. Pacific coast of North America.

666a. American Herring Gull—*LARUS ARGENTATUS SMITHSONIANUS*. Varying from bluish-white to deep yellowish-brown, irregularly spotted and blotched with brown and lilac of varying shades; there is, in a large series of eggs, so great a diversity in ground color and markings that a concise description is inadequate. Mr. Capin, in his superb work, "Oology of New England," figures three prevailing types of coloration. Usually three in number; size about 2.75 by 1.90. This large Gull inhabits North America at large, both coastwise and in the interior. Breeds on the Atlantic coast from Maine northward. The nest is placed on the ground or on rocks and sometimes on trees. It is a mass of grasses, moss, sea-weed and dirt.

Hab. North America generally, breeding on the Atlantic coast from Maine northward; in winter south to Cuba and Lower California.

668. Californian Gull—*LARUS CALIFORNICUS*. This Gull inhabits Western and Arctic North America, breeding abundantly in the United States, nesting on the ground of mossy islands, preferably rocky places and bare dry spots. The nest is composed of grass, moss and lichens, gathered in a heap and slightly hollowed. The eggs are usually three in number, with the usual variations in color and size, averaging about 2.70 by 1.85.

Hab. Western Province of North America, from Alaska to Mexico.



DABCHICKS AND NEST.

Podilymbus podiceps.)

SEE DESCRIPTION NO. 735.

669. Ring-billed Gull—*LARUS DELAWARENSIS*. Varying from bluish-white to dark brown, spotted and blotched with brown and lilac of various shades; size from 2.75 to 2.80 long by 1.60 to 1.75 broad; three or four in number. This Gull inhabits the entire continent of North America, and is, on the whole, the commonest species, both coastwise and in the interior. Breeds in the United States and far north, placing the nest on the ground or on cliffs. It is composed of sticks, grass, weeds, etc.

Hab. North America at large, south in winter to Cuba and Mexico.

673. Laughing Gull—*LARUS ATRICILLA*. Varying from bluish-white to greenish-ash, spotted and blotched with brown, umber and lilac of varying shades; the usual variations in size, ground color and markings are to be found in a large series of these eggs; size from 2.00 to 2.28 long by 1.50 to 1.65 broad. They are usually three in number, sometimes two. The Laughing or Black-headed Gull is more of a southern species, particularly one of the Gulf and South Atlantic States, but is found breeding as far north as the coasts of New England. Like the others, it breeds in colonies. Mr. Maynard says: "The notes of gulls are loud and startling, but those of the Laughing are the most singular of them all, for their cries, especially when the birds are excited, sound like loud peals of prolonged, derisive laughter." The nest is placed on the ground in sandy places, made of grass, sea-weeds, etc., slightly hollowed.

Hab. Eastern tropical and warm temperate America, chiefly along the sea-coast, from Maine to Brazil; Pacific coast and Middle America.

674. Franklin's Gull—*LARUS FRANKLINI*. In North America this Gull is confined to the interior west of the Mississippi, breeding from the northern border of the United States northward. The eggs are described as closely resembling those of the Eskimo Curlew in size, shape and color, though the dark splashes are more evenly distributed over the surface. The ground-color varies from dirty white to olive-drab and light brown, with all the shades of the lighter tints of green and ashy. They are usually marked with numerous and bold splashes and zig-zag lines of umber-brown and different depths of chocolate, particularly at the larger end. The eggs average about 2.12 by 1.40; they are from one to three in number. This beautiful gull often breeds in communities of large extent, in marshes and wooded swamps, making its nest of wet grasses and sedges on the top of broken down stalks.

675. Bonaparte's Gull—*LARUS PHILADELPHIÆ*. Varying from greenish to brown, spotted and blotched with brown, umber and lilac of various shades; an egg is described as measuring 1.80 by 1.30. The eggs are rare and scarcely known. This little Gull is one of the most graceful and

elegant of the family. It is distributed throughout the whole of North America, both coastwise and in the interior. During the migrations it is especially abundant along the Atlantic coast. Breeds mostly north of the United States. The nest is described as placed on the ground or on rocky cliffs, made of sea-weeds, etc.

677. Sabine's Gull — *XEMA SABINEI*. Deep greenish-brown, obscurely spotted and blotched with darker shades of the same; they very closely resemble those of the Willet or Curlew; usually three, size 1.75 by 1.25. The Fork-tailed Gull breeds in the Arctic regions, where it is said to nest like the Terns, depositing the eggs on the ground in sandy places.

Hab. Arctic regions; in North America south in winter to New York, the Great Lakes, and Great Salt Lake; casual south to Peru.

679. Gull-billed Tern — *STERNA ANGLICA*. Varying from yellowish-buff to greenish, spotted and blotched with yellowish-brown and lilac, especially about the larger end, but like the eggs of all the terns are very variable; usually three in number. The late Snowdon Howland wrote me that he had authentic sets of four and five. Size about 1.75 by 1.30. The Marsh Tern's distribution is nearly cosmopolitan. In the United States it breeds from New Jersey southward. It is not a common bird, and it is not a beach-nester, depositing the eggs on the broken-down reeds or grasses in marshes. Nesting like that of the Black Tern.

