A-1

RB

BIRDS OF AMERICA.

THE

BIRDS OF AMERICA,

FROM

DRAWINGS MADE IN THE UNITED STATES

AND THEIR TERRITORIES.

BY JOHN JAMES AUDUBON, F. R. SS. L. & E.

Fellow of the Linnean and Zoological Societies of London; Member of the Lyceum of Natural History of New York, of the Natural History Society of Paris, the Wernerian Natural History Society of Edinburgh; Honorary Member of the Society of Natural History of Manchester, and of the Royal Scottish Academy of Painting, Sculpture, and Architecture; Member of the American Philosophical Society, of the Academy of Natural Sciences at Philadelphia, of the Natural History Societies of Boston, of Charleston in South Carolina, the Quebec Literary and Historical Society, the Ornithological Society in London, the Société Française de Statistique Universelle de Paris, &c. &c.

VOL. III.

NEW YORK:

PUBLISHED BY J. J. AUDUBON.

PHILADELPHIA:

J. B. CHEVALIER.

1841.

E. G. DORSEY, PRINTER,
LIBRARY STREET.

CONTENTS.

NAMES OF SUBSCRIBERS

OBTAINED SINCE THE LAST VOLUME.

Albany, N. Y.

W. C. Little.

Cincinnati, Ohio.

John T. Shotwell, M. D.

Eddisto, S. C.

R. C. Seabrook.

Jackson, La.

T. I. B. Romer, M. D.

Jersey City, N. J.

C. Van Vorst.

Lafayette City, La.

R. S. Milling.

London, England.

Henry Burfoot.

Macoa, China.

Mr. Beale,
Gideon Nyx.

Natchez, Miss.

Dr. Mercer.

New Orleans, La.

Valsin Blache,
R. Brennan,
Geo. T. Dunbar,
Y. Noel,
Charles H. Ogden,
W. H. Rondeau,
W. M. Stewart.

New York City.

John Benson,
Carvill & Co.
William Cripps,
Jos. Johnson,
H. W. T. Mali, Belgian Consul.
Miss Pearsall.

Pittsburg, Pa.

Samuel P. Darlington.

Reading, Pa.

Jon. E. Deininger.

Rochester, N. Y.

Samuel Lee Silden.

St. Francisville, La.

Mrs. Bowman.

Welshpool, Montgomeryshire.

James Maginnis.

Westchester Co., N. Y.

E. D. Hunter.

Zenia, Ohio.

Jesse W. Cook, M. D.
E. F. Drake.

Ferruginous Mocking Bird
Males 1 2 3. Female 4.

Drawn from nature by J.J. Audubon F.R.S.F.L.S.

BIRDS OF AMERICA.

FERRUGINOUS MOCKING-BIRD.

† Orpheus rufus, *Linn.*

PLATE CXLI.—Male, Female, and Nest.

Reader, look attentively at the plate before you, and say if such a scene as that which I have attempted to portray, is not calculated to excite the compassion of any one who is an admirer of woodland melody, or who sympathizes with the courageous spirit which the male bird shews, as he defends his nest, and exerts all his powers to extricate his beloved mate from the coils of the vile snake which has already nearly deprived her of life. Another male of the same species, answering the call of despair from his "fellow creature," comes swiftly downwards to rescue the sufferers. With open bill he is already prepared to strike a vengeful blow at the reptile, his bright eye glancing hatred at his foe. See a third grappling with the snake, and with all its might tearing the skin from its body! Should this alliance of noble spirits prove victorious, will it not remind you that innocence, although beset with difficulties, may, with the aid of friendship, extricate herself with honour?

The birds in the case represented were greatly the sufferers: their nest was upset, their eggs lost, and the life of the female in imminent danger. But the snake was finally conquered, and a jubilee held over its carcass by a crowd of Thrushes and other birds, until the woods resounded with their notes of exultation. I was happy in contributing my share to the general

jor, for, on taking the almost expiring bird into my hand for a few minutes, she recovered in some degree, and I restored her to her anxious mate.

The Brown Thrush, or Thrasher, by which names this bird is generally known, may be said to be a constant resident in the United States, as immense numbers are found all the year round in Louisiana, the Floridas, Georgia, and the Carolinas. Indeed some spend the winter in Virginia and Maryland. During spring and summer they are met with in all our Eastern States. They also enter the British provinces, and are sometimes seen in Nova Scotia; but I observed none farther north. It is the most numerous species found in the Union, excepting the Robin or Migratory Thrush. Those which breed in the Middle and Eastern Districts return to the south about the beginning of October, having been absent fully six months from that genial region, where more than half of the whole number remain at all seasons. They migrate by day, and singly, never congregating, notwithstanding their abundance. They fly low, or skip from one bush to another, their longest flight seldom exceeding the breadth of a field or river. They seem to move rather heavily, on account of the shortness of their wings, the concavity of which usually produces a rustling sound, and they travel very silently.

No sooner has the bird reached its destined abode, than whenever a fair morning occurs, it mounts the topmost twig of a detached tree, and pours forth its loud, richly varied, and highly melodious song. It scarcely possesses the faculty of imitation, but is a steady performer; and, although it sings for hours at a time, seldom, if ever, commits errors while repeating the beautiful lessons set to it by Nature, all of which it studies for months during spring and summer. Ah! reader, that I could repeat to you its several cadences, all so full of sweetness and melody, that one might imagine each last trill, as it dies on the ear, the careful lullaby of some blessed mother chanting her babe to repose;—that I could imitate its loudest notes, surpassed only by those of that unrivalled vocalist, the Mocking-bird! But, alas! it is impossible for me to convey to you the charms of the full song of the Brown Thrush; you must go to its own woods and there listen to it. In the southern districts, it now and then enlivens the calm of autumnal days by its song, but it is generally silent after the breeding season.

The actions of this species during the period of courtship are very curious, the male often strutting before the female with his tail trailing on the ground, moving gracefully round her, in the manner of some pigeons, and while perched and singing in her presence, vibrating his body with vehemence. In Louisiana, the Brown Thrush builds its nest as early as the beginning of March; in the Middle Districts rarely before the middle of May; while in Maine, it seldom has it finished before June. It is placed without much

care in a briar bush, a sumach, or the thickest parts of a low tree, never in the interior of the forest, but most commonly in the bramble patches which are every where to be met with along the fences or the abandoned old fields. Sometimes it is laid flat on the ground. Although the bird is abundant in the barrens of Kentucky, in which and in similar places it seems to delight, it has seldom been known to breed there. In the Southern States the nest is frequently found close to the house of the planter, along with that of the Mocking-bird. To the eastward, where the denseness of the population renders the bird more shy, the nest is placed with more care. But wherever it is situated, you find it large, composed externally of dry twigs, briars, or other small sticks, imbedded in and mixed with dried leaves, coarse grass, and other such materials, thickly lined with fibrous roots, horse hair, and sometimes rags and feathers. The eggs are from four to six, of a pale dull buff colour, thickly sprinkled with dots of brown. Two broods are usually raised in the Southern States, but rarely more than one in the Middle and Northern Districts.

They breed well in aviaries, and are quite tractable in a closer state of confinement. The young are raised in the same manner, and with the same food, as those of the Mocking-bird. In cages it sings well, and has much of the movements of the latter bird, being full of activity, petulant, and occasionally apt to peck in resentment at the hand which happens to approach it. The young begin their musical studies in autumn, repeating passages with as much zeal as ever did Paganini. By the following spring their full powers of song are developed.

My friend Bachman, who has raised many of these birds, has favoured me with the following particulars respecting them:—"Though good-humoured towards the person who feeds them, they are always savage towards all other kinds of birds. I placed three sparrows in the cage of a Thrush one evening, and found them killed, as well as nearly stripped of their feathers, the next morning. So perfectly gentle did this bird become, that when I opened its cage, it would follow me about the yard and the garden. The instant it saw me take a spade or a hoe, it would follow at my heels, and, as I turned up the earth, would pick up every insect or worm thus exposed to its view. I kept it for three years, and its affection for me at last cost it its life. It usually slept on the back of my chair, in my study, and one night the door being accidentally left open, it was killed by a cat. I once knew a few of these birds remain the whole of a mild winter in the State of New York, in a wild state."

The Brown or Ferruginous Thrush is the strongest of the genus in the United States, neither the Mocking-bird nor the Robin being able to cope with it. Like the former, it will chase the cat or the dog, and greatly tease

the racoon or the fox. It follows the *Astur Cooperii* and the Goshawk, bidding them defiance, and few snakes come off with success when they attack its nest. It is remarkable also, that, although these birds have frequent and severe conflicts among themselves, yet when the least alarm is given by an individual, a whole party of them instantly rush forth to assist in chasing off the common enemy. When two nests happen to be placed near each other, the males are seen to fight furiously, and are joined by the females. On such occasions, the males approach each other with much caution, spreading out, and often jerking up, down, or to either side, their long fan-like tail, generally betaking themselves to the ground, and uttering a note of defiance, until one of them, perceiving some advantage afforded by its position or some other circumstance, rushes to the charge. The attack once fairly made, the fight seldom ends until one has beaten the other, after which the vanquished rarely attempts to retaliate, and peace is made between the parties. They are fond of bathing and of dusting themselves in the sand of the roads. They bathe in small puddles during the heat of the sun, and then remove to the sandy paths, where they roll themselves, dry their plumage, and free it of insects. When disturbed on these occasions, they merely run off and hide themselves under the nearest bushes, to return as soon as the intruder has retired.

During the period of incubation, the male is heard from the top of a neighbouring tree, singing for hours at a time. It ascends to this pinnacle by leaping from branch to branch, and selects several trees for the purpose, none of them more than a hundred yards from the nest. Its song over, it dives towards its favourite thicket, seldom descending by the assistance of the branches. Both male and female sit on the eggs. Their mutual attachment, and their courage in defending their nest, are well known to children living in the country. They resent the intrusion even of man, assaulting him, and emitting a strong guttural note resembling *tchai, tchai*, accompanied by a plaintive *weō*, and continued until the enemy retires. Should he carry off their treasure, he is sure to be followed a great way, perhaps half a mile, both birds continually crossing his path, and bestowing on him the reproaches he so richly deserves.

The food of this Thrush, which is also known by the name of French Mocking-bird, consists of insects, worms, berries, and fruits of all sorts. It is fond of figs, and wherever ripe pears are, there also may it be found. In winter, they resort to the berries of the dogwood, the sumach, and holly, and ascend to the tops of the tallest trees in search of grapes. At this season, they are easily caught in traps, and many are exposed for sale in the southern markets, although few of the old birds live long in captivity. Some planters complain of their propensity to scratch the ground for the purpose

of picking up the newly planted corn; but I am of opinion that the scratching has reference exclusively to worms or beetles, their strong legs and feet being well adapted for this purpose; and, generally speaking, they are great favourites, as they commit few depredations on the crops.

This species, as well as the Robin and some others of this family, suffer greatly during the autumnal moults, and when in cages at this season, become almost naked of feathers. The young acquire the full beauty of their plumage during the first winter.

It is abundant in the Texas, and breeds there. It was not observed by Mr. Townsend on the Rocky Mountains, or any where beyond them. According to Dr. Richardson, the vicinity of the Saskatchewan river forms its northern limits. Dr. T. M. Brewer writes me as follows:—"Your account of the habits of the Brown Thrush does not leave me any thing to add. I will therefore only trouble you with the following test of the ability of this bird to detect the intrusion of eggs not belonging to it. I found this summer, 1837, a nest containing three eggs, which I removed, leaving in their place three Robin's eggs, and retired to wait the issue. In a few moments the female approached, gave the contents of the nest a hasty survey, and immediately flew off. She returned in a short time in company with her mate, and both flew to the nest apparently in the greatest rage, took each an egg in their *claws*, and dashed it against the ground at the distance of more than a rod from the nest, the female repeating the same to the other egg. This done, they continued for some time to vent their rage on the broken eggs, tossing them about, and at the same time manifesting their displeasure in every possible way. They afterwards forsook the nest. The eggs measure an inch and an eighth in length, six and a half eighths in breadth. They never raise more than one brood in a season here."

Ferruginous Thrush, *Turdus rufus*, Wils. Amer. Orn., vol. ii. p. 83.
Turdus rufus, Bonap. Syn. p. 75.
Orpheus rufus, *Fox-coloured Mocking-bird*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 189.
Ferruginous Thrush or Thrasher, *Turdus rufus*, Nutt. Man., vol. i. p. 328.
Ferruginous Thrush, *Turdus rufus*, Aud. Orn. Biog., vol. ii. p. 102; vol. v. p. 441.

Bill and tail more elongated than in the other species, wings shorter. Upper parts light brownish-red; inner webs of quills dusky. Wings crossed by two white bars margined anteriorly with black, being on the tips of the first row of small and secondary coverts; lower parts yellowish-white, the breast and sides marked with triangular dark brown spots. Female smaller.

Male, 11½, 13.

Genus IV.—TURDUS, *Linn.* THRUSH.

Bill of moderate length or shortish, rather stout, straight, broader than high at the base, compressed toward the end, acute; upper mandible with the ridge rather narrow, the sides convex toward the end, the notches small, the tip narrow; lower mandible with the angle of moderate length, the dorsal line ascending, slightly convex, the sides rounded, the tip narrow. Nostrils oblong, partially concealed by the feathers. Head of ordinary size, ovate; neck rather short; body rather full. Feet longish, rather strong; tarsus as long as the middle toe and claw; hind toe rather stout; lateral toes equal; claws arched, compressed, acute. Plumage soft and rather blended. Wings of moderate length, rounded, the first quill very small, the third and fourth longest. Tail rather long, nearly even.

AMERICAN ROBIN OR MIGRATORY THRUSH.

Turdus migratorius, *Linn.*

PLATE CXLII.—Male, Female, Young, and Nest.

The first land-bird seen by me, when I stepped upon the rugged shores of Labrador, was the Robin, and its joyful notes were the first that saluted my ear. Large patches of unmelted snow still dappled the surface of that wild country; and although vegetation was partially renewed, the chillness of the air was so peculiarly penetrating, that it brought to the mind a fearful anxiety for the future. The absence of trees, properly so called, the barren aspect of all around, the sombre mantle of the mountainous distance that hung along the horizon, excited the most melancholy feelings; and I could scarcely refrain from shedding tears when I heard the song of the Thrush, sent there as if to reconcile me to my situation. That song brought with it a thousand pleasing associations referring to the beloved land of my youth,

American Robin, or Migratory Thrush.

Male & Female and young.

Chestnut Oak Quercus prinus

and soon inspired me with resolution to persevere in my hazardous enterprise.

The traveller who, for the first time in his life, treads the wastes of Labrador, is apt to believe that what he has been told or read of it, must be at least in part true. So it was with me: I had conceived that I should meet with numberless Indians who would afford me much information respecting its rivers, lakes, and mountains, and who, like those of the far west, would assist me in procuring the objects of my search. But alas! how disappointed was I when, in rambling along three hundred miles of coast, I scarcely met with a single native Indian, and was assured that there were none in the interior. The few straggling parties that were seen by my companions or myself, consisted entirely of half-bred descendants of "the mountaineers;" and, as to Esquimaux, there were none on that side of the country. Rivers, such as the Natasguan, which on the maps are represented as of considerable length, degenerated into short, narrow, and shallow creeks. Scarcely any of its innumerable lakes exceeded in size what are called ponds in the Southern States; and, although many species of birds are plentiful, they are far less numerous than they were represented to us by the fishermen and others before we left Eastport. But our business at present is with the Robin, which greeted our arrival.

This bird breeds from North Carolina, on the eastern side of the Alleghany Mountains, to the 56th degree of north latitude, and perhaps still farther. On the western side of those mountains, it is found tolerably abundant, from the lower parts of Kentucky to Canada, at all times of the year; and, notwithstanding the snow and occasional severe winters of Massachusetts and Maine, flocks remain in those States the whole season. Thousands, however, migrate into Louisiana, the Floridas, Georgia, and the Carolinas, where, in winter, one cannot walk in any direction without meeting several of them. While at Fayetteville, in North Carolina, in October 1831, I found that the Robins had already arrived and joined those which breed there. The weather was still warm and beautiful, and the woods, in every direction, were alive with them, and echoed with their song. They reached Charleston by the end of that month. Their appearance in Louisiana seldom takes place before the middle of November. In all the Southern States, about that period, and indeed during the season, until they return in March, their presence is productive of a sort of jubilee among the gunners, and the havoc made among them with bows and arrows, blowpipes, guns, and traps of different sorts, is wonderful. Every gunner brings them home by bagsful, and the markets are supplied with them at a very cheap rate. Several persons may at this season stand round the foot of a tree loaded with berries,

and shoot the greater part of the day, so fast do the flocks of Robins succeed each other. They are then fat and juicy, and afford excellent eating.

During the winter they feed on the berries and fruits of our woods, fields, gardens, and even of the ornamental trees of our cities and villages. The holly, the sweet-gum, the gall-berry, and the poke, are those which they first attack; but, as these fail, which is usually the case in January, they come nearer the towns and farm-houses, and feed voraciously on the caperia berry (*Ilex caperia*), the wild-orange berry (*Prunus carolinianus*), and the berries of the pride of India (*Melia azedarach*). With these they are often choked, so that they fall from the trees, and are easily caught. When they feed on the berries of the poke-plant, the rich crimson juices colour the stomach and flesh of these birds to such an extent as to render their appearance, when plucked, disagreeable; and although their flesh retains its usual savour, many persons decline eating them. During summer and spring they devour snails and worms, and at Labrador I saw some feeding on small shells, which they probed or broke with ease.

Toward the approach of spring they throw themselves upon the newly ploughed grounds, into the gardens, and the interior of woods, the undergrowth of which has been cleared of grass by fire, to pick up ground-worms, grubs, and other insects, on which, when perched, they descend in a pouncing manner, swallowing the prey in a moment, jerking their tail, beating their wings, and returning to their stations. They also now and then pick up the seed of the maize from the fields.

Whenever the sun shines warmly over the earth, the old males tune their pipe, and enliven the neighbourhood with their song. The young also begin to sing; and, before they depart for the east, they have all become musical. By the 10th of April, the Robins have reached the Middle Districts; the blossoms of the dogwood are then peeping forth in every part of the budding woods; the fragrant sassafras, the red flowers of the maple, and hundreds of other plants, have already banished the dismal appearance of winter. The snows are all melting away, and nature again, in all the beauty of spring, promises happiness and abundance to the whole animal creation. Then it is that the Robin, perched on a fence-stake, or the top of some detached tree of the field, gives vent to the warmth of his passion. His lays are modest, lively, and ofttimes of considerable power; and although his song cannot be compared with that of the Thrasher, its vivacity and simplicity never fail to fill the breast of the listener with pleasing sensations. Every one knows the Robin and his song. Excepting in the shooting season, he is cherished by old and young, and is protected by all with anxious care.