Hab. Nearly cosmopolitan; in North America chiefly along the Atlantic and Gulf coasts of the United States.

680. Caspian Tern — *STERNA CASPIA*. Varying from white to greenish-buff, spotted and blotched with brown and lilac of different shades; broader and more elliptical than those of the next species; two in number; size from 2.65 to 2.75 long by 1.80 to 1.90 broad. The eggs are laid in a hollow scooped in dry sand, without any nest. Breeding commonly in single or few pairs. The distribution of the Imperial Tern, as it is called, is nearly cosmopolitan. In North America irregularly distributed, chiefly in the Arctic regions, where it breeds, and along the whole Atlantic coast. Known to breed southward as far as Virginia, Lake Michigan, Texas, Nevada and California.

681. Royal Tern — *STERNA REGIA*. Varying from white to greenish-buff, spotted and blotched with brown, umber, and lilac of varying shades, with an occasional tinge of yellow, rather pyriform; size from 2.70 to 2.75 long by 1.70 to 1.75. This fine Tern, next in size to the Caspian, breeds in large colonies along the Atlantic coast from New Jersey southward, depositing two eggs on the sand.

Hab. Tropical America and warmer parts of North America northward to Massachusetts, the Great Lakes and California. West coast of Africa north to Tangiers.

682. Elegant Tern — *STERNA ELEGANS*. The nesting and eggs of this elegant species are the same as those of the Royal Tern and the birds also resemble each other. Princely Tern is its other name.

Hab. Pacific coast of America from California to Chili.

683. Cabot's Tern — *STERNA CANTIACA ACUFLAVIDA*. Varying from white to buff, irregularly spotted and blotched with brown, umber, bluish and reddish; rather pointed; two or three in number; size about 2.10 by 1.40. The beautiful Sandwich Tern has an extensive distribution in both Hemispheres; in North America it has been observed as far north as Southern New England. Breeds in large colonies, like most of the terns, depositing the eggs in the dry sand. It nests on the small sandy islands off the coast of Cape Sable in the latter part of June. Breeds commonly on the coasts of Central America, and on some of the larger West India islands.

Hab. Tropical America, northward along the Atlantic coast, irregularly, to Southern New England.

685. Forster's Tern — *STERNA FORSTERI*. Varying from nearly pure white and pale green to warm brownish-drab, irregularly spotted and blotched with brown, umber and lilac; two or three are the number laid; size 1.85 by 1.35. Forster's Tern is distributed throughout North America generally. It is abundant along the Atlantic coast during the migrations. Breeds from Manitoba southward to Virginia, Illinois, Texas and California, depositing its eggs on the ground in marshes. In winter it is found southward to Brazil.

686. Common Tern — *STERNA FLUVIATILIS*. Varying from greenish to deep brown, spotted and blotched with brown, blackish and lilac; two to four, and very rarely five, commonly three; the eggs are not distinguishable from those of allied species. The variations in ground-color and markings are so great that the only positive means of distinguishing them when breeding in colonies with other species is by watching the bird flying to or from its nest, or in some way capturing it. Mr. Capen, in "Oology of New England," figures specimens that may be taken as faithful representations of either the Arctic or Roseate Terns. Size about 1.70 by 1.25. Sea Swallow breeds in various localities throughout its North American range. Along the New England coast the period of incubation commences about the first of June. Mr. Worthington informs me that on Gull and Plum Islands fresh eggs can be found from the 10th of June to the middle of July, and that he never saw but one set of more than four eggs in the thousands he has collected. He says the nests are always placed on the ground or rocks, and they are made of a few pieces of grass

and sea-weed. Mr. Capen says the nests are sometimes quite bulky, composed of straws, grasses and sea-weed. The terns are all noted for their graceful flight, and are commonly called Sea-Swallows.

Hab. Greater part of the Northern Hemisphere and Africa. In North America chiefly confined to the Eastern Province, breeding from the Arctic coast, somewhat irregularly, to Florida and Texas and wintering northward to Virginia. Apparently not occurring in the Pacific.

687. Arctic Tern—*STERNA MACRURA*. Eggs and nesting not distinguishable from those of Common Tern. Breed from Massachusetts northward.

Hab. Northern Hemisphere; in North America breeding from Massachusetts to the Arctic regions, and wintering southward to Virginia and California.

688. Roseate Tern—*STERNA DOUGALLI*. This beautiful species, often called Paradise Tern, breeds apparently throughout its range. It is an abundant species along the Atlantic coast in summer, breeding in colonies with other terns. The eggs are not distinguishable from those of the two foregoing species.

Hab. Temperate and tropical regions; north on the Atlantic coast of North America to Massachusetts, and casually to Maine.

690. Least Tern—*STERNA ANTILLARUM*. Varying from pale greenish to drab or buff, spotted and blotched pretty evenly with brown, umber, and lilac of various shades, with an occasional tinge of yellowish; in some the markings tend to form a wreath about the larger half; usually three in number, sometimes only one or two and seldom four; size about 1.25 by .95. This pretty little "Sea Swallow" inhabits temperate North America. It is especially common along the Atlantic coast of the United States, and is also found on the large inland waters. Breeds nearly throughout its range.

Hab. Northern South America, northward to California and New England, and casually to Labrador.

691. Sooty Tern—*STERNA FULIGINOSA*. Pinkish or creamy white, spotted and blotched with a rich reddish-brown, tinged with lilac; a handsome egg; size from 1.95 to 2.12 long by 1.45 to 1.50 broad. Only a single egg is laid in most cases. Writers in general say three. The Sooty Tern inhabits the warmer parts of the globe. In North America it is found regularly as far north as the Carolinas and casually in New England. Breeds very abundantly on our southern coast; in fact, the eggs are so numerous that they are an article of commerce. The eggs are deposited on the dry sand and the birds are exceedingly tame when nesting. On the small islands south of Key West the eggs are laid early in May.

Hab. Tropical and sub-tropical coasts of the globe. In America from Chili to Western Mexico and the Carolinas; casually to New England.

693. Black Tern—*HYDROCHELIDON LARIFORMIS SURINAMENSIS*. Vary-

ing from brown to greenish; thickly spotted and blotched with brown and lilac of various sizes, but mostly large and bold, of light and blackish brown, probably thickest around the larger end. They resemble some of the Sandpipers' eggs in size, shape and color. Two or three in number; size 1.35 by .95. The little Black or Short-tailed Tern, with exceedingly long wings, is distributed throughout North America at large, both along the coast and in the interior, breeding anywhere in colonies in marshes and reedy sloughs in June, depositing the eggs on dead reeds, often floating.

Hab. Temperate and tropical America. From Alaska and Fur Countries to Chili; breeding from the Middle United States northward.

695. Noddy Tern — *ANOUS STOLIDUS*. Ashy yellow or buff, spotted and blotched with pale chocolate-brown and lilac; almost invariably one or two eggs are laid, many writers say three; size about 2. by 1.35. This Tern is widely distributed over the tropical and subtropical parts of the globe. In North America it inhabits the South Atlantic and Gulf States, breeding numerously and placing the bulky nest of sticks on the low, dense growth of mangrove and other bushes that grow at the water's edge. Nesting in May.

697. Pomarine Jaeger — *STERCORARIUS POMATORHINUS*. The Pomarine Jaeger or Skua, breeds in high northern latitudes, nesting on the ground in elevated spots in marshes. The eggs are very pointed and grayish-olive in ground-color, marked with numerous bold umber-brown and blackish markings. They are, however, very variable in ground-color and markings; size about 2.45 by 1.73. The Skua Gulls or Jaegers are all rapacious, living on putrid fish and animal flesh, attacking terns and smaller gulls and forcing them to drop their prey, which they snatch before it reaches the water. They also devour the eggs of the sea-birds.

Hab. Seas and inland waters of Northern Hemisphere, south in winter to Africa and Australia, and probably South America. Not known to occur in winter on the Atlantic coast of North America north of Long Island.

698. Richardson's Jaeger — *STERCORARIUS CREPIDATUS*. Deep yellowish or greenish-brown, spotted and blotched with brown and umber of varying shades; two or three in number; pointed oval in shape and measure from 2. to 2.40 long by 1.50 to 1.70 broad. The eggs are as variable in color of the ground and markings as those of the Eskimo Curlew. Nesting and general habits same as those of the preceding. Breeds in interior Arctic America.

Hab. Northern part of Northern Hemisphere, southward in winter to South Africa and South America. Breeds in high northern districts, and winters from the Middle States and California southward to Brazil and Chili.

699. Long-tailed Jaeger — *STERCORARIUS PARASITICUS*. Deep yellowish-brown, spotted, blotched and lined with reddish-brown and umber of varying shades, pointed oval in shape; two or three; not distinguishable from those of the foregoing; size from 1.90 to 2.10 long by 1.40 to 1.50 broad. The Long-tailed Skua has the same general habits and characteristics as those of the two preceding species. Breeds in the Arctic regions.

Hab. Northern part of the Northern Hemisphere, breeding in high northern districts; south in winter to the Gulf of Mexico.

701. Short-tailed Albatross — *DIOMEDEA BRACHYURA*. This large Albatross is abundant off our Pacific coast. It deposits a single egg on the bare ground of lonely islands, far out at sea. The egg is white and equal-ended, and measures 4.20 by 2.60. The Albatrosses and Petrels are noted birds, of gull-like form, variegated with black and white or uniformly sooty in color. They have an immense expanse of wing and are unsurpassed in powers of flight, and they are good swimmers. They are birds of the ocean, rarely landing except to breed. Many an ancient mariner and modern one, too, has gazed upon these birds far out at sea.

Hab. Pacific Ocean, including western coast of America, northward to Behring's Sea.