The nest of this bird is frequently placed on the horizontal branch of an apple-tree, sometimes in the same situation on a forest-tree; now and then it

is found close to the house, and it is stated by NUTTALL that one was placed in the stern timbers of an unfinished vessel at Portsmouth, New Hampshire, in which the carpenters were constantly at work. Another, adds this admirable writer, has been known to rebuild his nest within a few yards of the blacksmith's anvil. I discovered one near Great Egg Harbour, in the State of New Jersey, affixed to the cribbing-timbers of an unfinished well, seven or eight feet below the surface of the ground. To all such situations this bird resorts, for the purpose of securing its eggs from the Cuckoo, which greedily sucks them. It is seldom indeed that children meddle with them.

Wherever it may happen to be placed, the nest is large and well secured. It is composed of dry leaves, grass, and moss, which are connected internally with a thick layer of mud and roots, lined with pieces of straw and fine grass, and occasionally a few feathers. The eggs are from four to six, of a beautiful bluish-green, without spots. Two broods are usually raised in a season.

The young are fed with anxious care by their tender parents, who, should one intrude upon them, boldly remonstrate, pass and repass by rapid divings, or, if moving along the branches, jerk their wings and tail violently, and sound a peculiar shrill note, evincing their anxiety and displeasure. Should you carry off their young, they follow you to a considerable distance, and are joined by other individuals of the species. The young, before they are fully fledged, often leave the nest to meet their parents, when coming home with a supply of food.

During the pairing season, the male pays his addresses to the female of his choice frequently on the ground, and with a fervour evincing the strongest attachment. I have often seen him, at the earliest dawn of a May morning, strutting around her with all the pomposity of a pigeon. Sometimes along a space of ten or twelve yards, he is seen with his tail fully spread, his wings shaking, and his throat inflated, running over the grass and brushing it, as it were, until he has neared his mate, when he moves round her several times without once rising from the ground. She then receives his caresses.

Many of these birds shew a marked partiality to the places they have chosen to breed in, and I have no doubt that many which escape death in the winter, return to those loved spots each succeeding spring.

The flight of the Robin is swift, at times greatly elevated and capable of being long sustained. During the periods of its migrations, which are irregular, depending upon the want of food or the severity of the weather, it moves in loose flocks over a space of several hundred miles at once, and at a considerable height. From time to time a few shrill notes are heard from different individuals in the flock. Should the weather be calm, their

movements are continued during the night, and at such periods the whistling noise of their wings is often heard. During heavy falls of snow and severe gales, they pitch towards the earth, or throw themselves into the woods, where they remain until the weather becomes more favourable. They not unfrequently disappear for several days from a place where they have been in thousands, and again visit it. In Massachusetts and Maine, many spend the most severe winters in the neighbourhood of warm springs and spongy low grounds sheltered from the north winds. In spring they return northward in pairs, the males having then become exceedingly irritable and pugnacious.

The gentle and lively disposition of the Robin when raised in the cage, and the simplicity of his song, of which he is very lavish in confinement, render him a special favourite in the Middle Districts, where he is as generally kept as the Mocking-bird is in the Southern States. It feeds on bread soaked in either milk or water, and on all kinds of fruit. Being equally fond of insects, it seizes on all that enter its prison. It will follow its owner, and come to his call, peck at his finger, or kiss his mouth, with seeming pleasure. It is a long-lived bird, and instances are reported of its having been kept for nearly twenty years. It suffers much in the moult, even in the wild state, and when in captivity loses nearly all its feathers at once.

The young obtain their full plumage by the first spring, being spotted on the breast, and otherwise marked, as in the plate. When in confinement they become darker and less brilliant in the colours, than when at liberty.

So much do certain notes of the Robin resemble those of the European Blackbird, that frequently while in England the cry of the latter, as it flew hurriedly off from a hedge-row, reminded me of that of the former when similarly surprised, and while in America the Robin has in the same manner recalled the Blackbird to my recollection.

The extent of migration of this bird, and its breeding from the Texas to the 56th degree of north latitude, and from the Atlantic coast to the Columbia river, seem to me to afford a strong argument against the necessity of migration in birds. In countries, like ours, of great extent and varied climate, migrating birds find many favourable places at which to stop during the summer months for the purpose of breeding. I have repeatedly mentioned that young birds regularly advance farther southward in winter than their parents, which may be accounted for by the capability of enduring cold being greater in the latter. Now, is it not probable that young birds of a second or third brood, which are urged at an earlier period than those of the first set, but late in the season, to force their way southward, and save themselves from the rigours of approaching winter, are at this period of weaker constitution than those which have been born earlier, and have been less

pressed by time in prosecuting their journey southward? In consequence of this, the last young broods may be unwilling, perhaps unable, on the approach of spring, to start and follow their stronger companions to the land of their nativity. They may thus remain and breed in their first year's winter quarters, or advance so far as their strength will allow them. In the course of my studies, I have, in a great number of instances, observed that such birds as produced *three* broods in one season and in the same district, were all much older than those which produced only one brood. Of this any one can easily assure himself by shooting the breeding birds, and either bending or breaking their bones, or tearing asunder their pectoral muscles, which will be found harder or tougher in proportion to their age. Thus I am inclined to believe, that the farther south breeding individuals are found, the younger they are, and *vice versa*. This general rule is well exhibited in most of the species of birds, whether of the land or of the water, that are known to proceed in spring northward, and to return southward at the appearance of the inclement season; for in them the gradual progress of the young may easily be compared with the much slower advance of the old.

I have, on many occasions, when certain species returned to the nest or spot where they bred the previous season, observed, that what I considered to be the parents of the first year's young, were again the occupants. In the Swallow tribe, and in some of our travelling Woodpeckers, as well as in the Summer Duck, the Dusky Duck, the Mallard, the Hooded Merganser, Crow Blackbirds, Starlings, Kingfishers, Canada Geese, &c., this has proved correct, in as far as I could ascertain by the comparative softness of their bones and pectoral muscles. I think, further, that such species as merely enter the southern parts of our country in the breeding season, as the Mississippi Kites, Fork-tailed Hawks, Roseate Spoonbills, Flamingoes, Scarlet Ibises, &c. would all prove, if their winter retreats were well ascertained, to advance much farther southward than any of those which reach us first, and which continue their movements northward; with the exception of such species, however, as would not be likely to meet with the food they are accustomed to live upon, or the same degree of warmth as that to which they have been habituated, as our Parrakeets, the White-headed Pigeon, Zenaida Dove, Booby Gannet, several Terns, Gallinules, Herons, and others, which are by no means deficient in the power of flight, were nothing else required.

Another thought has frequently recurred to me while making observations on the habits of our birds: the nests of all those which advance least to the northward are less bulky than those of the same species found in higher latitudes. This difference I have not considered altogether as depending upon the state of the temperature, but upon the longer time afforded these

birds for rearing their young, the old and strong individuals arriving at an early period of the season, so that they have abundance of time to rear their broods before a decided change of temperature takes place. Again, it has become a matter of great doubt with me, whether the necessity of migration has not, in some parts of our countries, been increased in many species by the great increase of the individuals of a species that have settled there, and which have so encroached upon the original occupants as to force them to seek other retreats. In times long gone by, the country was in a manner their own, and being free of annoyance, they probably bred in every portion of the land that proved favourable in regard to food. On the other hand, I am fully aware that many species, now unknown in certain districts, have formerly been abundant there, but have been induced to remove to other sections of the country, enticed thither by the accumulation of food produced by the increase of civilized men. This I would look upon as a proof that migration is not caused solely by an organic or instinctive impulse which induces birds to remove at a particular period to a distant part, to spend a season there for the *purpose of reproducing only;* but also for the reasons stated above.

Dr. T. M. Brewer has favoured me with the following remarks:—"Your account of the Robin hardly leaves me any thing to add, except the fact that Mr. Cabot found the nest of this bird on the ground (a bare rock) near Newport, Rhode Island. Such a situation is certainly unusual, if not altogether unprecedented. It appears to me that the opinion commonly entertained, that the Robin passes the winter in Massachusetts, is not strictly correct. Sure it is that Robins are to be found here pretty much at all seasons, but I have no idea that the same individuals remain any length of time. They are rather successions of flocks slowly moving towards warmer regions, and have about all passed through the State by the first week of February; from which time until March none are to be found there, when those that visit the extreme northern parts again commence their migrations. In the gardens in the vicinity of Boston, the Robins have become a great nuisance, from the boldness with which they appropriate to their own use the largest, earliest, and best cherries, strawberries, currants, buffalo-berries, raspberries, and other fruit. The Robin generally has three broods in a season, in this State, and in the third nest it is not unusual to find the eggs last laid to be only about a third of the size of the others. Albinoes of this species have sometimes been seen."

The interior of the mouth has the same general structure as that of the Mocking-bird; its width 4 twelfths. The tongue is 8 twelfths long, narrow, tapering, thin, horny, with the margins slightly lacerated, and the tip slit. The posterior aperture of the nares is oblongo-linear, 7 twelfths long. The

œsophagus is three inches long, funnel-shaped at the commencement, afterwards of the nearly uniform width of $3\frac{1}{2}$ twelfths, until it enters the thorax, when it contracts; the proventriculus bulbiform, 5 twelfths in breadth. The stomach is of moderate size, broadly elliptical, 9 twelfths in length, $7\frac{1}{2}$ twelfths in breadth; the epithelium light red, longitudinally rugous; the muscles of moderate thickness. The intestine is of moderate length and great width, the former being 13 inches, the latter 4 twelfths. It passes downwards in front, at the distance of $1\frac{1}{2}$ inches, bends forward, inclosing the pancreas, opposite the right lobe of the liver receives the biliary ducts, then passes backwards to the right side until it reaches the hind part of the abdomen, forms two short convolutions, afterwards a larger one, and over the stomach terminates in the rectum. The cœca are 3 twelfths long, 1 twelfth in width; their distance from the extremity 1 inch. The cloaca is an oblong sac, of which the width is $\frac{1}{2}$ an inch.

The trachea is 2 inches 2 twelfths long, a little flattened, firm, the rings about 78, with 2 terminal half rings. The bronchi are short, of about 12 half rings. The muscles are as described in the Mocking-bird.

ROBIN, *Turdus migratorius*, Wils. Amer. Orn., vol. i. p. 35.
TURDUS MIGRATORIUS, Bonap. Syn., p. 75.
MERULA MIGRATORIA, *Red-breasted Thrush*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 176.
AMERICAN ROBIN OF MIGRATORY THRUSH, *Turdus migratorius*, Nutt. Man., vol. i. p. 338.
AMERICAN ROBIN OF MIGRATORY THRUSH, *Turdus migratorius*, Aud. Orn. Biog., vol. ii. p. 190; vol. v. p. 442.

Male with the bill yellow, the upper part and sides of the head black; upper parts dark grey, with an olivaceous tinge; quills blackish-brown, margined with light grey; tail brownish-black, the outer two feathers tipped with white; three white spots about the eye, throat white, densely streaked with black; lower part of fore neck, breast, sides, axillars, and lower wing-coverts reddish-orange; abdomen white; lower tail-coverts dusky, tipped with white. Female with the tints paler. Young with the fore neck, breast, and sides pale reddish, spotted with dusky, the upper parts darker than in the adult. Bill at first dusky, ultimately pure yellow.

Male, 10, 14. Female, 9, 13.

VARIED THRUSH.

TURDUS NÆVIUS, *Gmel.*

PLATE CXLIII.—MALE AND FEMALE.

Of this beautiful Thrush, of which a figure not having the black band running quite across the breast, as is the case in the adult male, is given by Mr. SWAINSON, in the Fauna Boreali-Americana, Dr. RICHARDSON speaks as follows:—"This species was discovered at Nootka Sound, in Captain COOK's third voyage, and male and female specimens, in the possession of Sir JOSEPH BANKS, were described by LATHAM: PENNANT has also described and figured the same male. The specimen represented in this work was procured at Fort Franklin, lat. 65¼°, in the spring of 1826. We did not hear its song, nor acquire any information respecting its habits, except that it built its nest in a bush, similar to that of the *Merula migratoria.* It was not seen by us on the banks of the Saskatchewan; and, as it has not appeared in the list of the Birds of the United States, it most probably does not go far to the eastward of the Rocky Mountains in its migrations north and south. It may perhaps be more common to the westward of that ridge."

Dr. RICHARDSON's conjecture as to the line of march followed by it has proved to be correct, Mr. TOWNSEND and Mr. NUTTALL having found it abundant on the western sides of the Rocky Mountains. The former of these naturalists informs me that he "first found this Thrush on the Columbia river in the month of October, and that it becomes more numerous in winter, which it spends in that region, though some remove farther south. It there associates with the Common Robin, *Turdus migratorius,* but possesses a very different note, it being louder, sharper, and quicker than those of the latter, and in the spring, before it sets out for its yet unascertained breeding-place, it warbles very sweetly. It is called *Ammeskuk* by the Chinooks."

Mr. NUTTALL's notice respecting it is as follows:—"Of this bird, whose manners so entirely resemble those of the Common Robin, we know almost nothing. They probably breed as far north as Nootka, where they were first seen by the naturalists of COOK's expedition. On the Columbia they are only winter birds of passage, arriving about October, and continuing more or less frequently throughout the winter. At this time they flit through the forest in small flocks, frequenting usually low trees, on which they perch in perfect silence, and are at times very timorous and difficult of approach,

Varied Thrush.

Male 1, Female 2.

American Mistletoe, Viscum verticillatum.

Drawn from nature by J.J. Audubon F.R.S.F.L.S.

Lith. & Printed by Endicott New York.

having all the shy sagacity of the Robin, and appearing at all times in a very desultory manner."

The numerous specimens of this Thrush in my possession have enabled me to compare it with *Turdus migratorius*, and another new Thrush from Chili. On examining the tail, from the shape of which Mr. SWAINSON considers this species allied to our Mocking-bird, I found its form, length, and extent beyond the wings, to correspond almost exactly with those of the tail of our Robin; and, if it proves true that the Varied Thrush forms a nest bedded with mud, it will strengthen my opinion that both these and the Chilian species are as nearly allied as possible, and therefore ought to be considered as true Thrushes, of which *Turdus migratorius* is the type in America, whilst *Turdus Merula* is that of Europe.

The figures in my plate were taken from adult males and a fine female shot in spring.

ORPHEUS MERULOIDES, *Thrush-like Mocking-bird*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 187.

VARIED THRUSH, *Turdus nævius*, Aud. Orn. Biog., vol. iv. p. 489; vol. v. p. 284.

Male with the bill black, the upper parts deep leaden-grey, the head darker; quills and tail-feathers dusky, the outer webs of the latter tinged with grey, and their tips white; lore dusky; a band of reddish-orange from over the fore part of the eye down the side of the neck; two conspicuous bands of the same crossing the wing obliquely, being formed by the tips of the first row of small coverts, and those of the secondary coverts; outer webs of primary coverts about the middle, a band on the primaries near the base, part of their outer webs towards the end, and the tips of the secondaries pale reddish-orange; lower parts light reddish-orange, paler behind; a band of greyish-black passing down the side of the neck, and a belt of the same crossing its lower part; feathers of the sides tipped with bluish-grey; those of the middle of the abdomen white; lower tail-coverts tipped with white; axillar feathers white, tipped with grey, smaller coverts grey, tipped with reddish-white; primary coverts grey, secondary nearly white. Female similar, with the upper parts tinged with olive-brown, the reddish-orange bands much paler, the tail-feathers margined with dull reddish-brown; a band on the lore down the sides of the neck and across it light greyish-brown; the orange tints of the lower parts much paler.

Length to end of tail 10 inches; wing from flexure $5\frac{2}{12}$; tail $3\frac{8}{12}$; bill along the ridge $\frac{10}{12}$; tarsus $1\frac{1}{4}$; middle toe and claw $1\frac{3}{12}$.

The plant represented on the plate is the American mistletoe, *Viscum verticillatum*, on the berries of which several of our Thrushes occasionally

feed, as the Mistle Thrush, *Turdus viscivorus*, is said to do on those of *Viscum album*. It is found in almost every part of the United States, growing chiefly on oaks and apple-trees.

WOOD THRUSH.

TURDUS MUSTELINUS, *Gmel.*

PLATE CXLIV.—MALE AND FEMALE.

Kind reader, you now see before you my greatest favourite of the feathered tribes of our woods. To it I owe much. How often has it revived my drooping spirits, when I have listened to its wild notes in the forest, after passing a restless night in my slender shed, so feebly secured against the violence of the storm, as to shew me the futility of my best efforts to rekindle my little fire, whose uncertain and vacillating light had gradually died away under the destructive weight of the dense torrents of rain that seemed to involve the heavens and the earth in one mass of fearful murkiness, save when the red streaks of the flashing thunderbolt burst on the dazzled eye, and, glancing along the huge trunk of the stateliest and noblest tree in my immediate neighbourhood, were instantly followed by an uproar of crackling, crashing, and deafening sounds, rolling their volumes in tumultuous eddies far and near, as if to silence the very breathings of the unformed thought! How often, after such a night, when far from my dear home, and deprived of the presence of those nearest to my heart, wearied, hungry, drenched, and so lonely and desolate as almost to question myself why I was thus situated, when I have seen the fruits of my labours on the eve of being destroyed, as the water, collected into a stream, rushed through my little camp, and forced me to stand erect, shivering in a cold fit like that of a severe ague, when I have been obliged to wait with the patience of a martyr for the return of day, trying in vain to destroy the tormenting moschettoes, silently counting over the years of my youth, doubting perhaps if ever again I should return to my home, and embrace my family!—how often, as the first glimpses of morning gleamed doubtfully amongst the dusky masses of the forest-trees, has there come upon my ear, thrilling along the sensitive cords which connect that organ with the heart, the delightful music of this

Wood Thrush

Male 1. Female 2.

Common Dogwood.

Drawn from nature by J.J. Audubon F.R.S.F.L.S. Lith. & Printed by Endicott New York.

harbinger of day!—and how fervently, on such occasions, have I blessed the Being who formed the Wood Thrush, and placed it in those solitary forests, as if to console me amidst my privations, to cheer my depressed mind, and to make me feel, as I did, that never ought man to despair, *whatever* may be his situation, as he can never be certain that aid and deliverance are not at hand.