703. Sooty Albatross — *PHŒBETRIA FULIGINOSA*. The Sooty Albatross inhabits the Pacific Ocean at large, and off the coast of North America as far north as Oregon. Nesting same as the Short-tailed. Eggs average smaller.

705. Fulmar Petrel — *FULMARIUS GLACIALIS*. Pure white, shell very brittle; resembling a hen's egg in size and shape. One egg is laid. The Fulmar Petrels are found far out at sea and constantly attend whaling ships to feed upon the blubber, of which they are very fond. This species is exceedingly abundant in the North Atlantic, congregating in thousands at St. Kilda and some others of its favorite breeding places. They nest on rocky cliffs over the sea, and the young are at first fed by regurgitation, upon oil, with which the stomachs of the adults are so filled that they vomit it upon the slightest provocation; thus they are exceedingly disagreeable birds to handle.

Hab. North Atlantic, south on the American coast to Massachusetts.

705a. Pacific Fulmar — *FULMARIUS GLACIALIS PACIFICUS*. This Petrel is found in great numbers in the North Pacific. Its general habits, nesting and eggs are the same as those of No. 705.

Hab. North Pacific, south on the American coast to Mexico.

705b. Rodger's Fulmar — *FULMARIUS GLACIALIS RODGERSI*. On some of the rocky islands in Behring's Sea this Fulmar is very abundant, nesting on the inaccessible crags. The egg laid is white, nearly equal in size at both

ends. It is rough, with numerous little pits and points over the entire surface; size about 2.90 by 1.90.

Hab. Behring's Sea.

709. Greater Shearwater — *PUFFINUS MAJOR*. The Greater Shearwater wanders over the entire Atlantic Ocean, from Greenland south to Cape Horn and the Cape of Good Hope. It is sometimes seen in immense flocks, skimming the billows in its light and graceful manner, similar to the smaller Petrels. It also swims and dives with ease. Breeds in the far north on the islands of the sea, depositing a single smooth, white egg in burrows dug by the bird. Size about 2.80 by 1.75.

712. Dusky Shearwater — *PUFFINUS AUDUBONI*. Pure white, elliptical, one; dimensions from 1.85 to 1.90 long by 1.20 to 1.25 broad. This Shearwater occurs in the Southern Atlantic Ocean and is common along the South Atlantic and Gulf coasts. It breeds on the Bahamas and Bermudas in the month of March, depositing the egg in burrows in the ground. Some writers say in holes of rocks.

Hab. Warmer parts of the Atlantic; north casually to New Jersey.

714. Sooty Shearwater — *PUFFINUS FULIGINOSUS*. The Sooty Shearwater is common off our Atlantic coast and is very abundant in the North Atlantic, where it breeds on the islands of the sea, often in colonies of great extent, burrowing in the ground several feet, where it deposits a single smooth, white egg; size about 2.15 by 1.40.

Hab. North Atlantic; south on the American coast to South Carolina.

715. Dark-bodied Shearwater — *PUFFINUS GRISEUS*. This bird is similar to the last. Its nesting habits and eggs are the same.

Hab. South Pacific, north on the American coast to Lower California.

721. Stormy Petrel; Mother Carey's Chicken — *PROCELLARIA PELAGICA*. White, obscurely dotted with reddish-brown on the larger end; one in number; size from 1.10 to 1.12 long by .75 to .78 broad. Dr. Coues says: "This is the rarest of the three little black white-rumped 'Mother Carey's chickens' of our Atlantic Coast, easily distinguished by its short legs and square tail; Leach's, the most numerous, is also short-legged, but larger and fork-tailed; Wilson's is intermediate, with square tail, but very long, stilt-like legs, flat claws, and a yellow spot on the webs." Nest in burrows. Not known to breed on our side of the Atlantic.

Hab. Atlantic Ocean, south on the American side to the Newfoundland Banks. West Coast of Africa and of Europe

722. Wilson's Petrel — *OCEANITES OCEANICA*. Wilson's Stormy Petrel is one of the best known and commonest species. It is widely distributed over the globe and is said to breed on our North Atlantic coast. Nests in

burrows in the ground; depositing one egg, white, sometimes spotted with purplish, occasionally in a ring around the larger end; size about 1.10 by .84.

Hab. North and South Atlantic and Southern Oceans.

723. Leach's Petrel — *CYMOCHOREA LEUCORRHOA*. Chalky-white, dotted finely on the larger end, often in a ring, with purplish-red and lilac. Only one egg is laid, size about 1.25 by .90. This is the most abundant of the petrels along the North Atlantic coast; breeding from New England northward. It nests in burrows in the ground, often under some old tree trunk or log that has lain for years. When irritated, this species, like many others of the petrels, ejects from its nostrils an oily fluid that has a sickening odor.

725. Ashy Petrel — *CYMOCHOREA HOMOCHROA*. This rare and little known species inhabits the coast of California. Messrs. A. M. Ingersoll and W. O. Emerson collected three specimens of the eggs of this Petrel on South Farallone Island, off the coast from San Francisco, in June, 1885. These are probably the only eggs at present known. Mr. Ingersoll, in the "Ornithologist and Oologist" for February, 1886, describes a specimen as dull, creamy-white, with a circle of reddish dots around the larger end, so fine as to be almost indistinct. The large end is somewhat flattened, like the large end of an acorn. It measures 1.18 by .94. This was deposited on the bare rock, in a natural hollow formed by a large rock which had fallen in such a manner as to leave a cavity.

Hab. Coast of California.

729. Western Grebe — *ÆCHMOPHORUS OCCIDENTALIS*. This Western Grebe is the largest in this country and is common throughout Western United States. Its general habits and nesting are like those of the Thick-billed Grebe, No. 735. The eggs are larger, averaging about 2.50 by 1.45. They are narrow and elongated; a shape common to the eggs of birds of this family.

Hab. Western North America; Eastward to Manitoba.

731. American Red-necked Grebe — *PODICEPS HOLBOLLI*. Greenish or yellowish-white, narrow-elongate; dimensions from 2. to 2.40 long by 1.35 to 1.40 broad; six to ten in number. This Grebe inhabits North America at large and breeds in the Arctic regions. The general habits and nesting are like those of common Dabchick.

Hab. North America at large, including Greenland. Also Eastern Siberia, and southward to Japan. Breeds in high latitudes, migrating southward in winter.

732. Horned Grebe — *DYTES AURITUS*. Uniform bluish or yellowish-cream color; four to seven in number, ordinarily four or five; size from

1.56 to 1.86 long by 1.12 to 1.21 broad. The Horned Grebe is a generally diffused and an abundant species throughout North America, breeding from the Northern United States northward. Nesting like that of the other Grebes.

Hab. Northern Hemisphere.

733a. American Eared Grebe — *DYTES NIGRICOLLIS CALIFORNICUS*. Faint yellowish-white, usually become stained by the habits of the bird and nature of the nest; texture of shell quite smooth, but the eggs are not distinguishable from those of the Horned Grebe, and the nesting is as usual. This is the commonest species of grebe breeding in the pools and marshes west of the Mississippi River.

Hab. Northern and Western North America, from the Mississippi Valley westward.

735. Thick-billed Grebe — *PODILYMBUS PODICEPS*. The Pied-billed Dabchick is one of the best known of the Grebes, and is remarkably common throughout temperate North America, breeding nearly throughout its range. It is commonly known as the Dipper, Waterwitch, or Devil-diver, from its expertness in diving; a noted quality in all the birds of this family. They all have the curious habit of quietly sinking beneath the surface of the water like the Anhinga, often swimming with only the head exposed. The nest of the grebes is formed of decaying vegetation and mud, close to water and often floating among aquatic plants. Whatever may be the grounds for the more or less prevailing doubt among ornithological writers in regard to the "floating nests" of the grebes, it is, nevertheless, a fact that in nearly all cases the nest of the Dabchick *does float*. It is a little floating island of weeds, grasses, moss and other decaying vegetable matter, often mixed with mud, measuring twelve to fifteen inches in diameter, and rising two or three inches above the water, and it may be from one to three feet in depth. It is anchored to the bottom with a few blades of grass, or flags in a little open bay or reedy pool, and the circumference is often entirely free. Again, the nest is visibly attached to the flags or grasses, as represented in Plate VII; it rises and falls with the water. Sometimes it is made by the tops of grass bent down so as to form part of it. In the last edition of this work I stated that the usual number of eggs laid was five; this was based on the grounds of a large series of sets then in my possession, most of which contained five eggs. They vary, however, from five to eight, and I know of several instances of nine eggs, but the complement is usually seven. They are yellowish-white, with a greenish tint in some; many of the eggs become stained from the habits of the birds and nature of the nest. Size about 1.75 by 1.15, narrow-elongate, and, like all eggs of the grebes, more or less covered with a chalky substance. What is remarkable in

the process of incubation is the fact that the eggs are concealed with a covering of weeds and other vegetable material during the day "and they are uncovered at dusk by the bird, who incubates them until the morning sun relieves her of her task."

Hab. British Provinces southward to Brazil, Buenos Ayres, and Chili, including the West Indies and the Bermudas, breeding nearly throughout its range.

736. Loon — *COLYMBUS TORQUATUS*. Olivaceous-brown, sometimes olivaceous-drab, spotted and blotched with very dark brown, narrowly-oval, occasionally very much lengthened; normally two in number, sometimes three; size from 3.40 to 3.90 long by 2.10 to 2.38 broad. The Great Northern Diver breeds from the northern tier of States northward. The Loons are noted for their powers of diving, disappearing beneath the surface of the water at the flash of a gun. They are large, heavy birds with flattened bodies and rather long neck; the legs are placed very far back in the body. They are abundant along the coasts and large inland waters. The voice of the Loon is a loud, long-drawn, harsh cry. In winter this species is generally dispersed in the United States. Nests in the neighborhood of large inland lakes and ponds, on some low island or in meadows, where the bird collects a large pile of grasses, sods and weeds in which it forms a hollow about sixteen inches in diameter and four or five deep.