The Wood Thrush seldom commits a mistake after such a storm as I have attempted to describe; for no sooner are its sweet notes heard than the heavens gradually clear, the bright refracted light rises in gladdening rays from beneath the distant horizon, the effulgent beams increase in their intensity, and the great orb of day at length bursts on the sight. The grey vapour that floats along the ground is quickly dissipated, the world smiles at the happy change, and the woods are soon heard to echo the joyous thanks of their many songsters. At that moment, all fears vanish, giving place to an inspiriting hope. The hunter prepares to leave his camp. He listens to the Wood Thrush, while he thinks of the course which he ought to pursue, and as the bird approaches to peep at him, and learn somewhat of his intentions, he raises his mind towards the Supreme Disposer of events. Seldom, indeed, have I heard the song of this Thrush, without feeling all that tranquillity of mind, to which the secluded situation in which it delights is so favourable. The thickest and darkest woods always appear to please it best. The borders of murmuring streamlets, overshadowed by the dense foliage of the lofty trees growing on the gentle declivities, amidst which the sunbeams seldom penetrate, are its favourite resorts. There it is, kind reader, that the musical powers of this hermit of the woods must be heard, to be fully appreciated and enjoyed.

The song of the Wood Thrush, although composed of but few notes, is so powerful, distinct, clear, and mellow, that it is impossible for any person to hear it without being struck by the effect which it produces on the mind. I do not know to what instrumental sounds I can compare these notes, for I really know none so melodious and harmonical. They gradually rise in strength, and then fall in gentle cadences, becoming at length so low as to be scarcely audible; like the emotions of the lover, who at one moment exults in the hope of possessing the object of his affections, and the next pauses in suspense, doubtful of the result of all his efforts to please.

Several of these birds seem to challenge each other from different portions of the forest, particularly towards evening, and at that time nearly all the other songsters being about to retire to rest, the notes of the Wood Thrush are doubly pleasing. One would think that each individual is anxious to excel his distant rival, and I have frequently thought that on such occasions their music is more than ordinarily effective, as it then exhibits a degree of

skilful modulation quite beyond my power to describe. These concerts are continued for some time after sunset, and take place in the month of June, when the females are sitting.

This species glides swiftly through the woods, whilst on wing, and performs its migrations without appearing in the open country. It is a constant resident in the State of Louisiana, to which the dispersed individuals resort, as to winter quarters, from the different parts of the United States, to which they had gone to breed. They reach Pennsylvania about the beginning or middle of April, and gradually proceed farther north.

Their food consists of different kinds of berries and small fruits, which they procure in the woods, without ever interfering with the farmer. They also occasionally feed on insects and various lichens.

The nest is usually placed in a low horizontal branch of the dogwood tree, occasionally on smaller shrubs. It is large, well saddled on the branch, and composed externally of dry leaves of various kinds, with a second bed of grasses and mud, and an internal layer of fine fibrous roots. The eggs are four or five, of a beautiful uniform light blue. The nest is generally found in deep swampy hollows, on the sides of hills.

On alighting on a branch, this Thrush gives its tail a few jets, uttering at each motion a low chuckling note peculiar to itself, and very different from those of the Hermit or Tawny Thrush. It then stands still for awhile, with the feathers of the hind part a little raised. It walks and hops along the branches with much ease, and often bends down its head to peep at the objects around. It frequently alights on the ground, and scratches up the dried leaves in search of worms and beetles, but suddenly flies back to the trees, on the least alarm.

The sight of a fox or racoon causes them much anxiety, and they generally follow these animals at a respectful distance, uttering a mournful *cluck*, well known to hunters. Although, during winter, these birds are numerous in Louisiana, they never form themselves into flocks, but go singly at this period, and only in pairs in the breeding season. They are easily reared from the nest, and sing nearly as well in confinement as while free. Their song is occasionally heard during the whole winter, particularly when the sun reappears after a shower. Their flesh is extremely delicate and juicy, and many of them are killed with the blow-gun.

You here see the *dogwood* in its autumnal colouring, adorned with its berries, of which the Wood Thrush is fond.

Wood Thrush, *Turdus melodus*, Wils. Amer. Orn., vol. i. p. 35.
Turdus mustelinus, Bonap. Syn., p. 75.
Wood Thrush, *Turdus mustelinus*, Nutt. Man., vol. i. p. 343.
Wood Thrush, *Turdus mustelinus*, Aud. Orn. Biog., vol. i. p. 372; vol. v. p. 446.

Tawny Thrush,
Male,

Habenaria Lacera – Cornus Canadensis

Drawn from nature by J.J. Audubon F.R.S.F.L.S.

Lith. & Printed by Endicott New York

Upper parts light yellowish-brown, the head and hind neck of a tint approaching to reddish-orange; the rump and tail-coverts duller and of an olivaceous tint; quills and tail-coverts light olive-brown, the outer webs of the coverts and quills like the back; eyes margined with a whitish circle; lower parts white, anteriorly tinged with yellow, the sides and lower part of the neck, the fore part of the breast, and the sides of the body marked with large roundish or broadly ovato-triangular decided brownish-black spots.

Male, 8, 13.

TAWNY THRUSH.

Turdus Wilsonii, *Bonap.*

PLATE CXLV.—Male.

Wilson's Thrush is never seen or heard in Louisiana during spring, and a few only pass through the lower portions of that State in autumn. I suppose its migration from the farther south is along the declivities of the range of the Alleghany Mountains, at least for some distance, and it probably takes place under night. It reaches the mountainous districts of Pennsylvania early in the month of May, but few if any breed there. In the upper parts of the State of New York, they become more plentiful, and there some undoubtedly spend the summer; but from Massachusetts eastward to Labrador, they become more and more abundant. On the 20th of July, while in the latter country, I saw the young of this species following their mother. They were there almost full grown, and could fly a hundred yards or so at a time. By the 12th of August none were seen, although during my stay they were as common as any other birds. In the latter part of the same month, I met with those which had bred at Newfoundland, on their return to the south, and followed them into Massachusetts.

At Labrador, as well as in the latter State, the Tawny Thrush retains its retired habits, and seeks refuge in the concealment of dark shady woods, near brooks or moist grounds. There, in a low bush, or on the ground beneath it, this bird builds its nest, which is large, composed externally of dry leaves, mosses, and the stalks of grasses, and lined with finer grasses, and delicate fibrous portions of different kinds of mosses, without any mud

or clay. The eggs, which are deposited early in June, are from four to six, and resemble those of the Cat-bird in colour and shape, but are of smaller size. They raise only one brood in the season. The parents, ever extremely shy, shew no desire to assist their young, or defend their nest from intruders, but remain during your visit at some distance, uttering a mournful and angry *quake*, somewhat resembling that of the Cat-bird on such occasions. The Cow Bunting not unfrequently deposits its egg in the nest of this Thrush, where it is hatched, and the young brought up with all imaginable care. In the neighbourhood of the city of Boston, some of these birds, according to my learned friend NUTTALL, breed sometimes in the gardens, and he has known of a nest placed in a gooseberry bush. A full fledged young one that was caught and placed in a cage, retained the unsocial and silent timidity peculiar to the species. The males are obstinate in their quarrels, and fight with great fierceness in maintaining their right to the ground which they have appropriated to themselves.

The song of this species, although resembling that of the Wood Thrush in a great degree, is less powerful, and is composed of continued trills repeated with different variations, enunciated with great delicacy and mellowness, so as to be extremely pleasing to one listening to them in the dark solitudes where the sylvan songster resides. It now and then tunes its throat in the calm of evening, and is heard sometimes until after the day has closed.

It searches for food even at those hours, and feeds principally on coleopterous insects. In Labrador it also picks the tender blossoms of several dwarf plants, and feeds on berries. Its time is, for the most part, spent on the ground, where it moves with singular agility by leaps, stopping instantaneously and standing erect for a few moments, as if apprehending danger, but immediately renewing its course.

The specimen presented in the plate was procured and drawn in the State of Maine.

All the Thrushes examined, as well as the Shrikes, Warblers, Flycatchers, Swallows, in short all the land birds, have a pair of muscles proceeding from the sides of the thyroid cartilage, to be inserted into some part of the furcula. In all the Thrushes, the right lobe of the liver is larger than the left, under which it passes in the form of a thin expanded lobe; and there is no gall-bladder.

TAWNY THRUSH, *Turdus mustelinus*, Wils. Amer. Orn., vol. v. p. 98.
TURDUS WILSONII, Bonap. Syn., p. 76.
MERULA MINOR (Swainson), *Little Tawny Thrush*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 179, Plate 36. The description and figure clearly refer to the present species.

Hermit Thrush

Male 1. Female 2

Plant Robin Wood

Drawn from nature by J. J. Audubon F.R.S.E.L.S. Lith. & Printed by Endicott New York

WILSON'S THRUSH OR VEERY, *Turdus Wilsonii*, Nutt. Man., vol. i. p. 349.
TAWNY THRUSH, *Turdus Wilsonii*, Aud. Orn. Biog., vol. ii. p. 362; vol. v. p. 446.

Male.

Wings with the third quill largest, the fourth scarcely shorter, and slightly exceeding the second. Upper parts uniform light reddish-brown, a little deeper on the head; quill and tail-coverts light olive-brown, the outer webs of the former like the back; lower parts greyish-white, the sides and lower part of the neck, and a small portion of the breast tinged with pale yellowish-brown, and marked with small faint and undecided triangular brown spots. Female an inch less in length than the male, but otherwise similar.

Male, $7\frac{2}{12}$, 12.

HERMIT THRUSH.

+TURDUS SOLITARIUS, *Wils.*

PLATE CXLVI.—MALE AND FEMALE.

This, kind reader, is another constant resident in the Southern States, more especially those of Mississippi and Louisiana, where it abounds during the winter months, and is found in considerable numbers during spring and summer. In the lower parts of Kentucky, Indiana and Tennessee, it is also observed during spring and summer; but it becomes scarcer as you advance towards the Middle Districts, where a few are occasionally seen about the low woodlands of the Atlantic shores.

Except during winter, this Thrush prefers the darkest, most swampy, and most secluded cane-brakes along the margins of the Mississippi, where it breeds and spends the summer, retiring to higher lands during the period when the alluvial grounds are covered with the water which, during freshets, generally inundates these low cane-brakes and swampy retreats.

The flight of the Hermit Thrush is performed low over the ground, and in a gliding manner, as the bird shifts from one place to another at a short distance. In this respect, it differs greatly from its relative, my great favourite, the Wood Thrush, the flight of which is more protracted, and is performed at a greater elevation.

This Thrush is most frequently seen on the ground, where it hops with the same movements employed by the well-known little *Red-breast* of Europe, in other words, before it hops its breast almost comes in contact with the ground, the tail is a little raised, the wings droop, and after hopping, it runs a few steps, erects its head, and looks around.

All the nests of the Hermit Thrush which I have found were in every instance placed lower on the branches of trees than those of the Wood Thrush, seldom above seven or eight feet from the ground, and sometimes so low that I could easily look into them. These nests were fixed to a horizontal bough, but were not *saddled* upon it so deeply as those of the Wood Thrush are. They were smaller, and had no mud or plaster of any kind, but were extremely compact, the outer parts being formed of coarse dry weeds, and here and there a withered leaf, the interior composed of a long delicate kind of grass, which is found growing along the edges of canebrakes. This grass is arranged in a circular manner, to the whole extent of its length, and gives the inner part of the nest of this bird a remarkable appearance of neatness and finish. The female lays from four to six eggs, of a light blue colour, sprinkled with dark dots towards the large end. The first set are laid early in April, the second about the middle of June; for, in Lower Louisiana, this species rears two broods in the year. The female is much attached to her nest, and glides off silently from it when closely approached, not, however, unless she thinks herself or her nest observed. The young run after the parents, on the ground, for several days after they leave the nest.

As soon as the waters of the Mississippi become so swelled as to overflow the banks, the Hermit Thrush retires to the nearest hills, and mixes with many other birds, amongst which the Wood Thrush is pre-eminent. The former is, however, easily recognised at once, by its single plaintive note, heard from the boughs of low trees, on the berries of which it feeds. In fact, its food is altogether composed of different fruits and berries, which are at all seasons abundant in our woods.

In the Middle Districts the Hermit Thrush is only observed during a few weeks in the spring, and again in autumn. It arrives in the States of New Jersey and New York between the end of April and the middle of May, generally in a desultory manner, and, throwing itself into the depths of the forests, there spends the summer months, frequenting the lowest and most shady thickets. Its song is sometimes agreeable.

HERMIT THRUSH, *Turdus solitarius*, Wils. Amer. Orn., vol. v. p. 95.
TURDUS MINOR, Bonap. Syn., p. 75.
LITTLE OF HERMIT THRUSH, *Turdus minor*, Nutt. Man., vol. i. p. 346.

MERULA SOLITARIA, *Hermit Thrush*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 184.
HERMIT THRUSH, *Turdus minor*, Aud. Orn. Biog., vol. i. p. 303; vol. v. p. 445.

Adult Male.

Bill of ordinary length, nearly straight, compressed towards the end; upper mandible with the dorsal outline a little convex, the tip slightly declinate, the margins acute, inflected towards the end, slightly notched close upon the tip; lower mandible slightly convex in its dorsal line, the tip rather obtuse. Head of ordinary size; neck and body rather slender. Feet rather long; tarsus longish, compressed, slender, anteriorly covered with a few elongated, indistinct scutella, posteriorly edged, longer than the middle toe; toes scutellate above, lateral ones almost equal, the outer connected as far as the second joint.

Plumage rather loose. A few longish bristles at the base of the upper mandible. Wings of ordinary length, the third quill longest, the first very short. Tail rather short, even, of twelve broad feathers, the shafts of which project a little beyond the extremity of the webs, as is the case with the outer primaries.

Bill dark brown, yellowish towards the base of the lower mandible. Iris hazel. Feet flesh-colour. The general colour of the upper parts is light yellowish-brown, changing on the rump and tail into dull yellowish-red. Quills dusky, margined externally with yellowish-brown. Primary coverts yellowish-brown, dusky at the end; secondary coverts tipped with yellowish-red. Under parts greyish-white, the neck and breast spotted with dark brown.

Length 7 inches, extent of wings $10\frac{1}{2}$; bill along the ridge $\frac{7}{12}$, along the gap $\frac{5}{6}$; tarsus $1\frac{1}{6}$.

Adult Female.

The female differs only in having the spots on the breast somewhat larger, and the tints of the upper parts rather deeper.

The branches so thickly covered with dull red berries, and upon which two Hermit Thrushes are seen, belong to a shrub which grows in the swampy recesses preferred by these birds. Its leaves fall off at an early period, and are of an ovato-lanceolate form, thin consistence, and deep green colour, their under surface light grey. The common name of it is *Robin Wood.* It seldom grows taller than from seven to eight feet, and all the branches, in a favourable season, are thickly covered with the berries, on which many birds, besides the *Turdus migratorius*, from which it seems to have derived its common name, are seen to feed.

DWARF THRUSH.

+Turdus Nanus.

PLATE CXLVII.—Male.

The history of our smaller Thrushes has been involved in obscurity by the attempts which have been made to restore to some of those described by Wilson the names supposed to have been bestowed on them by European writers, and by changing the names given by Wilson to such as could not satisfactorily be referred to previous writers. The difficulties that present themselves when we attempt to recognise species ill figured and slightly described, are very great, and I have often thought that too little credit had been given to Wilson with respect to the smaller Thrushes which he has described, and which no European writer, who has not studied their habits and procured the birds in our woods, can correctly characterize, unless he may have a great number of specimens, ticketed when obtained, and shewing the differences as to size and markings that occur in old and young individuals, males and females, and which are the more difficult to judge of on account of the general mutual resemblance of birds of this genus. Experience has proved to me that the size, and to some extent, the colour of the spots on the breast of our small Thrushes differ in winter and summer, as the tips of the feathers become more or less worn. Nature, however, has provided each species with characters, which may with care and patience be understood.

After a careful examination and comparison, I was induced to consider the present as a new species, to which, on account of its small size, I gave the name of "Dwarf Thrush, *T. nanus.*" It is nearly allied to the Hermit Thrush, but is smaller, and has the second and sixth quills nearly equal, whereas in *T. solitarius* the second quill is considerably shorter than the sixth. It must be confessed that it differs very little from that species, excepting as to size, and especially that of the bill. It is extremely rare in our Atlantic districts, where, however, I have procured a few individuals. Indeed, the first intimation which I received respecting it was from my friend Dr. Charles Pickering of Philadelphia, who, having procured one, had kept its wings and head, the smallness of which struck me at once. I was then far from imagining that its native haunts were the valleys of the Columbia river, from which, however, I have since received it through the kindness

Dwarf Thrush
Male.

Plant Porcelia Triloba.

Drawn from nature by J.J. Audubon F.R.S.F.L.S. Lith. & Printed by Endicott New York

of my friend Mr. TOWNSEND, who has also sent me its measurements, "length 6 inches, alar extent 9," or one inch less in length, and one and a half less in breadth than the Hermit Thrush, with which it has probably been hitherto confounded.

I am of opinion that no distinctive character can be obtained from the colouring of the inner webs of the quills as seen from beneath, those parts being more or less yellowish or buffy in all the species.

This is the smallest of our Thrushes; and was represented in Plate CCCCXIX. of my large work, under the name of "Little Tawny Thrush, *Turdus minor*, GMELIN."

TURDUS NANUS, *Dwarf Thrush*, Aud. Orn. Biog., vol. v. p. 201.

Bill dark brown, yellowish toward the base of the lower mandible. Feet flesh-colour. The general colour of the upper parts is light yellowish-brown, changing on the rump and tail into dull yellowish-red. Quills dusky, margined externally with yellowish-brown; primary coverts yellowish-brown, dusky at the end; secondary coverts tipped with yellowish-red, which on some of the inner runs a little way along the shaft. Lower parts greyish-white, the neck and breast tinged with yellowish-red, and marked with broad triangular blackish-brown spots; the sides with faint spots of olivaceous-brown, the inner feathers greyish-brown, as are the axillars and lower wing-coverts.