Hab. Northern part of Northern Hemisphere. In North America breeds from the northern States northward; ranges in winter south to the Gulf States

738. Black-throated Diver — *COLYMBUS ARCTICUS*. Dark greenish-brown, spotted and blotched with very dark brown, oval to elliptical in shape; size from 2.90 to 3. in length by 1.90 to 2. broad. In the breeding season this species is distributed throughout the Arctic regions. Nesting like the last. General habits the same.

Hab. Northern part of the Northern Hemisphere. In North America migrating south in winter to the Northern States.

739. Pacific Diver — *COLYMBUS PACIFICUS*. This Loon is abundant on the Pacific coast. Its eggs are like those of the Black-throated Loon, but average smaller. Its general habits are the same.

Hab. Pacific coast of North America, south in winter to Cape St. Lucas and Guadalupe Island.

740. Red-throated Diver — *COLYMBUS SEPTENTRIONALIS*. Olivaceous or greenish-brown, blotched and spotted with very dark brown, exactly resembling those of the Loon in form, color and markings, but are smaller. The Red-throated Loon breeds in the Arctic regions from Labrador northward, and begins to lay early in June. The nesting habits are similar to those of the other species.

Hab. Northern part of Northern Hemisphere, migrating southward in winter nearly across the United States.

742. Razor-billed Auk — *UTAMANIA TORDA*. White, with a creamy or bluish tint spotted and blotched with dark brown or black, the spots often becoming confluent and generally forming a circle towards the large end; pyriform to oval in shape, one in number; size about 3. by 2. The eggs exhibit a great variety in the distribution and style of markings. In shape they are not distinguishable from some types of the Common Guillemot, but are shorter in proportion to their breadth and generally more rounded. The Razor-billed Auk is abundant on the coasts and islands of the North Atlantic and some parts of the Polar seas. Breeds from the northeastern coast of Maine northward. It frequents the rocky shores and deposits its eggs in June and July in the caverns and fissures of the rocks.

Hab. Coasts and islands of the North Atlantic, south in winter on the North American coast to Southern New England.

743. Common Puffin — *FRATERCULA ARCTICA*. Pure white when laid but soon become soiled and appear to be a dirty yellowish-white, some specimens are marked with blotches of brownish-red, the proportion of marked ones being about one in five; size from 2.25 to 2.85 long by 1.45 to 1.85 broad, rather pointedly oval in shape. Only one egg is laid. The Puffin or Sea Parrot breeds from the northeastern coast of Maine or Bay of Fundy northward. The nest is placed in a burrow in the earth, dug by the birds. Far north, thousands breed in the fissures of rocky cliffs and in the sides of bluffs. The eggs are deposited late in June and in July. In many instances two birds are found sitting each on its egg in the same burrow.

Hab. Coasts and islands of the North Atlantic; south in winter to Long Island, and casually further.

744. Horned Puffin — *FRATERCULA CORNICULATA*. The Horned Masking Puffin inhabits the coasts and islands of the North Pacific. Its general habits and characteristics are the same as the Common Puffin. An egg of this species is described as dead white in color and rough shelled, measuring 2.75 by 1.75.

Hab. Coasts and islands of the North Pacific, from Kurile Islands to Sitka.

747. Parrot Auk — *PHALERIS PSITTACULA*. This Auk, with a curiously shaped beak, and called Pug-nosed Auk, inhabits the coasts and islands of the North Pacific and Polar seas. It breeds in the crevices and rifts of the rocky and most inaccessible cliffs and crags. The single egg is described as resembling a small, narrow hen's egg, white, granular and rough, variously soiled and discolored. Size from 2.25 to 2.35 long by 1.45 to 1.50 broad.

Hab. Coasts and islands of the North Pacific, from the Aleutian and Kurile Islands northward.

748. Crested Auk — *SIMORHYNCHUS CRISTATELLUS*. The Crested or Snub-nosed Auk, like the last, inhabits the coasts and islands of the North Pacific. This little bird has a beautiful crest on the forehead of twelve to twenty feathers; it is about two inches long and curls gracefully over forward upon the bill. Its nesting habits are like those of No. 747 and the egg is similar but smaller, about 2.10 by 1.40.

Hab. Coasts and islands of the North Pacific, from Kadiak and Japan northward.

750. Least Auk — *CICERONIA PUSILLA*. Dr. Coues (Key to North American Birds, p. 809) says: "This curious little bird, the smallest of all the auks and one of the least of all water birds, inhabits the coasts and islands of the North Pacific, resorting to favorite breeding places by millions, with *S. psittaculus* and *S. cristatellus*. The nesting is similar, the single egg being laid in the recesses of rocky shingle over the water; size 1.55 by 1.12." The bird is not known to come south so far as the United States.

Hab. Coasts and islands of the North Pacific, from Sitka and Japan northward to Behring's Strait.

751. Cassin's Auk — *PTYCORHAMPHUS ALEUTICUS*. The Aleutian or Cassin's Auk inhabits the Pacific coast of North America, from the Aleutian Islands to San Diego, breeding south to the Farallones, and it is said to breed as far south as the Santa Barbara Islands. Nesting habits similar to those of the last. The single egg averages about 2.25 by 1.47.