Length to end of tail 6 inches; extent of wings $9\frac{1}{2}$; bill along the ridge $\frac{5\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{9\frac{1}{2}}{12}$; wing from flexure $3\frac{1}{2}$; tail $2\frac{10}{12}$; tarsus $1\frac{1}{12}$; hind toe $\frac{3\frac{3}{4}}{12}$, its claw $\frac{3\frac{3}{4}}{12}$; second toe $\frac{4\frac{3}{4}}{12}$, its claw $\frac{2\frac{3}{4}}{12}$; third toe $\frac{7\frac{3}{4}}{12}$, its claw $\frac{3\frac{1}{4}}{12}$; fourth toe $\frac{4\frac{3}{4}}{12}$, its claw $\frac{2\frac{3}{4}}{12}$.

This species agrees in many respects with Mr. SWAINSON's *Merula silens*, but is smaller. It has also the claws little curved, indeed much less so than those of his figure of *Merula solitaria*, which he describes as having the "claws slightly curved." But it seems impossible to judge in this case, for in his Synopsis of the Birds of Mexico, *Merula silens* is announced as WILSON's Hermit Thrush, and in the Fauna Boreali-Americana *Merula silens* is said to be the same as that of the Synopsis, while at the same time WILSON's Hermit Thrush is reproduced under the same English name as that of *Merula solitaria*, while *Merula silens* is said to be or to seem "intermediate between *Merula solitaria* and *Merula Wilsonii*."

FAMILY XIII.—MOTACILLINÆ. WAGTAILS.

Bill of moderate length, straight, slender, a little broader than high at the base, compressed toward the end; upper mandible with the dorsal line sloping, a little convex toward the end, the nostrils slight, the tip acute; lower mandible with the angle rather long and narrow, the dorsal line ascending and scarcely convex, the edges somewhat involute, the tip acute. General form slender; head ovato-oblong; neck short. Feet of ordinary length, slender; toes very slender, the lateral equal, the outer adherent at the base, the hind toe rather large; claws rather long, arched, compressed, acute, that of the hind toe generally very long. Plumage soft and blended. Bristles small. Wings long and pointed, one of the minor secondaries often much elongated and tapering. Tongue sagittate, slender, with the tip slit; œsophagus uniform; stomach a very muscular gizzard, roundish, with large tendons, and thin rugous epithelium, intestine of moderate length; cœca very small. Trachea simple, with four pairs of inferior laryngeal muscles.

This family is connected with the Turdinæ by *Seiurus*, and with the Alaudinæ by *Anthus*, which are the only two American genera.

Genus I.—SEIURUS, *Swains.* WOOD-WAGTAILS.

Bill rather short, straight, slightly broader than deep at the base, compressed toward the end, the edges a little inflected, the dorsal lines of both mandibles slightly convex, the notches very slight, the tip acute. Nostrils basal elliptical. General form slender; head ovato-oblong. Feet of ordinary length; tarsus slender, compressed, covered anteriorly with a long undivided piece and three inferior scutella; toes of moderate length, slender; the first a little stouter than the third, the inner slightly shorter than the outer, which is adherent at the base; claws of moderate length, very slender, much compressed, moderately arched, acute. Plumage soft, blended. Bristles very small. Wings of moderate length; the first or outer quill little shorter than the third, which is longest. Tail of moderate length, even.

Golden Crowned Wagtail Thrush.
Male 1. Female 2.
Plant Woody Nightshade.

Drawn from nature by J.J. Audubon F.R.S.F.L.S. Lith. & Printed by Endicott New York.

GOLDEN-CROWNED WAGTAIL (THRUSH).

SEIURUS AUROCAPILLUS, *Lath.*

PLATE CXLVIII.—MALE AND FEMALE.

The notes of this bird are first heard in Louisiana, about the beginning of March. Some individuals remain there all summer, but the greater number proceed eastward, some going as far as Nova Scotia, while others move towards the west. Over all this extent of country the species is dispersed, and its breeding places are in the interior or along the margins of shady woods watered by creeks and rivulets, and seldom visited by man, it being of a shy and retiring disposition, so that its occurrence in the open parts of the country is very rare. In places like these, it settles for the season, attunes its pipe to its simple lay, forms its nest, rears a brood or two, and at the approach of winter, spreads its wings and returns to southern regions.

Perched erect on a low horizontal branch, or sometimes on a fallen tree, it emits, at intervals of ten or fifteen minutes, a short succession of simple notes, beginning with emphasis and gradually falling. This suffices to inform the female that her lover is at hand, as watchful as he is affectionate. The quieter the place of his abode, the more the little minstrel exerts his powers; and in calm evenings, its music immediately following the song of the Tawny Thrush, appears to form a pleasant unison.

The nest is so like an oven, that the children in many places call this species the "Oven Bird." I have found it always on the ground, sometimes among the roots of a tall tree, sometimes by the side of a fallen trunk, and again at the foot of some slender sapling. It is sunk in the ground among dry leaves or decayed moss, and is neatly formed of grasses, both inside and out, arched over with a thick mass of the same material, covered by leaves, twigs, and such grasses as are found in the neighbourhood. A small aperture is left on one side, just sufficient to admit the owner. In this snug tenement the female deposits from four to six eggs, which are white, irregularly spotted with reddish-brown near the larger end.

When accidentally disturbed at the period of incubation, it glides over the ground before you, and uses all sorts of artifices to decoy you from its nest. Several species of snakes and small quadrupeds are its principal enemies. From children it has little to dread, its gentleness securing it a place in their affections, so that they seldom molest it.

While on wing it appears to glide through the woods with ease and celerity, although it seldom extends its flight to more than a hundred yards at a time. It migrates by day, resorting at night to the deepest swamps. In these situations I have met it in company with the Cat-bird and other Thrushes. When disturbed on such occasions, its simple *tweet* was familiar to my ear. None remain in the United States during winter, although some are found lingering in the lower parts of Louisiana as late as the first of December.

The plant on which I have placed a pair of them, grew near the spot where I obtained the birds, in a dark wood not far from Philadelphia.

Mr. Townsend brought specimens of this bird from the Columbia river, but he did not find it on the Rocky Mountains, although it inhabits the plains of the Missouri. Dr. Richardson informs us that it breeds on the banks of the Saskatchewan river, and perhaps still farther northward. I found it abundant in the Texas, about the middle of May, and have reason to think that it breeds there. The eggs measure seven-eighths in length, and five-eighths in breadth. The nest somewhat resembles in form that of the European Dipper, although it is far from being so substantially built, or so large.

From Texas eastward. Fur Countries. Not seen in Labrador. Throughout the interior. Resident in Florida, Louisiana, and Texas. Abundant.

Golden-crowned Thrush, *Turdus aurocapillus*, Wils. Amer. Orn., vol. ii. p. 88.
Sylvia aurocapilla, Bonap. Syn., p. 77.
Seiurus aurocapillus, *Golden-crowned accentor*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 227.
Golden-crowned Thrush or Oven-bird, *Turdus aurocapillus*, Nutt. Man., vol. i. p. 355.
Golden-crowned Thrush, *Turdus aurocapillus*, Aud. Orn. Biog., vol. ii. p. 253; vol. v. p. 447.

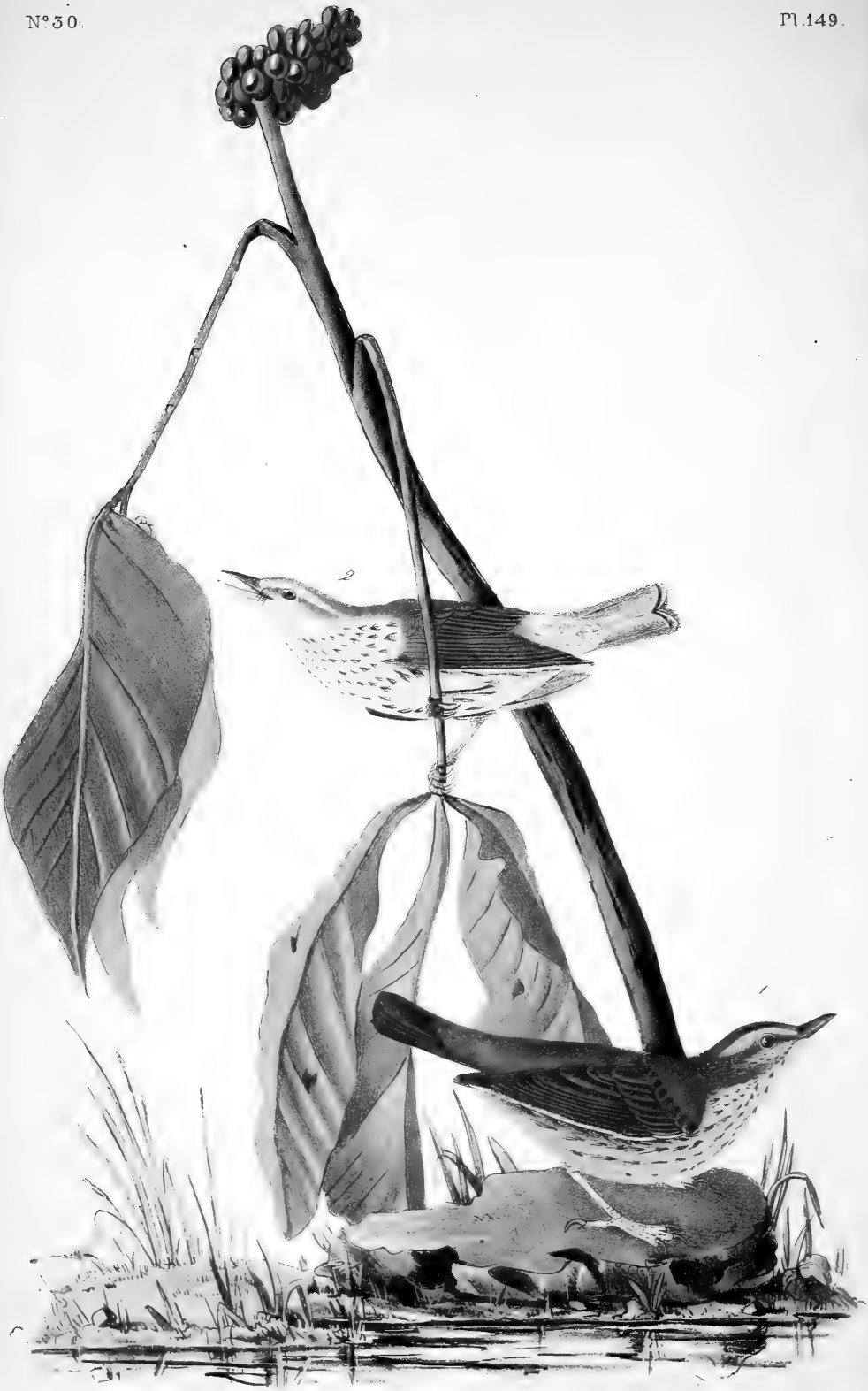
Upper parts yellowish-olive, the crown brownish-orange, with two lateral bands of brownish-black spots; lower parts white, the throat with two lateral lines of brownish-black, the lower neck, fore part of breast, and sides, marked with triangular spots of the same. Female similar to the male. Young without the orange crown.

Male, 6, 9.

The Woody Nightshade.

Solanum Dulcamara, *Willd.*, Sp. Pl., vol. i. p. 1027. *Pursch*, Fl. Amer. Sept., vol. i. p. 156.—Pentandria Monogynia, *Linn.*

This species is found in the woods, as well as along the margins of cultivated land, and is one of those common to both continents.



Aquatic Wood - Wagtail.

Male 1 Female 2.

Plant Indian Turnip.

Drawn from nature by J.J. Audubon F.R.S.F.L.S. Lith & Printed by Endicott New York.

AQUATIC WOOD-WAGTAIL (LOUISIANA WATER THRUSH).

†Seiurus novæboracensis, *Gmel.*

PLATE CXLIX.—Male.

Much and justly as the song of the Nightingale is admired, I am inclined, after having often listened to it, to pronounce it in no degree superior to that of the Louisiana Water Thrush. The notes of the latter bird are as powerful and mellow, and at times as varied.

This bird is a resident of the low lands of the States of Louisiana and Mississippi, and is to be found at all seasons in the deepest and most swampy of our cane-brakes, from which its melodies are heard to a considerable distance, its voice being nearly as loud as that of the Wood Thrush. The bird may be observed perched on a low bough scarcely higher than the tops of the canes, in an erect attitude, swelling its throat, and repeating several times in succession sounds so approaching two octaves of a good piano-forte, as almost to induce the hearer to imagine that the keys of that instrument are used on the occasion. The bird begins on the upper key, and progressively passes from one to another, until it reaches the base note, this last frequently being lost when there is the least agitation in the air. Its song is heard even in the winter, when the weather is calm and warm.

The flight of this bird is easy, and continued amongst the trees, just above the canes, or closer over the ground, when it is passing along their skirts, gliding smoothly through the air. When alighted, its body is continually vibrating, the tail being at the same time alternately jerked out and closed again. It walks prettily along the branches, or on the ground, but never *hops*. It feeds on insects and larvæ, often pursuing the former on wing, as well as on the ground, yet in seizing them it does not produce the clicking sound heard from the bill of Flycatchers.

The nest of this species is commenced in the first days of April. It is placed at the foot and amongst the roots of a tree, or by the side of a decayed log, and is so easily discovered at times that my eyes have once or twice been attracted by it, whilst walking about in search of something else. The outer parts are formed of dry leaves and mosses, the inner of fine grasses, with a few hairs, or the dried fibres of the *Spanish moss*, which so much resemble horse-hair as scarcely to be distinguished from it. The

female lays four or five eggs, and takes fourteen days to hatch them. When disturbed on her nest at an early period of incubation, she merely flies off; but if discovered towards the conclusion of that period, she is seen tumbling and rolling about, spreading her wings and tail, as if in the last agonies of despair, uttering all the while a most piteous tone, to entice the intruder to follow her.

The young leave the nest in about ten days, and follow the parent from place to place, on the ground, where they are fed until able to fly. I have not been able to ascertain whether this bird rears more than one brood in a season, but am inclined to believe that it does not. The eggs are flesh-coloured, sprinkled with darker red on the large end.

During winter, it becomes so plump as to be a pure mass of fat, and furnishes extremely delicate eating. I have never seen this species farther eastward than Georgia, nor higher on the Ohio than the cane-brakes about Henderson.

Dr. Richardson states that this species was seen "at Carlton House, where it frequented the moist and thickly wooded points of the river. It arrived in May, and disappeared after a few days, probably going farther north to breed." Mr. Townsend informs me that it is common in the districts adjoining the Columbia river, but does not say whether it breeds there or not, although he states that it breeds on the Missouri. During my late journey to the Texas, my friend Edward Harris and my son John Woodhouse procured a good number of these birds in the months of April and May. They were then migrating along the shores and islands of the Gulf of Mexico.

In winter resident from Texas to Florida, including Louisiana. In summer migrates as far as the Fur Countries. Not abundant.

Water Thrush, *Turdus aquaticus*, Wils. Amer. Orn., vol. iii. p. 66.
Sylvia novæboracensis, Bonap. Syn., p. 77.
Seiurus aquaticus, *Aquatic Accentor*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 229.
New York or Aquatic Thrush, *Turdus novaboracensis*, Nutt. Man., vol. i. p. 353.
Louisiana Water Thrush, *Turdus ludovicianus*, Aud. Orn. Biog., vol. i. p. 99.
Common Water Thrush, *Turdus aquaticus*, Aud. Orn. Biog., vol. v. p. 284.

Adult Male.

Bill of ordinary length, straight, slender, tapering to a point, broadish at the base, compressed toward the end; upper mandible with the edges sharp, and destitute of a notch. Nostrils basal, rounded, half closed by a membrane. Feet of ordinary length, rather slender; tarsus a little longer than the middle toe; toes free; claws slender, much compressed, arched, acute, the hind one not much larger than that of the middle toe.

Plumage ordinary, soft, slightly glossy; a few bristles at the base of the upper mandible. Wings of ordinary length; first quill longest. Tail shortish, a little notched, the feathers rather obtuse.

Bill deep brown above, black at the tip, flesh-coloured beneath. Iris deep brown. Feet and claws brown, tinged with blue. The general colour of the upper parts is dull greenish-brown, that of the under parts yellowish-white. A streak of the latter colour over the eye, from the base of the upper mandible, and another from the base of the lower, curving upwards behind the ear-coverts. Fore-neck and breast marked with sagittiform spots of blackish-brown; sides under the wings streaked with the same colour.

Length $5\frac{3}{4}$ inches, extent of wings $9\frac{1}{2}$; bill along the ridge $\frac{1}{2}$, along the gap $\frac{3}{4}$; tarsus $\frac{3}{4}$.

The female, as has been said, hardly differs from the male in appearance.

The Indian Turnip.

Arum triphyllum, *Willd.*, Sp. Pl., vol. iv. p. 480. *Pursch*, Fl. Amer., vol. i. p. 399. —Polyandria Polygynia, *Linn.*—Aroideæ, *Juss.*

Somewhat caulescent; leaves ternate, with ovate acuminate leaflets; spadix clavate; flowers monœcious. The flowers are green and purple, and the roots are used by the Indians as a remely for colic.

Genus II.—ANTHUS, *Bechst.* PIPIT.

Bill of moderate length, straight, very slender, as broad as high at the base, compressed toward the end; upper mandible with the ridge narrow at the base, the notches slight, the tip a little deflected; lower mandible with the dorsal line straight, the edges involute, the tip acute. General form very slender. Tarsus of moderate length, much compressed; toes slender; claws arched, extremely compressed, acute, that of the hind toe much elongated. Plumage soft and blended. Wings long; the outer three quills about equal and longest; inner secondaries tapering, one of them nearly as long as the outer primaries when the wing is closed. Tail rather long, emarginate.

AMERICAN PIPIT OR TITLARK.

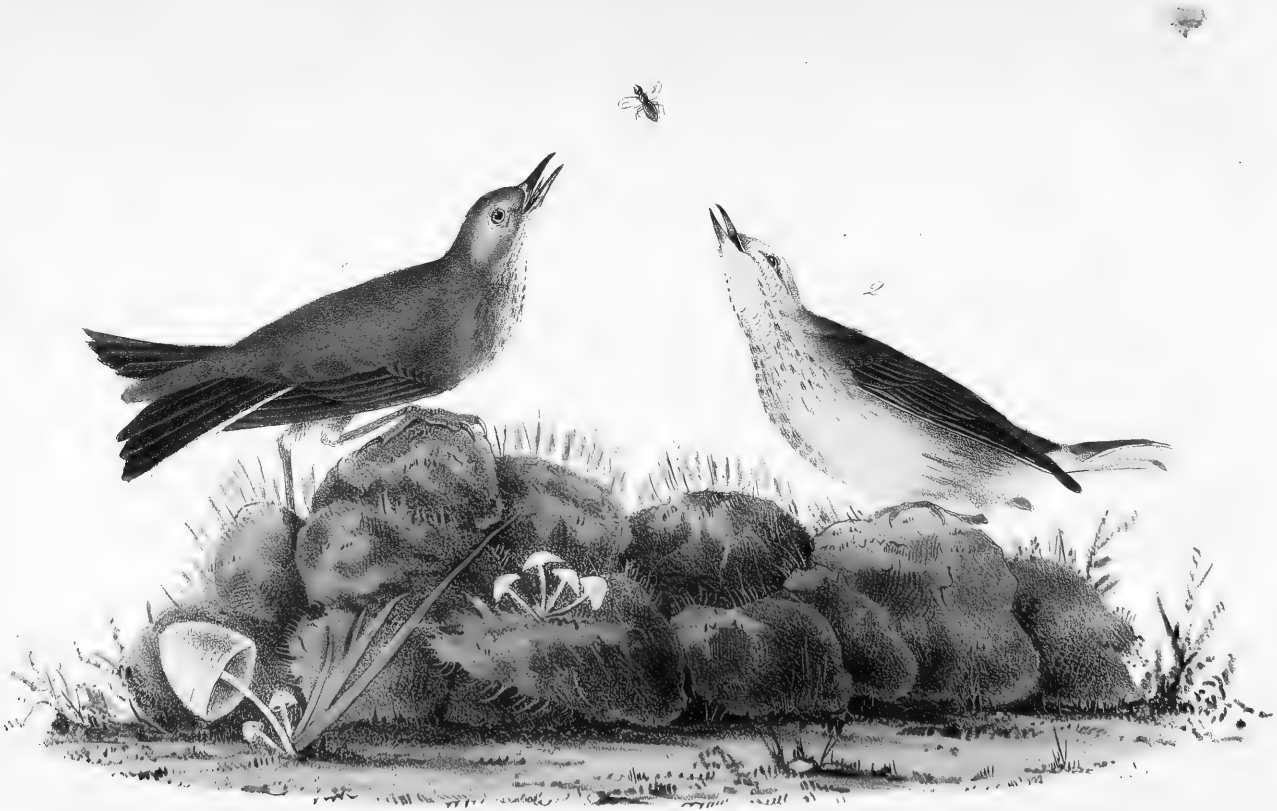
ANTHUS LUDOVICIANUS, *Lichtenstein.*

PLATE CL.—MALE AND FEMALE.

This species is met with in every portion of the United States which I have visited. It is one of the birds that I should call gifted with a double set of habits, for, like a very few others that are strictly named land birds, it occurs not only in the fields in the interior of the country, but also on the borders of rivers, and even on the shores of the Atlantic.

Its flight is extremely easy, and what I would call of a beautiful and delicate nature. In other words, these birds pass and repass through the air, performing numberless evolutions, as if it did not cost them the least labour to fly. When in the interior of the country, they resort to the old fields, and the vast prairies, as well as the ploughed lands, seldom in flocks of less than ten or a dozen, and not unfrequently by hundreds. Now, they are seen high, loosely moving in short reiterated undulations, inspecting the ground below; now, they come sweeping over and close to it, and seem about to alight, when, on the contrary, their ranks close in an instant, they wheel about, and rise again into the air. These feats are often repeated six or seven times, when at last, satisfied as to their safety, or the abundance of food in the spot, they alight, and immediately run about in quest of food. They run briskly, and as lightly as birds usually called Larks are wont to do, but with this difference, that they suffer their tails to vibrate whenever they stop running. Again, instead of squatting partially down, as true Larks do, to pick up their food, they move their body upon the upper joints of the legs, in the manner of Thrushes and other birds. Another habit seldom found in the Lark genus is that of settling on fences and trees, and walking along them with apparent ease.

Whilst residing among the meadows and ploughed fields, these birds feed on insects and small seeds, picking up some gravel at the same time. Along the rivers, or on the sea-shores, they are fond of running as near the edge of the water as possible, and searching among the drifted leaves and weeds for such insects as are usually found there. The vibratory motion of their tail is now more perceptible, being quicker. Their feeble notes are also frequently uttered. When shot along the shores, their stomachs have been found filled with fragments of minute shells, as well as small shrimps, and



American Pipit or Titlark.

Male 1. Female 2.

Drawn from nature by J.J. Audubon F.R.S. F.L.S.

Lith & Printed by Endicott New York

other garbage. When raised by the report of a gun, they rise high, and sometimes fly to a considerable distance; but you may expect their return to the same spot, if you keep yourself concealed for a few minutes. They are expert fly-catchers, inasmuch as they leap from the ground, and follow insects on the wing for several feet with avidity. The company of cattle is agreeable to them, so much so, that they walk almost under them in quest of insects.

The species now under consideration reaches Louisiana about the middle of October, and leaves it in the beginning of March. I caught some of these birds on my passage from France to the United States, on the Great Newfoundland Banks. They came on board wearied, and so hungry that the crumbs of biscuit thrown to them were picked up with the greatest activity.

This bird extends its migrations to the Missouri and Columbia river, where it was met with by Mr. Townsend. I found it in April in the Texas, and Dr. Richardson observed it in small flocks on the plains of the Saskatchewan in the spring of 1827, feeding on the larvæ of small insects, particularly of a species of ant. I found it breeding very abundantly on the coast of Labrador, on the moss-covered rocks, as well as in the deep valleys, but never at any great distance from the sea. The nests were usually placed at the foot of a wall of the rocks, buried in the dark mould, and beautifully formed of fine bent grass, arranged in a circular manner, without any hair or other lining. Both birds incubate, sitting so closely, that on several occasions I almost put my foot upon them before they flew. The first that I found was on the 29th of June, when the thermometer ranged from 51° to 54°. The eggs were six in number, five-eighths of an inch long, six and a quarter twelfths in breadth, being rather elongated, though rounded at both ends; their ground-colour of a deep reddish-chestnut or reddish-brown, considerably darkened by numerous dots of a deeper reddish-brown and lines of various sizes, especially toward the large end. The drawing of an egg supposed to be of this species, sent me by Dr. Thomas M. Brewer of Boston, measures seven-eighths of an inch in length, five-eighths in breadth, and is more pointed at the small end than any of those found in Labrador; its ground-colour is whitish, faintly marked all over with dull reddish-brown dots. It was found in Coventry, in the State of Vermont.

These Titlarks vary much in colour, having the upper parts in spring almost of a leaden grey, the cheeks and a line over the eye whitish, the lower parts of a beautiful light buff. The claws of those shot in Labrador were shorter than usual, having probably been worn in scratching the mosses and soil in forming a place for the nest. During the breeding-time the male

often rises on wing to the height of eight or ten yards, and emits a few clear and mellow notes, but returns to its consort or alights on the rock with a suddenness in keeping with the short duration of its song, which is rarely heard after the eggs are hatched. These birds leave Labrador and Newfoundland as soon as their young are able to fly, which is usually the case about the middle of August. On the 6th of July 1833, in Labrador, I heard this bird singing both on wing and on the ground. When on wing, it sings while flying very irregularly in zigzags up and down; when on the rocks, it stands erect, and I think produces a louder and clearer song.

When returning northward in spring, their movements correspond with the advancement of the season, and we found them to increase in number as we proceeded, and to settle in all the favourable places. In the vicinity of Charleston, as well as in that of New Orleans, where this species is very abundant during winter, it is frequently seen seeking for food among the castings of filth of all sorts, in company with the Turkey Buzzards and Carrion Crows, and when disturbed, will alight on the roof of the nearest building, on stakes or fences, as well as walls, and occasionally on the branches of trees.

Brown Lark, *Alauda rufa*, Wils. Amer. Orn., vol. v. p. 89.
Anthus Spinoletta, Bonap. Syn., p. 90.
Brown Titlark, Aud. Orn. Biog., vol. i. p. 49. Adult.
Prairie Titlark, *Anthus pipiens*, Aud. Orn. Biog., vol. i. p. 408, Young. Brown Titlark and Prairie Titlark, vol. v. p. 449.

Hind claw longer than the toe, slightly arched, and very slender. Male, in winter plumage, with the bill dusky, the legs and claws deep greenish-brown; upper parts greyish-olive, tinged with green, and obscurely streaked with dusky; a whitish band over the eye, cheeks brown; lower parts brownish-white, the throat white, the sides and lower part of the neck, fore part of breast, and sides of body marked with elongated, distinct, blackish-brown spots; quills and tail-feathers dusky, margined with greenish-grey, the lateral tail-feathers half white, the next obliquely white at the end. Female similar. Male in summer with the bill black, the upper parts olive-brown, tinged with grey; a greyish-white line over the eye, cheeks greyish-brown; lower parts light yellowish-grey, the fore neck and breast often deeply tinged with red, and marked with short, slender, brownish-black spots, the sides streaked; quills and tail-feathers as in winter with the pale margins less distinct. Young more tinged with green above, the bill paler, with a great part of the lower mandible yellowish-red, the lower parts pale yellowish-grey, with an obscure lunule of brownish-black on the fore neck,

the lower part of which and the sides are streaked with dark brown, and tinged with reddish-brown.

Male, $6\frac{1}{2}$, $10\frac{1}{2}$.

Throughout the Western and Southern Districts during autumn and winter. Breeds in Labrador and the Fur Countries. Abundant.

FAMILY XIV. ALAUDINÆ. LARKS.

Bill rather short, or of moderate length, somewhat conical, compressed toward the end; upper mandible with its dorsal line sloping and slightly convex, the edges sharp and overlapping, the notches generally obsolete; the tip narrow and a little deflected; lower mandible with the angle of moderate length and narrow, the dorsal line ascending and nearly straight, the edges slightly inflected, the tip acute; gape-line straight. Nostrils elliptical or oblong, basal. Head oblong, of moderate size; neck rather short; body ovate. Feet of moderate length, or rather long; tarsus compressed, with eight anterior scutella; toes slender, compressed; the hind toe elongated, second and fourth about equal, third much longer. Claws rather long, arched, slender, much compressed, laterally grooved, acute, that of the hind toe very long, straightish, tapering. Plumage generally soft and blended. Wings rather long, broad, the inner secondaries tapering, and one so elongated as nearly to equal the longest primary, when the wing is closed. Tail of twelve feathers, generally emarginate. Roof of the upper mandible concave, generally with three prominent lines; tongue slender, thin, flat, tapering to a slit and bristly tip; œsophagus of uniform width; stomach a very strong muscular gizzard of a roundish form and compressed, its lateral muscles very large, its epithelium dense and rugous; intestines short, of moderate width; cœca very small, cylindrical. Nest on the ground. Eggs five or six, oval, spotted.

Genus I.—ALAUDA, *Linn.* LARK.

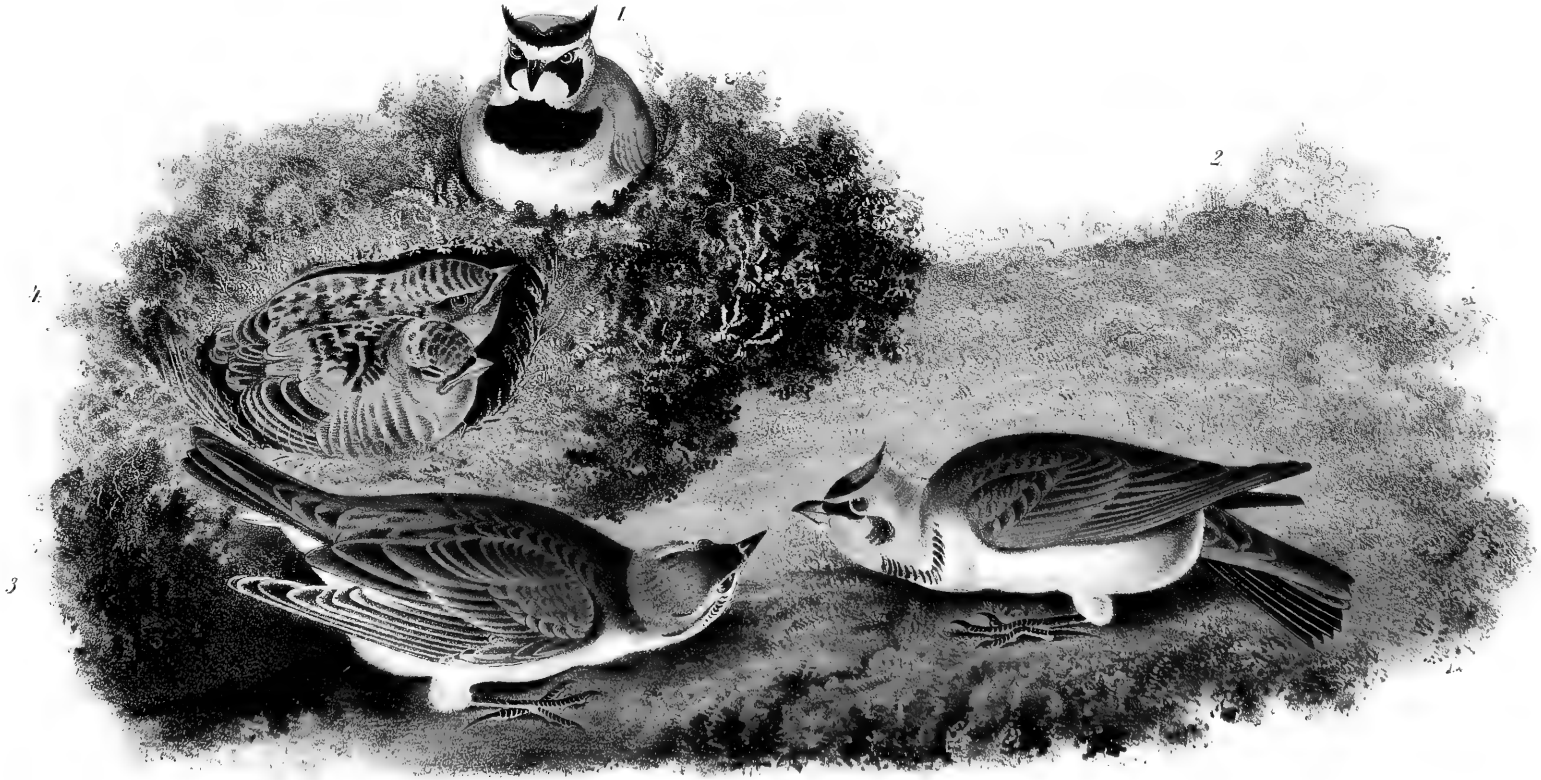
Bill rather short, stout, somewhat conical, compressed, straightish, acute; upper mandible with the dorsal line slightly arched, the edges without notch, the tip acute; lower mandible with the dorsal line ascending, slightly convex, the edges a little inflected, the tip acute. Head rather large; neck short; body ovate. Legs of ordinary length, anteriorly scutellate; lateral toes nearly equal, hind toe of moderate size, with a very long, tapering, acute, and nearly straight claw. Plumage rather dense and compact. Wings of moderate length, the second and third quills longest; inner secondaries much elongated. Tail of moderate length, emarginate.

SHORE LARK.

Alauda alpestris, *Linn.*

PLATE CLI.—Male in Summer, in Winter, Female, and Young.

It was on the 26th of July, 1833, that the Ripley, with every sail set, was gently bounding over the waves, towards the Harbour of Bras d'Or. A thin mist covered the surface of the surrounding waters, so that, although it was already full day-light, scarcely could any of the party distinguish the coast of Labrador, which was only about a mile distant from the vessel, that so trippingly moved toward its shores. The person who had undertaken to act as pilot, proved so inadequate to the task, that, notwithstanding his having fished for many years in sight of the harbour we were desirous of entering, he could not afford the least aid to our captain in navigating the schooner. We neared the land, however, and through the mist at last discovered the slender spars of several vessels at anchor. A signal was instantly run apeak, and to our great joy was immediately answered. Over the waves now came



Shore Lark

1. Male Summer Plumage 2. Do Winter 3. Female & Young & Nest

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S.

Engd. by W. Home & Son, 1, Fleet St.

dancing one of those buoyant crafts used by whalers. In a few moments it was alongside the Ripley, when my old acquaintance, the sturdy cod-fisher Billings of Eastport, offered his services, and soon guided us into port, in entering which we passed through an aperture, guarded by two dangerous rocks, so narrow that one might have leaped ashore from our bark. Once entered, our nostrils were assailed by odours that were anything but agreeable. I was surprised to find so much bustle in such a place: perhaps more than a hundred fishing-barks lay at anchor, in so regular array that they might remind one of the disciplined order of a squadron ready for action, although the business-like appearance of the fishermen would soon remove the illusion. Every deck was heaped with fish, the value of which has, for many years back, brought vessel after vessel to these inhospitable shores. Each "pickaxe" had its "Hampton boats" well manned and ready to sail towards the shallows, where the cod is obtained. Some, in search of bait, were plying their oars and nets, while others were strewing the salted cod over the naked rocks around, there to lie under the drying rays of the sun. Stacks of fish, nearly cured, stretched along to the view, in as close and regular array as haycocks in a meadow. A continued splash was produced by the garbage as it was thrown overboard, and you may judge, if you can, how many thousands of cod and ling have been destroyed, before the whole bottom of this harbour has been paved with their heads.

The thick fog rolled around us, impelled by the chill breeze of the east. Mountains high and bleak we knew were near, but as yet the landscape was concealed from our view. At length the mist disperses, reft by the northern blasts, the sun appears riding among the fleeting vapours, and now the curtain rises, when lo! what a magnificent prospect presents itself! craggy cliffs, with masses of snow still hanging to their sides, and from whose summits, under sheets of ice, cataracts rush in fury towards the plain. The dismal table-lands form a striking contrast with the beautiful verdure below. Turning towards the south-west, where lay my cherished land, I beheld the precipitous shores of Newfoundland, with masses of ice between, fixed to the foundations of the deep, their everchanging prismatic tints dazzling the eye. But hark! the song of the Shore Lark fills the air, as the warbler mounts on high. "Man the whale-boat," cries the watchful captain; "young friends, let us off to the shore," say I; and soon were we all at the place where we had seen the bird alight.