752. Sea Dove; Dovekie — *ALLE NIGRICANS*. The Sea Dove is found on the coasts and islands of the North Atlantic and Eastern Arctic Oceans. This is another bird that breeds in high northern latitudes far out of the reach of the numerous "egg fiends" that infest the temperate and subtropical portions of our country. There it can deposit its single, pale, greenish-blue egg in the crevices of rocky cliffs and rear its young in comparative safety. Even by the hatching of a single egg at a time the birds are very abundant at their breeding grounds in the far north. In North America they are found in winter as far south as New Jersey and during severe storms are frequently driven inland for some distance and may be found on ponds and rivers and small pools. The egg measures about 1.60 by 1.10.

753. Black-throated Guillemot — *SYNTHLIBORHAMPHUS ANTIQUUS*. This bird has the same general appearance of the last but is larger, being from 9.50 to 10.50 in length. It breeds on the islands and along the coasts of the North Pacific from Sitka northward. Nesting and eggs like the last, the single egg of bluish-green averaging larger, about 1.65 by 1.15.

Hab. Coasts and islands of the North Pacific, from Sitka and Japan northward. Accidental in Wisconsin.

760. Black Guillemot — *URIA GRYLLE*. Varying from white to a pale greenish-white, light drab yellow or buff, marked irregularly with spots and blotches of different shades of brown and black, thickest at the great end where they are usually almost a confluent ring; they are oval or elliptical in form; size about 2.30 by 1.55, but like nearly all eggs, in a large series, there is a great variation in the size, shape and also in the style of markings, etc. The usual complement of eggs is two, often three. The Black Guillemot or Sea Pigeon breeds from the northeastern coast of New England northward. On the coasts and islands of the North Atlantic it is very abundant. It makes no nest but deposits its eggs in the holes and crevices among rocks, often in the most inaccessible places. The eggs are laid in June and July. The Black Guillemots are gregarious, flying in dense flocks, and, like the large species, sit lightly on the water and dive with ease, remaining under the water a great length of time.

Hab. Coasts of Northern Europe, south to Denmark and British Island. Coast of Maine, south in winter to Philadelphia.

761. Pigeon Guillemot — *URIA COLUMBA*. The Pigeon Guillemot breeds commonly on the islands of the coast of California, at least I am informed as far south as the Santa Barbara Islands and the San Nicolas, thence northward. Its nesting habits and eggs are like those of *U. grylle*. A large series of eggs before me average 1.37 by 1.56.

Hab. Coasts and islands of the North Pacific, southward from Behring's Strait to Northern Japan and Southern California.

763. Common Guillemot — *LOMVIA TROILE*. The Common Guillemot or Murre breeds from Nova Scotia northward. Tens of thousands of these birds congregate to breed on the rocky islands, depositing and incubating their single egg close to one another on the shelves of the cliffs. The birds sit side by side, and although crowded together, never make the least attempt to quarrel. Clouds of birds may be seen circling in the air over some huge, rugged bastion, forming a picture which would seem to belong to the imagination rather than the realistic. They utter a syllable which sounds exactly like *murre*. The eggs are so numerous as to have commercial value and they are noted for their great variation in ground color and markings. They vary from white to bluish or dark emerald-green in ground color; occasionally unmarked specimens are found, but they are usually handsomely spotted, blotched, lined in various patterns of lilac, brown and black over the surface. In some the markings are confused zigzag lines that look like hieroglyphics. The eggs are large for the size of the bird, measuring from 3. to 3.50 long by 1.95 to 2.10 broad; pyriform in shape.

Hab. Coasts and islands of the North Atlantic, southward on the coast of North America in winter to Southern New England; breeding from Nova Scotia northward

763a. California Guillemot—*LOMVIA TROILE CALIFORNICA*. This bird breeds from California north to the Prybilof Islands. Breeds in vast number on the Farallone Islands. Its general habits, nesting, etc., are the same as those of the Common Guillemot.

Hab. Coasts and islands of the North Pacific, breeding from California north to the Prybilof Islands.

764. Thick-billed Guillemot—*LOMVIA ARRA*. An abundant bird on the coasts and islands of the North Pacific, swarming at their breeding places on the rocky islands and shores in myriads. Its habits and nesting are the same as those of the foregoing; the eggs averaging larger.

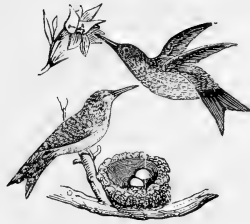
Hab. Coasts and islands of the North Pacific and Western Arctic Oceans.

ERRATA.

Page 73, thirteenth line from bottom read nests *not* difficult.

Page 95, No. 405*b*, read Arctic for Western Horned owl.

Page 101, eleventh line from bottom read 1885 for 1855.



BRIEF DIRECTIONS
FOR
COLLECTING AND PRESERVING
BIRDS' EGGS AND NESTS.