Although in the course of our previous rambles along the coast of Labrador, and among the numberless islands that guard its shores, I had already seen this Lark in the act of breeding, never before that day did I so much enjoy its song, and never before I reached this singular spot, had I to add to my joys that of finding its nest. Here I found the bird in the full perfection of

plumage and song, and here I had an opportunity of studying its habits, which I will now, kind reader, endeavour to describe.

The Shore Lark breeds on the high and desolate tracts of Labrador, in the vicinity of the sea. The face of the country appears as if formed of one undulated expanse of dark granite, covered with mosses and lichens, varying in size and colour, some green, others as white as snow, and others again of every tint, and disposed in large patches or tufts. It is on the latter that the Lark places her nest, which is disposed with so much care, while the moss so resembles the bird in hue, that unles you almost tread upon her as she sits, she seems to feel secure, and remains unmoved. Should you, however, approach so near, she flutters away, feigning lameness so cunningly, that none but one accustomed to the sight can refrain from pursuing her. The male immediately joins her in mimic wretchedness, uttering a note so soft and plaintive, that it requires a strong stimulus to force the naturalist to rob the poor birds of their treasure.

The nest is imbedded in the moss to its edges, which are composed of fine grasses, circularly disposed, and forming a bed about two inches thick, with a lining of Grouse's feathers, and those of other birds. In the beginning of July, the eggs are deposited. They are four or five in number, large, greyish, and covered with numerous pale blue and brown spots. The young leave the nest before they are able to fly, and follow their parents over the moss, where they are fed about a week. They run nimbly, emit a soft *peep*, and squat closely at the first appearance of danger. If observed and pursued, they open their wings to aid them in their escape, and separating, make off with great celerity. On such occasions it is difficult to secure more than one of them, unless several persons be present, when each can pursue a bird. The parents all this time are following the enemy overhead, lamenting the danger to which their young are exposed. In several instances, the old bird followed us almost to our boat, alighting occasionally on a projecting crag before us, and entreating us, as it were, to restore its offspring. By the first of August many of the young are fully fledged, and the different broods are seen associating together, to the number of forty, fifty, or more. They now gradually remove to the islands of the coast, where they remain until their departure, which takes place in the beginning of September. They start at the dawn of day, proceed on their way south at a small elevation above the water, and fly in so straggling a manner, that they can scarcely be said to move in flocks.

This species returns to Labrador and the adjoining islands in the beginning of June. The males are then so pugnacious and jealous of their females, that the sight of one of their own sex, instantly excites them to give battle; and it is curious to observe, that no sooner does one of these encounters take

place, than several other males join in the fray. They close, flutter, bite, and tumble over, as the European Sparrow is observed to do on similar occasions. Several times while in Labrador, I took advantage of their pugnacious disposition, and procured two or three individuals at a shot, which it is difficult to do at any other time. Several pairs breed in the same place, but not near each other. The male bird sings sweetly while on wing, although its song is comparatively short. It springs from the moss or naked rock obliquely, for about forty yards, begins and ends its madrigal, then performs a few irregular evolutions, and returns to the ground. There also it sings, but less frequently, and with less fulness. Its call-note is quite mellow, and altered at times in a ventriloquial manner, so different, as to seem like that of another species. As soon as the young are hatched, the whole are comparatively mute, merely using the call-note. Only one brood is reared each season.

The food of the Shore Lark consists of grass-seeds, the blossoms of dwarf plants, and insects. It is an expert catcher of flies, following insects on wing to a considerable distance, and now and then betaking itself to the sea-shore to search for minute shell-fish or crustacea.

The Shore Larks reach the United States at the approach of winter. When the weather is severe in the north, they are seen in Massachusetts as early as October. Many spend the winter there, in the vicinity of the sea-shore and sandy fields; others retire farther south, but seldom proceed beyond Maryland on the Atlantic, or the lower parts of Kentucky, west of the Alleghany mountains. My friend Bachman never saw one near Charleston, and only one have I seen in Louisiana, where the poor thing appeared quite lost, and so fatigued that I caught it.

At this season they fly in their usual loose manner, over the fields and open grounds, in search of food, which now consists of seeds, and the dormant larvæ of insects, mixing with the Pipit or Titlark, and now and then with the Cow Bunting and others. They become plump and fat, and afford delicious food, for which reason our eastern markets are supplied with them. Although they at times alight on fences, I never saw one on a tree. The ground, indeed, is their proper place; there they repose, near tufts of dry grass, in small groups, until the return of day, when they run about in a straggling manner. If affrighted, the whole take to wing, perform a few evolutions, and alight on the same ground again.

I have given figures of this beautiful Lark in different stages. The male birds, which, during the love season, have the black tufts of feathers on their head, as represented in the plate, nearly lose them at the approach of winter, when the brightness of their whole summer plumage is also much diminished.

"Early in November," as my friend Dr. T. M. BREWER informs me, "the Shore Lark makes its appearance in Massachusetts, and continues there in large flocks of immature birds through the whole of the winter, and until March. They fly in small flocks, usually of less than twenty, frequenting for the greater part the salt-marshes along the coast. They suffer greatly from the depredations made upon them by Hawks of various kinds, especially the Rough-legged Falcon, the Red-shouldered Hawk, and the Marsh Hawk." "On June 10," says Mr. NUTTALL, "on the plains by the banks of the sweet water of the Platte, we started the Shore Lark from her nest in a small depression on the ground. It was made of bent grass, lined with coarse bison hair. The eggs were olive-white, minutely spotted all over with a darker tinge."

SHORE LARK, *Alauda cornuta*, Wils. Amer. Orn., vol. i. p. 85.
ALAUDA ALPESTRIS, Bonap. Syn., p. 102.
HORNED OR SHORE LARK, *Alauda cornuta*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 245.
SHORE LARK, Nutt. Man., vol. i. p. 522. (2nd edition.)
SHORE LARK, *Alauda alpestris*, Aud. Orn. Biog., vol. ii. p. 570; vol. v. p. 488.

Male with two erectile pointed tufts of feathers on the anterior lateral parts of the head. In winter the upper parts dusky brown, the feathers paler on the edges; on the forehead a recurved crescentic band of brownish-black; another curved downwards, proceeding on each side from the base of the upper mandible; a band of yellowish-white over the eye and forehead; throat pale-yellow, with a broad dusky patch on the lower neck, the rest of the lower parts brownish-white; quills dusky, tail-feathers blackish, excepting the two middle, which are reddish-brown, like the upper tail-coverts. In summer, the brownish-black bands on the head and neck become deep black, the throat and frontal band white, and the upper parts light brownish-red. Female dusky brown above, dull white beneath; the wings and tail as in the male, but the black bands on the head and neck wanting. Young from the nest with the upper parts deep brown, mottled with pale reddish-brown, lower parts pale yellowish-grey.

Male, $7\frac{1}{2}$, 14.

Breeds in Labrador and northwards. Migrates in autumn southward, as far as the Texas. Not uncommon in the Western Country at that season.

FAMILY XV. FRINGILLINÆ. FINCHES.

Bill short, stout, conical, acute; upper mandible generally with its dorsal line more or less convex, the sides rounded, the edges inflected or direct, the tip acute; lower mandible with the dorsal line ascending and slightly convex, the edges involute. Gap-line ascending for more than a fourth of its length, then direct. Nostrils basal, roundish, partly concealed by the feathers. Head of moderate size, or rather large, ovate or roundish; neck short; body compact; tarsus generally shorter than the middle toe with its claw, compressed, with seven or eight anterior scutella; hind toe stout; outer toe adherent at the base, lateral about equal. Claws long or moderate, compressed, laterally grooved, acute. Plumage soft and blended, but firm. Wings various, acute, or rounded. Tail of twelve feathers. Roof of upper mandible concave, with three prominent lines, of which the middle is sometimes elevated into an oblong hard prominence. Tongue much compressed, pointed; œsophagus rather wide, with a dilatation or crop on the right side; stomach roundish or oblong, muscular, with the epithelium thin, dense, and longitudinally rugous; intestine short, rather wide; cœca very small, cylindrical. Trachea simple, with four pairs of inferior laryngeal muscles. The Fringillinæ pass into the Icterinæ on the one hand, and the Alaudinæ on the other. The Buntings scarcely differ from the Finches in any other character than the knob on the palate, which is common to them with the Icterinæ.

Genus I.—PLECTROPHANES, *Meyer*. LARK-BUNTING.

Bill very short, robust, tapering, somewhat compressed; upper mandible considerably narrower than the lower, its dorsal outline very slightly convex, the sides rounded, the edges inflected, the marginal outline slightly angulate; lower mandible with the dorsal line ascending and slightly convex, the edges involute. Nostrils basal, roundish, partly concealed by the feathers. Head of moderate size, ovate; neck short; body compact, tarsus shorter than the middle toe with its claw, compressed, with seven anterior scutella; hind toe stout; claws long, rather stout, little arched, acute, that of the hind toe much elongated. Plumage soft and blended. Wings long, pointed; the first quill longest. Tail rather long, emarginate.

LAPLAND LARK-BUNTING.

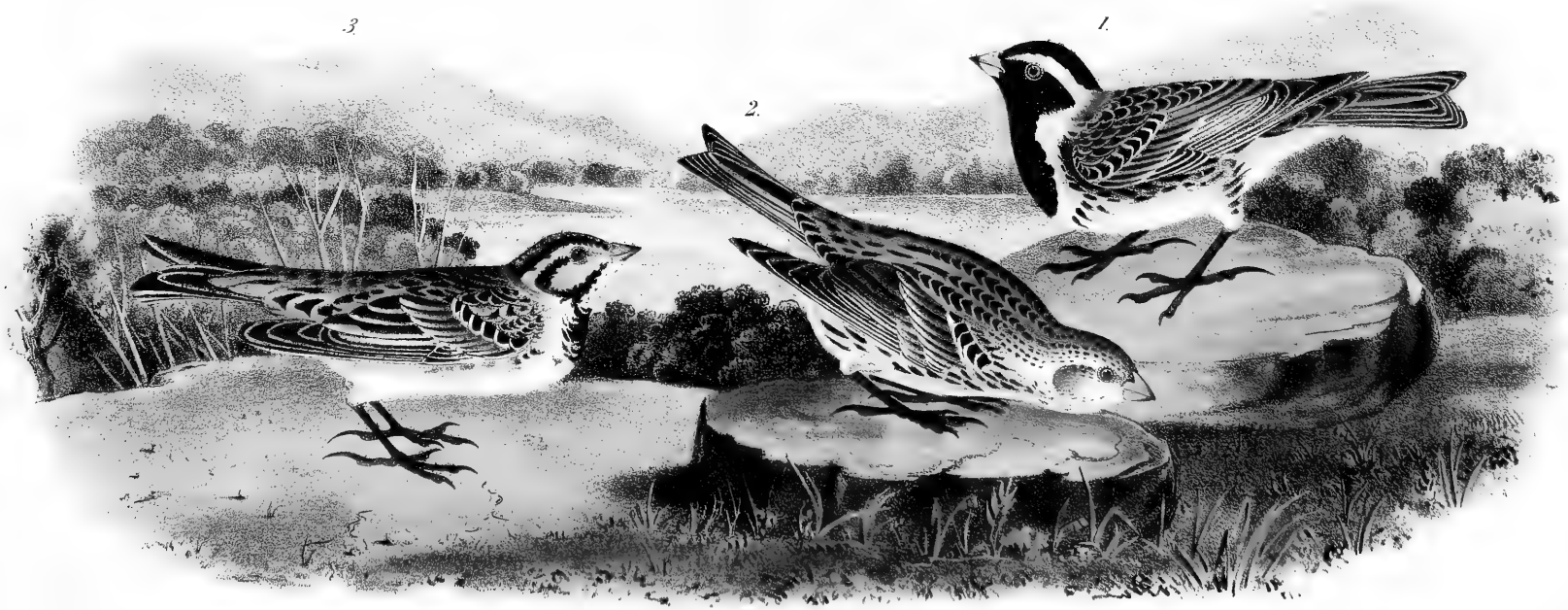
PLECTROPHANES LAPPONICA, *Linn.*

PLATE CLII.—MALE in Summer, in Winter, AND FEMALE.

My first acquaintance with this species took place on the 15th of February, 1819. Walking with my wife, on the afternoon of that day, in the neighbourhood of Henderson, in Kentucky, I saw immense flocks scattered over the open grounds on the elevated grassy banks of the Ohio. Having my gun with me, as usual, I procured more than sixty in a few minutes. All the youths of the village turned out on this occasion, and a relative of mine, in the course of the next day, killed about six hundred. Although in rather poor condition, we found them excellent eating. Three days after they disappeared as suddenly as they had arrived, for although on the previous evening they seemed as numerous as ever, none but wounded birds were to be seen in the morning. Whilst at Shippingport, near Louisville, in the same State, I found a good number of these birds on the commons, feeding in company with Shore Larks and Snow Buntings, and obtained some dozens. Among all the specimens which I procured in that part of the country, none were in perfect or summer plumage, most of them being in the garb of the male, as represented by the second figure of my plate.

In their movements they resemble the Snow Bunting. They run and hop on the ground with ease and celerity, many making towards a tuft of withered grass at the same time, to search for the few seeds that may yet be procured around or beneath it, and all the while uttering a repetition of *chirps*, in a rather low and plaintive accent. When on wing, to which they resorted after each discharge of the gun, or when nearly approached, they formed into compact bodies, wheeled and cut to and fro through the air, now high, now low, in the manner of Larks, alighting suddenly, and perhaps immediately flying off again to renew their curious evolutions. At times flocks composed of hundreds would settle on the top-rails of fences, or on the lower large branches of the trees in the fields; but on such occasions they appeared as much discontented as the Snow Buntings are, when they also alight on trees, fences, or houses.

The Lapland Longspur visits the neighbourhood of Louisville in Kentucky almost every year, but seldom appears when the weather is not intensely cold. I found it also in the vicinity of St. Genevieve in Missouri;



Lapland Lark Bunting.

1. Male Spring Plumage 2. Do Winter. 3. Female.

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S.

Engr. Prints. Cadd & Co. Philad.

and it seems surprising that none were observed near the Columbia river by Mr. TOWNSEND.

The best account of this species, as observed in the northern latitudes of America where it breeds, is that given by Dr. RICHARDSON, in the Fauna Boreali-Americana. After stating that it is common in the northern regions of both continents, he says:—"I never met with this species in the interior of the Fur Countries during winter, and I suspect that its principal retreats in that season are on the borders of Lakes Huron and Superior, and in the country extending to the westward on the same parallel. In the year 1827, it appeared on the plains at Carlton House, about the middle of May, in very large flocks, among which were many Shore Larks (*Alauda alpestris*) and a few individuals of *Emberiza picta*. During their stay of ten or twelve days, they frequented open spots, where recent fires had destroyed the grass. They came to Cumberland House a few days later in the same season, and there kept constantly in the furrows of a newly ploughed field. In the preceding year they were seen, though in smaller flocks, in the vicinity of Fort Franklin (lat. 65½°) in the beginning of May; and the crops of those that were then killed were filled with the seeds of the *Arbutus alpinus*. They breed in the moist meadows on the shores of the Arctic sea. The nest, placed on a small hillock, among moss and stones, is composed externally of the dry stems of grass, interwoven to a considerable thickness, and lined very neatly and compactly with deer's hair. The eggs, usually seven, are pale ochre-yellow, spotted with brown.

The figure of the male in summer plumage represented in my plate, was drawn from a beautiful specimen in the collection of my esteemed friend Captain JAMES CLARK ROSS of the British Navy.

LAPLAND LONGSPUR, *Emberiza lapponica*, Bonap. Amer. Orn., vol. i. p. 53.
EMBERIZA LAPPONICA, Bonap. Syn., p. 440.
EMBERIZA (PLECTROPHANES) LAPPONICA, *Lapland Buntling*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 248.
LAPLAND LONGSPUR, Nutt. Man., vol. i. p. 463.
LAPLAND LONGSPUR, Aud. Orn. Biog., vol. iv. p. 473.

Male, in summer, with the head and fore part of the neck black; a white band over the eye, passing along the neck, and margining the black; a brownish-red crescent on the hind neck; the feathers on the rest of the upper parts black, broadly margined with yellowish-red; first row of small coverts tipped with white; lower parts white, the sides streaked with black. Male, in winter, with the upper part of the head black, the feathers edged with brownish-red, cheeks and band over the eye greyish-yellow; feathers of the fore neck black, broadly tipped with white; dark streaks on the sides

not apparent. Female with the upper parts reddish-grey, spotted with black; a greyish-white band over the eye; the cheeks greyish-brown; lower parts greyish-white, the sides streaked with dusky.

Male, 6⅝; wing, 3$\frac{10}{12}$.

PAINTED LARK-BUNTING.

PLECTROPHANES PICTUS, *Swains.*

PLATE CLIII.—MALE.

This handsome species was discovered by Dr. RICHARDSON in April 1827, on the banks of the Saskatchewan river, associated with the Lapland Longspur. Only one specimen was procured at Carlton House, which has been figured by Mr. SWAINSON in the Fauna Boreali-Americana. My own figure of this species was drawn from the same specimen, which was kindly lent to me for that purpose by the Council of the Zoological Society. That the Painted Bunting at times retires far southward, probably accompanying the Lapland Longspur, is a fact for which I can vouch, having seen one on the shores of the Mississippi in December 1820, which however I missed on wing after having viewed it about two minutes, as it lay flat on the ground.

EMBERIZA (PLECTROPHANES) PICTA, *Painted Bunting*, Swains. & Rich. F. Bor. Amer. vol. ii. p. 250.
PAINTED BUNTING, Nutt. Man., vol. ii. p. 589.
PAINTED BUNTING, *Emberiza picta*, Aud. Orn. Biog., vol. v. p. 91.

Adult Male.

Bill short, conical, stout, compressed toward the end, acuminate; its outlines straight, the lower mandible a little narrower than the upper at the base; the gap-line straight, slightly deflected at the base. Nostrils basal, rounded, partly concealed by the feathers.

Head of moderate size, ovate; neck short, body compact. Feet of ordinary length; tarsus compressed, anteriorly covered with seven large scutella, sharp behind; toes of moderate size; the lateral toes equal, the hind toe stout; claws long, slightly arched, laterally grooved, compressed, very acute, that of the hind toe much elongated.

R.T

Painted Lark-Bunting.

Male.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.a

R.T.

Chesnut-collared Lark-Bunting.

Male.

Drawn from Nature by J.J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J.T. Bowen Philad.a

Plumage soft and blended, the feathers somewhat distinct on the back and wings. Wing long, pointed, the second quill longest, the first nearly equal; the second, third, and fourth primaries attenuated on the outer web toward the end. Tail rather long, deeply emarginate.

Bill dusky, lower mandible yellow toward the base. Feet and claws reddish-brown. The upper part and sides of the head are deep black, with three bands of white on each side, one extending from the base of the upper mandible, over the eye, and along the side of the neck; another passing under the eye and over the ear; the third bordering the throat. There is also a brownish-white patch on the nape. A band across the hind neck and fore part of the back and all the lower parts buffy-orange. The feathers on the upper parts of the body blackish-brown, edged with light brown; the quills and their coverts brownish-black, edged with pale brownish-red; the first row of large coverts black, margined with white, the next two rows white, the rest of the small coverts brownish-black. The tail-feathers are brownish-black, margined with pale greyish-brown, excepting the two outer on each side, which are white, margined externally towards the tips and along the inner webs with brown.

Length to end of tail $6\frac{2}{12}$ inches; bill along the ridge $\frac{5\frac{1}{2}}{12}$; wing from flexure $3\frac{1}{4}$; tail $2\frac{1}{4}$; tarsus $\frac{10\frac{1}{2}}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{6}{12}$; middle toe $\frac{7}{12}$, its claw $\frac{3}{12}$.

CHESTNUT-COLLARED LARK-BUNTING.

✝ Plectrophanes ornatus, *Towns.*

PLATE CLIV.—Male.

Mr. Townsend procured a single male of this new species, respecting which he has sent me the following notice. "It is by no means a common bird; keeps in pairs, and appears to live exclusively upon the ground; is remarkably shy, and although I saw the female several times, I was unable to procure it."

Plectrophanes ornata, *Chestnut-collared Lark-Finch,* Towns., Jour. Acad. Nat. Sc. Philadelphia, vol. vii. p. 189.

CHESTNUT-COLLARED LARK-BUNTING, *Emberiza ornata*, Aud. Orn. Biog., vol. v. p. 44.

Adult Male in spring.

Bill short, conical, pointed; upper mandible with the dorsal line almost straight, the sides convex, the edges a little inflected, the tip slightly declinate; lower mandible with the angle short and rounded, the dorsal line ascending and very slightly convex, the edges inflected, the tip acute; the gape-line ascends a short way at first, and is afterwards nearly straight, and there is a small narrow prominence on the palate.

Head of moderate size, ovate; neck short; body full. Feet of moderate size; tarsus compressed, covered anteriorly with seven scutella, behind with two longitudinal plates meeting so as to form a very thin edge; hind toe stout, lateral toes nearly equal; claws long, slender, compressed, little curved, that of the hind toe elongated.

Plumage soft, full, blended, on the back somewhat compact. Wings rather long and pointed, the first quill longest; tail rather long, nearly even.

Bill yellow, with the tips dusky. Feet and claws yellowish flesh-colour. The upper part of the head, a streak and some spots behind the ear, and the breast, black; a broad band over the eye, the throat and sides of the neck, the abdomen, lower tail-coverts, and three lateral tail-feathers white, the latter edged externally with dusky. There is a broad transverse band of yellowish-red on the hind neck; the upper parts are yellowish-grey, the feathers dusky in the centre; the quills and larger coverts dusky, with yellowish-grey margins, as are the four middle tail-feathers.

Length to end of tail $5\frac{1}{4}$ inches; bill along the ridge $\frac{4\frac{1}{2}}{12}$; wing from flexure $3\frac{2}{12}$; tail $1\frac{10}{12}$; tarsus $\frac{11}{12}$; hind toe $\frac{4\frac{1}{4}}{12}$, its claw $\frac{5}{12}$.

Snow Lark Bunting

1 2. Adult. 3 Young

Drawn from Nature by J. J. Audubon F.R.S. F.L.S.

Lith.d Printed & Col.d by J. T. Bowen, Phila.d

SNOW LARK-BUNTING.

†Plectrophanes nivalis, *Linn.*

PLATE CLV.—Adult and Young.

As soon as the cold blasts of winter have stiffened the earth's surface, and brought with them the first snow-clouds, millions of these birds, driven before the pitiless storm, make their way towards milder climes. Their wings seem scarcely able to support their exhausted, nay almost congealed bodies, which seem little larger than the great feathery flakes of the substance from which these delicate creatures have borrowed their name. In compressed squadrons they are seen anxiously engaged in attempting to overcome the difficulties which beset them amid their perilous adventures. They now glide low over the earth, relax the closeness of their phalanx, and with amazing swiftness sweep over the country in search of that food, without which they must all shortly perish. Disappointed in their endeavours, the travellers again ascend, close their files, and continue their journey. At last, when nearly exhausted by fatigue and hunger, some leader espies the wished-for land, not yet buried in snow. Joyful notes are heard from the famished voyagers, while with relaxed flight, and wings and tail expanded, they float as it were in broad circles, towards the spot where they are to find relief. They alight, disperse, run nimbly in masses from the foot of one corn stalk to the next, scratch the ground here, pick up a dormant insect there, or nibble the small seeds of the withered grass, mixing them with a portion of gravel. Now two meet, and contend for the scanty morsel; the weaker gives way, for hunger, it seems, acts on birds as on other beings, rendering them selfish and unfeeling.

The Snow Buntings enter the eastern portions of the Union sometimes early in November, and remain in such parts as suit them best until the month of March. They now and then alight on trees, frequently on fences, and sometimes on the roofs of low buildings, in such compact bodies or continued lines, as to render it easy for the sportsman who may be inclined to shoot them, to procure a great number at once.

This species, while in the United States, never enters the woods, but prefers either the barreny portions of our elevated table-lands, or the vicinity of the sea, lakes, or rivers, where much loose sand, intermixed with small clumps of bushes and grasses, is to be found. To such places I have thought

that the Snow Buntings endeavour to return each successive winter, unless compelled by the weather to proceed still farther south. I have seen them on the borders of Lake Erie, and on some of the barrens of Kentucky, for several successive seasons in the same neighbourhood. At Louisville I saw a flock each winter, on a piece of open ground between that city and the village of Shippingport, when their movements seldom extended beyond a space half a mile in diameter. It was there that one morning I caught several which were covered with hoarfrost, and so benumbed, that they were unable to fly. At that season, they kept company with the Shore-larks, the Lark-finches, and several species of Sparrow. They frequently alighted on trees, particularly the sweet gum, of which they eat the seeds.

The flight of this bird has a considerable resemblance to that of the Shore-lark, being rapid, elevated, and greatly protracted. It glides, as it were, through the air, in long and easy undulations, repeating a soft whistling call-note at each of these curves. While on the ground they run nimbly, and if wounded make off with great celerity, hiding in the grass, where it is difficult to find them, as they lie close and silent until danger is over.

When they first arrive, they are usually gentle and easily approached; but as their flesh is savoury, and their appearance attractive, they are shot in immense numbers, so that they soon become shy and wary. During moderate weather, they become more careless, appear to stray farther from each other, and if by the middle of the day the sun shines out warm, the male birds sing a few plaintive but soft and agreeable notes.

Only a single nest of this bird has been found within the limits of the United States. It was seen by Wright Bootт, Esq. of Boston, on a declivity of the White Mountains of New Hampshire, in the month of July 1831. That gentleman described it to me as being fixed on the ground amid low bushes, and formed like that of the Song Sparrow. It contained young ones.

Whilst with us, these birds are found in all varieties of plumage, excepting the pure white and black, which form their summer dress. I have not seen any having these colours, even among those procured late in March, when they usually leave the United States. In Labrador and Newfoundland, they are known by the name of the "White-bird." Their food there consists of grass seeds, insects of various kinds, and minute testaceous mollusca. They not unfrequently alight on the wild oats growing on the borders of lakes and ponds, to feed on its seeds, and with all these substances they mix a proportion of fine sand or gravel.

In winter, from Nova Scotia to Kentucky. Abundant. Much rarer along the Atlantic coast. Some breed in Vermont and Massachusetts. Fur Countries in summer.

Snow Bunting, *Emberiza nivalis*, Wils. Amer. Orn., vol. iii. p. 86.
Emberiza nivalis, Bonap. Syn., p. 103.
Emberiza (Plectrophanes) nivalis, *Snow Bunting*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 247.
Snow Bunting, *Emberiza nivalis*, Nutt. Man., vol. i. p. 458.
Snow Bunting, *Emberiza nivalis*, Aud. Orn. Biog., vol. ii. p. 515; vol. v. p. 496.

Male and Female in winter.

Male, in winter, with the head, neck, lower parts, a great portion of the wings, including the smaller coverts, secondary coverts, several secondary quills, the bases of the primaries and their coverts, and the greater part of the outer tail-feathers on each side, white; the head and hind neck more or less tinged with brownish-red, the upper parts reddish-grey or yellowish-red, mottled with black, the concealed part of the plumage being of the latter colour, the bill brownish-yellow. Female, in winter, with the white less extended. Young, at this season, like the female, but more brown. Male, in summer, with the back, scapulars, inner secondaries, terminal portion of primaries, and four middle tail-feathers, deep black, all the other parts pure white, the bill black. Female with the black parts tinged with brown, and more or less reddish-brown on the head and rump.

Male, 7, 13.

Genus II.—EMBERIZA, *Linn.* BUNTING.

Bill short, robust, tapering, somewhat compressed; upper mandible with its dorsal line declinate and slightly convex, the ridge indistinct, the sides convex, the edges a little inflected, ascending to beneath the nostrils, then descending or direct, with a slight notch close to the narrow tip; lower mandible with the angle short and wide, the dorsal line ascending, and very slightly convex, the ridge broad at the base, the sides convex, the edges inclinate, their outline ascending for a third or more of its length, then direct, the tip narrow. Nostrils basal, roundish. Head large, ovate; neck very short; body rather stout. Feet of moderate length, rather strong; tarsus of ordinary length, compressed, with seven anterior scutella; toes rather large; the hind toe strong, and longer than the lateral, which are equal, the third much longer, and united to the fourth at the base. Claws long, arched, much compressed, acute. Plumage soft and blended, but firm. Bristles feeble. Wings rather long, with the second and third quills longest. Tail of moderate length, emarginate.

BLACK-THROATED BUNTING.

Emberiza Americana, *Gmel.*

PLATE CLVI.—Male and Female.

Although this handsome Bunting may be said to be abundant in our middle Atlantic districts, it is there much less so than in the vast prairies of the south-west; and I consider those of the Texas to afford the localities best adapted to its habits. There, as my companions and I were returning from the capital of the infant republic, we were surprised to see how very numerous the Black-throated Buntings were in every open piece of ground

B. & F.

Black-throated Bunting

1 Male 2 Female

Phalaris arundinacea and Antirrhinum Linaria

Drawn from Nature by J. J. Audubon F.R.S.E.L.S. Lith.d Printed & Col.d by J. T. Bowen Philad.a

covered by tufts of tall grass. They are also abundant on the open lands of Missouri and Illinois; but rarer in Ohio, and scarce in Kentucky. They are rarely observed to pass over South Carolina, but in Pennsylvania they are plentiful, and there breed in every field covered with grass or grain. I have also met with them in Massachusetts, but beyond this they are not seen to the eastward.

At the approach of the period of their removal from our Middle States southward, the Black-throated Buntings congregate in particular localities, as if to consult regarding their future proceedings. At this season I once went from Philadelphia in search of them, accompanied by my friend Edward Harris, and my son John Woodhouse. Having reached Salem in New Jersey, we rambled some time in the neighbourhood, and found an elevated piece of ground, closely covered with high rank weeds, among which a great number of these birds had assembled. It being late in July, the males were moulting, or had already acquired their new plumage; the young, although full grown, had not yet assumed their second clothing, in which the sexes are distinguished; and the females were generally ragged. The birds were at first quite gentle, but after we had fired a few times they all flew off to a considerable distance, from which, however, they soon returned. On our continuing to harass them, they rose high in the air, and flew out of our sight in a southwardly direction. They had then undoubtedly began migrating. These birds are very partial to particular localities. Sandy soil, unmixed with clay or earth, is not favourable to them; and it is probably for this reason that none are found in any purely sandy part of the State of New Jersey.

The Black-throated Buntings reach our Middle States about the 10th or 15th of May, and at once betake themselves to the dry meadow lands and grain fields, where they soon after begin to breed. The males are often observed perched on the top branches of the shade trees found in those places, and engaged in delighting their mates with their simple ditty, which, according to Mr. Nuttall, resembles *'tic 'tic-tshĕ tshĕ tshĕ tshe*, and *tship tship, tschĕ tschĕ tschĕ tschip.* To my ears the notes of our Black-throated Bunting so much resemble those of the Corn Bunting of Europe, *Emberiza miliaria*, that I have often been reminded of the one by hearing the song of the other. These unmusical notes are almost continuously uttered from sunrise to sunset, and all this while the female is snugly seated on her eggs, and listening to her beloved. He often visits her, alighting within a few yards of where she is concealed, and then cautiously proceeding toward the spot on foot, through the grass. When the bird leaves the nest, it creeps along to some distance, and then flies off low over the ground.

About the first of June the nest is formed. It is constructed of fine grass

neatly woven in a circular form, and is partly imbedded in the soil, and sheltered or concealed by a tuft of herbage. The eggs, usually five, are six and a half eighths in length, four and three-fourths in breadth, of a sullied white, generally sprinkled with faint touches of different tints of umber. In Pennsylvania, it seldom rears more than one brood in the season; but in the Texas, I have reason to believe that it raises two.

The flight of this bird, when it has settled in a place, is usually of short extent. The male, while passing to and from the nest, exhibits a quivering motion of the wings. The female seldom shews this, unless when her property is in danger from intruders. While travelling, which they always do by day, they pass high over the trees, in flocks of thirty or forty, which suddenly alight at the approach of night, and throw themselves into the most thickly-leaved trees, where they repose until dawn. I have surprised them in such situations both in Kentucky and in Louisiana, and on shooting into the place to which they had betaken themselves, although I could not see them, have procured several at one discharge; which proved in one instance to be males, and in the other females, thus shewing that the sexes travel separately. On such occasions, the survivors would sally forth, make a few rapid evolutions, and alight on the same tree.

In spring, I have found them, on two or three occasions, near Natchez, in the State of Mississippi, in meadows, in company with Bob-o-links, *Dolichonyx oryzivora.* On the ground they leap or hop, but never walk. Their flesh is good, especially that of the young birds.

Breeds abundantly in Texas and all the Western Prairies; less so from Virginia to Massachusetts. Rare in Ohio and Kentucky. Migratory.

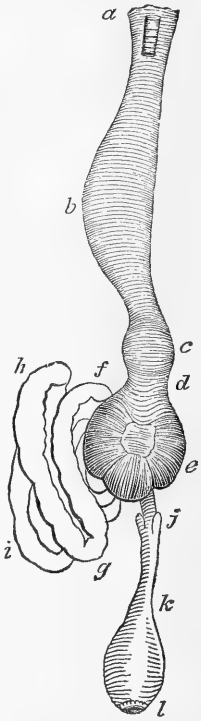
Black-throated Bunting, *Emberiza Americana,* Wils. Amer. Orn., vol. i. p. 411.
Fringilla Americana, Bonap. Syn., p. 107.
Black-throated Bunting, Nutt. Man., vol. i. p. 461.
Black-throated Bunting, *Emberiza Americana,* Aud. Orn. Biog., vol. iv. p. 579.

Bill very stout; tail-feathers acute. Male with the upper part of the head, the cheeks, and the hind neck dark ash-grey, faintly streaked with dusky; loral space whitish, a band over the eye, and a patch below the cheek, yellow; the fore part of the back greyish-brown, with longitudinal streaks of brownish-black, the hind part brownish-grey; the smaller wing-coverts bright chestnut; chin white, throat black; the lower neck and part of the breast, yellow, the rest of the breast and abdomen, white. Female similar to the male, but paler, and without the black patch on the throat.

Male, $6\frac{1}{2}$, $10\frac{3}{8}$.

In an adult male, the roof of the mouth has anteriorly three longitudinal

ridges, and two lateral grooves; the palate descends obliquely, and at its anterior part has a distinct prominence of a softish texture; from which there passes backwards and outwards, a large soft ridge on each side of the nasal aperture, which is linear and papillate. The tongue is $5\frac{1}{2}$ twelfths long, narrow, deep, trigonal, deeply emarginate and papillate at the base, soft for half its length, convex and hard towards the end, which terminates with bristly points. The œsophagus, *a b c d*, is $2\frac{1}{2}$ inches long, dilated along the greater part of the neck into a kind of crop, *b*, 5 twelfths in diameter, lying on the right side along with the trachea. The proventriculus, *c d*, is not much enlarged. The stomach, *e f*, is a strong gizzard, of a broad elliptical form, $7\frac{1}{2}$ twelfths in length, $6\frac{1}{2}$ twelfths in breadth. Its contents are small hard seeds, a few remains of insects, and some particles of sand. The epithelium is very tough, longitudinally rugous, and of a dark reddish-brown colour. The intestine, *f g h*, is $8\frac{1}{2}$ inches long, its greatest diameter 2 twelfths. The rectum, *j k l*, is 9 twelfths long; the cœca, *j*, extremely small, being $1\frac{1}{2}$ twelfths long and $\frac{1}{2}$ twelfth in diameter.



The trachea, which is 1 inch 10 twelfths long, is rather wide, flattened, of uniform diameter, measuring $1\frac{3}{4}$ inches across, the rings about 55, and ossified. The contractor muscles are of moderate strength; the sterno-tracheal slender; and there are four pairs of inferior laryngeal. The bronchi have about 15 half rings.

In its habits, this bird closely resembles the Common or Corn Bunting of Europe, its flight and notes being almost the same. Like it, our bird alights on walls, fences, detached rocks, or eminences of any kind, where it is often seen even in the immediate neighbourhood of our cities. Indeed, I have found it in full song perched on the trees that ornament the squares of Washington city. In the form of its bill it also agrees with the Buntings, although that organ is proportionally longer and less attenuated toward the end. If, on the principle of minute division, it is not admitted into the genus *Emberiza*, it must at least occupy a place in its immediate proximity.

The plants represented are the *Phalaris arundinacea* and *Antirrhinum linaria*, both common in many parts of the United States, as well as in Europe; the former growing in wet meadows and by the sides of rivers, the latter in fields and waste places, a troublesome weed, very difficult to be extirpated.

TOWNSEND'S BUNTING.

EMBERIZA TOWNSENDII, *Aud.*

PLATE CLVII.—MALE.