If you are desirous of making a collection of eggs of the birds of any locality, the following directions may aid you:

Remember that an egg has no financial or scientific value if it has no name. Therefore, be *very particular* to identify all eggs collected. If you do not, you will have in many respects a worthless collection. If the eggs in a nest are strange or unknown to you, do not touch them until you have procured the parent bird. If you cannot skin the bird, preserve its head, wings, and feet until you can have them identified. The student of Oology should *by all means learn* to skin birds and put them in proper shape. He will then make few mistakes in his data.

Empty the contents of an egg through *one* smoothly drilled hole in the side, and drill it as small as can be got along with. Force the contents out

by blowing into the hole with a blow-pipe. Do not make holes at the ends of an egg for the purpose of blowing the contents out. Do not hold it too tightly in your fingers, for, if it breaks, you will learn at once that a thing of beauty is *not always* a joy forever. If the embryo is partially developed, the hole must necessarily be made larger, and the embryo should be extracted a little at a time with an embryo hook or forceps, and cut in pieces with a fine, narrow-bladed scissors. By soaking the egg in water over night the embryo will often become very tender and can be taken out with ease.

After the egg is blown it should be thoroughly rinsed by taking water into the mouth and spiriting it through the blow-pipe.

Eggs, as a rule, should be kept in sets; a "set" being those taken from any one nest; and each one of a set should bear a number referring to a corresponding one in a note-book where full particulars of the nest and eggs should be given. A printed label or data blank similar to the following diagram is also necessary:

No..... Name.....
 Collected by.....
 Locality.....
 Date.....
 Set..... Identity..... Incubation.....
 Nest.....

For illustration, the blank lines of the label should be filled in the following manner: No. 126. Name, Arkansas Flycatcher. Collected by J. L. Clemmons. Locality, San Diego, California. Date, June 2, 1881. Set, $\frac{1}{4}$ (indicating that the number of eggs in this set is four). Identity, bird seen on nest. Incubation, begun. Nest, made of coarse sticks and twigs, lined with hair and cotton, placed in an "Australian Gum Tree," twenty feet from the ground. All these data should be carefully written, and the label placed in the cabinet with the eggs. If there are several sets of the same species, the collector should have his own number to distinguish the sets. The label with full data should *always* accompany the set in making exchanges. Besides the above particulars the note-book should

be filled with memoranda devoted to the record of nests found and examined; the general nature of the surroundings; the precise color and condition of the eggs when found, as all these fade quickly from the memory.

Few persons make extensive collections of nests; many birds make no nests, others only such structures as cannot well be preserved; those that can be collected require a wrapping of thread for their safe keeping. Nests and nesting places, are, therefore, as a rule, described and recorded in a note-book, and not kept for study.

Go into the field as lightly equipped as possible. Before you gather together a wagon load of pullies, block and tackle, find out just where you are going to use them. In climbing high trees, climbers may be used, and a wooden or tin box, filled with cotton, should be taken up with you; in this, securely place the eggs before descending the tree.

When you come across a large number of the nests and eggs of one species, do not take every nest you can lay your hands on; allow some to remain untouched. A writer in the "Ornithologist and Oologist" justly describes such a collector under the title of "The Great American Egg Hog." It is not a very elegant expression, but it certainly hits some collectors very hard. If you are going to collect eggs for the purpose of showing them to your friends, like so many pretty beads, you had better give it up at once. Collectors of this kind do more harm than good.

When eggs are to be shipped by mail or express they should never be packed in anything but wooden or tin boxes. Each egg should be wrapped in cotton and bound tightly with thread and then wrapped in tissue paper. Place them in layers in the box with bits of cotton between each egg. The bottom, sides and end of the box are often lined with sheet cotton which is still better protection.

In all ordinary cases collections of eggs are preserved in the drawers of a cabinet. These are divided by partitions, and each section partly filled with grated cork or box-wood sawdust, in which the eggs are placed. The choice of a cabinet must depend largely upon the collector's means, if not also upon his individual preference.

I cannot dismiss this subject without a word on

PROTECTING OUR BIRDS.

The above directions for collecting and preserving nests and eggs, and the whole contents of this work are intended to assist the true naturalist in the delightful subject herein treated. For those who idly roam the woodlands and pebbly shores, collecting everything in reach with aimless intent, this book was never calculated.

To every person who loves to study in the great field of Nature; to those especially who are deeply interested in the habits of the feathered tribe, the protection of bird life is of the utmost importance.

Surely none of the readers of the foregoing pages are engaged in the wholesale collecting of eggs for purely mercenary purposes, sacrificing and depopulating our birds, and screening their fiendish acts under the gauzy lace of *science*.

No thoughtful and honorable natural history dealer will uphold you in the utter destruction of whole rookeries and communities of birds, and there is no need for it in making a study of their habits, and adding a few specimens to a private cabinet. The true lover of the study of Oology will do everything in his power to promote the interests of the birds, so that their varied domestic affairs will annually add valuable notes to his ever-open note-book.



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Egg check list and key to the nests and