In form this species is compact and rather robust, like the common Sparrow of Europe, or the Black-throated Bunting of our country. The bill is short, strong, conical, compressed, acute; the upper mandible narrower, with its dorsal line a little convex, as is that of the lower, the edges of both inflected, and the gap-line declinate at the base. Nostrils roundish, basal. Feet of ordinary length and thickness, the tarsus with seven anterior scutella, and two lateral plates meeting behind so as to form an edge; lateral toes equal, the outer united as far as the second joint, hind-toe strong; claws arched, compressed, acute, with a lateral groove.

The wings are short, the first quill longest, the next scarcely shorter, the rest graduated, the second, third, and fourth very slightly cut out on the outer web towards the end, the secondaries rounded, the outer slightly emarginate. Tail of moderate length, and slightly emarginate. The plumage is soft and rather compact.

Bill brownish-black above, light blue beneath, with a longitudinal black line from the tip half way to the base. Iris light hazel. Feet and claws dusky brown. Head above deep bluish-grey, streaked with black; the cheeks, hind-neck, sides of the neck, fore part of the breast, and the sides of the same colour, becoming paler backwards. Back bluish-grey, each feather with a narrow dark brown central streak bordered with light brown, the margins grey; the rump grey, without streaks. Quills and tail wood-brown, slightly edged with paler, wing-coverts light brown, the central parts of the feathers darker. There is a narrow white line over the eye, and the minute feathers margining the eyelids are of the same colour. The throat and fore-neck are white. A line of short brownish-black streaks passes on either side from the base of the lower mandible, separating a narrow portion of the white space, and margining the lower part of it, although there the streaks are scattered; the middle part of the breast and abdomen are also greyish-white.

Length $5\frac{3}{4}$ inches, extent of wings 9; bill along the ridge $\frac{7}{12}$; tarsus $\frac{10}{12}$.

TOWNSEND'S BUNTING, *Emberiza Townsendii*, Aud. Orn. Biog., vol. ii. p. 183; vol. v. p. 90.

A. T.

Townsend's Bunting.

Male.

Drawn from Nature by J. J. Audubon F.R.S. F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Philad.a

Lark Bunting.

Male

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen, Philad.a

LARK BUNTING.

+Emberiza grammaca, *Say*.

PLATE CLVIII.—Male.

This beautiful species is another of those of which we owe our first knowledge to Colonel Long's party, who discovered it on their expedition to the Rocky Mountains. To the Prince of Musignano we are indebted for the first figure of it. That naturalist states, in the short account he has given of it, that "it sings sweetly, and often continues its notes while on the wing," and to this I can only add the following statement with which I am favoured by my friend Mr. Nuttall.

"This species, in small flocks, in the spring season, when we saw it, appears rather frequent on the ground, resting on it in silence, or merely uttering a feeble chirp. They do not appear on the central table-land, or on the western plains. We therefore had no opportunity of learning any thing of their habits in the breeding season. I believe they are occasionally seen at no great distance from the upper settlements of the Missouri."

Upper Missouri, and eastern declivities of the Rocky Mountains. Common. Migratory.

Fringilla grammaca, Bonap. Amer. Orn., vol. i. p. 47.
Lark Finch, Nutt. Man., vol. i. p. 480.
Lark Finch, *Fringilla grammaca*, Aud. Orn. Biog., vol. v. p. 17.

Adult Male.

Bill short, stout, conical, compressed toward the end; upper mandible with the dorsal line very slightly convex, the ridge extending but a short way on the forehead, where it tapers to a point, the sides rounded, the edges direct and overlapping, the tip pointed, the gape-line nearly straight, a little deflected at the base; lower mandible of the same breadth as the upper, with the angle very short and broad, the dorsal line ascending and straight, the back broad, the sides rounded, the edges inflected, the tip acute. Nostrils basal, small, roundish, concealed by the feathers.

Head of moderate size, ovate; neck short, body full. Feet of moderate length and rather slender; tarsus rather short, compressed, anteriorly covered with seven scutella, posteriorly with two longitudinal plates meeting so

as to form a very sharp edge; toes moderate, the first strong, the lateral equal; claws rather long, slender, much compressed, laterally grooved, moderately arched, very acute.

Plumage soft and blended, the feathers ovate. There are short bristles at the base of the upper mandible. Wings of moderate length; the outer three quills nearly equal, the third longest, but exceeding the first only by one-twelfth of an inch, and the second by a quarter of a twelfth; the fourth not much shorter, the rest slowly decreasing; the outer secondaries emarginate, the inner tapering to a blunt point, one of them considerably elongated. Tail rather long, rounded.

Bill reddish flesh-colour, the upper mandible tinged with dusky. Feet and claws flesh-colour. On the upper part of the head are three longitudinal bands of white, separated by two of light red, the anterior part of which is black. The upper parts are light greyish-brown, longitudinally streaked with dusky, the central part of each feather being of the latter colour, the hind part of the back and the rump without streaks. On the wing are two faint bands of yellowish-white, formed by the tips of the first row of small coverts, and those of the primary coverts, and a patch of the same formed by the bases of the outer primaries; the quills dusky brown, slightly margined with whitish, the inner secondaries with light red; the tail darker, all the feathers excepting the middle terminated by white, which on the outer occupies more than a third of its length, and extends nearly to the base of the outer web. Below the eye is a white streak; the cheeks are light red, with an anterior black spot; under them a broad white band extends from the lower mandible and curves upwards, separated from the throat, which is white, by a short line of black on each side. The lower parts are yellowish-white, the lower part of the neck greyish, the sides tinged with greyish-brown, the lower wing-coverts greyish-white.

Length to end of tail $6\frac{1}{2}$ inches; extent of wings $8\frac{1}{4}$; bill along the ridge $\frac{6\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{7}{12}$; wing from flexure $3\frac{8}{12}$; tail 3; tarsus $\frac{}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{3\frac{1}{2}}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{3}{12}$.

Bay-winged Bunting.

Male

Prickly Pear Cactus Opuntia

Drawn & Published by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.a

BAY-WINGED BUNTING.

+Emberiza graminea, *Gmel.*

PLATE CLIX.—Male.

I have never seen the Bay-winged Bunting in any portion of Louisiana, Missouri, Kentucky, or Ohio, and am therefore inclined to look upon it as a resident of the country lying to the eastward of the range of the Alleghanies. It there occurs from Georgia to Massachusetts, both along the shores and inland, as far as the base of the mountains, and here and there on the mountains themselves, but seldom in places to which cultivation has not extended. I have thought it prepossessed in favour of sandy ground, and dry barren soils. It sings sweetly, and at times for half an hour, without changing its place, either from the tops of the sassafras or sumach bushes which grow along the fences, or from the upper bar or stake of a fence itself. During this little serenade it is easily approached, but when on the ground, where it runs nimbly and with grace, it is rather shy. It is fond of scratching in the warm and dry sand, and of wallowing in it, to cleanse its body. Its flight, which is easy, consists of a succession of gentle undulations, and, when it is chased, sometimes extends over the whole of a field. It is a solitary bird, and is rather pugnacious, for when two males or two females happen to meet, little skirmishes frequently ensue. The nest, which is placed among the grass, and partly sunk in the ground, little attention being paid to its concealment, is prettily constructed. It is formed externally of leaves and fine grass, and is well lined with horse hair, so as to look neat and comfortable. The female lays from four to six eggs, about the middle of April, in favourable seasons, and generally rears two broods each year. I have shot these birds during winter, in the neighbourhood of Lancaster in Pennsylvania, where but few are seen. At the same period of the year they were found numerous along the sea-coast of Virginia and Carolina. Their food consists principally of the seeds of grasses and other plants, although they sometimes run after insects and eat them also. Their flesh is juicy, tender and savoury.

This species extends its migrations to the shores of the Columbia river, where it was procured by Dr. Townsend; and it is mentioned by Dr. Richardson as one of the birds that reach the prairies of the Saskatchewan early in May, to depart in September. In these distant localities it breeds on the ground, as it is wont to do in our own Middle Districts, as far south as

Maryland. During winter it is found in astonishing numbers about all the old fields in South Carolina, Georgia, the Floridas, and Alabama. The eggs measure seven-eighths of an inch in length, seven-twelfths in breadth, with a bluish-white ground, almost entirely covered with undefined markings of pale reddish-brown, more closely set towards the larger end; but they vary much, some being almost white. I have found many nests of this species on Chelsea Beach, in July and August.

The following account of its manners while incubating is from Dr. T. M. Brewer:—"There are few of our Sparrows that employ a greater variety of artifice to decoy their chief enemy, man, from the young or eggs. The situation of the nest, which is usually placed on the ground in dry sandy fields, without the least pains at concealment, renders stratagem peculiarly necessary to this bird. In a morning of May, 1836, as I was crossing a dry sandy field, I almost trod upon a female of this species, as she was sitting on her nest. She was exactly the colour of the surrounding soil, and was therefore unperceived by me, and another step would have inevitably brought me upon her, when she tumbled forward and imitated lameness so perfectly, that it was with the utmost difficulty I could prevent myself from being deceived and following her. The stratagem, however, was of no avail: I stopped, examined the eggs, which were four in number, and left them. The following morning I again visited the spot, but this time the stratagem was different. She left her nest, flew to a spot several rods distant, and manifested the greatest anxiety about the place on which she alighted, so that a stranger, not seeing her flight, would have supposed her nest to be at quite a distance from its real location. Finding this trick also unavailing, and seeing me stoop and examine her treasures, she speedily approached, and began making the most piteous lamentations, which she continued until I was at a considerable distance from her nest. The next morning I made her another visit, and again she varied her artifice, by leaving her nest, while I was at a greater distance than on either of my other visits, and flying into concealment as speedily as possible, evidently in hopes her flight would not be noticed. To how great a number and variety she would have carried her stratagems I am unable to say, for on visiting the spot on the fourth day, I was sorry to find the nest empty and deserted. Was this bird guided by instinct or by reason? The egg measures seven-eighths of an inch in length, and eleven-sixteenths in breadth, and is of a bluish-white, covered nearly equally with blotches of a reddish-brown colour. They are not always exactly uniform in colour and markings, but sufficiently so to be readily recognised. They resemble not a little the eggs of *Fringilla maritima* and *F. palustris*, but are distinguishable from both. They are also sometimes marked with hair-lines of a dark brown colour, irregularly scattered over the whole egg."

Having drawn the figure which you will see on referring to the plate, near the sea-shores of New Jersey, where the bird which it represents was shot while walking among little groups of the plant there vulgarly called the *prickly pear*, I have represented it also. It shoots up its fleshy stems from among the driest sand, and there flourishes in the greatest perfection and abundance. The flower is destitute of scent, but the fruit is agreeably acid, and is often eaten by children. I have observed a plant of the same genus about the sterile cliffs of the Kentucky river, and in particular near the town of Frankfort, as well as in Louisiana, on Alexander's creek, at which place it grows to a great size. This is probably a distinct species. I have not observed *cactuses* growing in a wild state in any other part of the Union.

From Texas to the Columbia river and Fur Countries. Breeds from Maryland eastward and northward. Resident in winter from Carolina southward and westward. Extremely abundant.

Bay-winged Bunting, *Emberiza graminea*, Wils. Amer. Orn., vol. iv. p. 51.
Fringilla graminea, Bonap. Syn., p. 108.
Fringilla (Zonotrichia) graminea, *Bay-winged Finch*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 254.
Bay-winged or Grass Finch, *Fringilla graminea*, Nutt. Man., vol. i. p. 482.
Grass Finch or Bay-winged Bunting, *Fringilla graminea*, Aud. Orn. Biog., vol. i. p. 473; vol. v. p. 502.

Adult Male.

Bill shortish, robust, conical, acute; upper mandible broader than the lower, slightly declinate at the tip, the edges of both mandibles straight to near the base, where they are a little deflected. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large. Neck short. Body robust. Legs of moderate length, slender; tarsus of the same length as the middle toe, covered anteriorly with a longitudinal plate above, and a few transverse scuta below; toes scutate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe largest.

Plumage ordinary, compact. Wings of ordinary length, third and fourth quills longest, first and second little shorter. Tail longish, nearly equal, or slightly forked.

Bill dark brown on the back of the upper mandible, pale on the sides and below. Iris hazel. Tarsi, toes, and claws flesh-colour. The general colour of the upper parts is light brown, streaked and mottled with darker. Lesser wing-coverts bright reddish-brown or bay, the larger deep brown, edged with pale brown; quills also deep brown, the first margined externally with white. Tail-feathers dark brown, the outer marked with an oblique band of white, including the outer web and part of the inner towards the tip, the next

three margined externally with white, changing into pale brown on the other. A narrow circle of white around the eye. Throat and breast yellowish-white, the latter and the fore part of the cheeks streaked with dark brown. Sides and abdomen very pale yellowish-brown, the former sparsely streaked with dark brown; the posterior abdominal region and under tail-coverts white.

There is no perceptible difference as to colour or size between the male and the female.

Length $5\frac{3}{4}$ inches, extent of wings 10; bill $\frac{1}{3}$ along the ridge, $\frac{1}{2}$ along the gap.

The Prickly Pear, or Indian Fig.

Cactus Opuntia, *Willd.*, Sp. Pl., vol. ii. p. 943. *Pursch*, Fl. Amer., p. 323.—Icosandria Monogynia, *Linn.*—Cacti, *Juss.*

This species has an articulated fleshy stem, with ovate, compressed joints, sparsely covered with setaceous prickles; large yellow flowers, and red, acidulous, eatable berries. It flowers in June and July, and grows in sandy fields and dry barren soil.

SAVANNAH BUNTING.

Emberiza Savanna, *Wils.*

PLATE CLX.—Male and Female.

This species is one of the most abundant of our Finches. It is also one of the hardiest, standing the winter of our Middle Districts, ranging as far north as Labrador, and crowding our old fields and open woods of the south from October to April. It is nearly allied to the Yellow-Winged Sparrow and Henslow's Bunting, but differs from both in many important particulars.

It confines itself principally to the ground, where it runs with extreme agility, lowering its body as if to evade your view, and when in danger hiding as closely as a mouse; nay, seldom taking to wing, unless much alarmed or suddenly surprised. It is fondest of dry, rather elevated situations,

R. F.

Savannah Bunting.

1. Male 2. Female.

Indian Pink-root Spigelia Marilandica.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.ᵃ Printed & Col.ᵈ by J. T. Bowen Phila.ᵈ

not very distant from the sea-shore, and although it travels much, I have never found one in deep woods. During winter it associates with the Field Sparrow and Bay-winged Sparrow, and with these it is often seen in open plains of great extent, scantily covered with tall grasses or low clumps of trees and briars. Regardless of man, it approaches the house, frequents the garden, and alights on low buildings with as little concern as if in the most retired places.

It migrates by day, when it suffers from the attacks of the Marsh, the Pigeon, and the Sharp-shinned Hawks, and rests on the ground by night, when it is liable to be preyed upon by the insidious Minx. Its flight, although rather irregular, is considerably protracted, for it crosses, I believe, without resting, the broad expanse of the Gulf of St. Lawrence. In June, 1833, I found it gradually moving northward as I advanced towards Labrador; and although a great number tarry and breed in all intermediate places from Maryland to that dreary region, I saw them there in abundance.

The nest of the Savannah Finch is placed on the ground at the foot of a tuft of rank grass, or of a low bush. It is formed of dry grasses, and is imbedded in the soil, or among the grass, the inner part being finished with straw and blades of a finer texture. The eggs, from four to six in number, are of a pale bluish colour, softly mottled with purplish-brown. Some eggs have a broadish circle of these spots near the large end, while the extremity itself is without any markings. It generally breeds twice every season in the Middle States, but never more than once to the eastward of Massachusetts. While searching for the nests of this and many other species, I observed that the artifices used by the female to draw intruders away, are seldom if ever practised until after incubation has commenced.

Although this little Finch cannot be said to have a song, it is yet continually pouring out its notes. You see it perched on a fence rail, the top of a stone, or a tall grass or bush, mimicking as it were the sounds of the common cricket. Indeed, when out of sight of the performer, one might readily imagine it was that insect he heard. During winter, it now and then repeats a cheep, which, although more sonorous, is not more musical. In spring, when disturbed and forced from its perch, it flies quite low over the ground in a whirring manner, and re-alights as soon as an opportunity offers.

Like all the other land-birds that resort to Labrador in summer, it returns from that country early in September.

The Savannah Finch was found by Mr. Townsend on the Rocky Mountains and about the Columbia river, where it was common. It extends along the coast of the Gulf of Mexico to within the Texas. As it is plentiful in Labrador, it might have been expected to move still farther northward in summer, but no mention is made of it by Dr. Richardson. The situation

and size of the nests, as well as the colour of the eggs of this bird, found by myself or the members of my party, differed from those examined in Maine, or in any other part of the United States. The nests were deeply sunk in the moss, always placed under the cover of creeping branches of low firs, and much more bulky than usual, although composed of the same materials. The eggs in most instances were of an extremely pale greenish hue, slightly spotted and splashed with light umber. They measured $6\frac{1}{2}$ eighths of an inch in length, and rather more than four and a half eighths in breadth. It breeds abundantly among the high grass at Chelsea Beach, near Boston.

From Texas to the Columbia river, and along the whole Atlantic coast to Nova Scotia. Extremely abundant during winter in all the Southern States. Breeds from Maryland eastward.

SAVANNAH FINCH, *Fringilla savanna*, Wils. Amer. Orn., vol. iv. p. 72.
FRINGILLA SAVANNA, Bonap. Syn., p. 109.
SAVANNAH SPARROW, *Fringilla savanna*, Nutt. Man., vol. i. p. 489.
SAVANNAH FINCH, *Fringilla savanna*, Aud. Orn. Biog., vol. ii. p. 63; vol. v. p. 516.

Adult Male.

Bill short, conical, acute; upper mandible straight in its dorsal outline, rounded on the sides, as is the lower, which has the edges sharp and inflected; the gap-line straight, not extending to beneath the eye. Nostrils basal, roundish, open, concealed by the feathers. Head rather large. Neck short. Legs of moderate length, slender; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, compressed, acute, slightly arched; that of the hind toe a little larger.

Plumage soft and blended. Wings shortish, curved, rounded, the third and fourth quills longest. Tail short, emarginate.

Bill pale brown beneath, dusky above. Iris brown. Feet light flesh-colour. Cheeks and space over the eye light citron-yellow. The general colour of the plumage above is pale reddish-brown, spotted with brownish-black, the edges of the feathers being of the former colour. The lower parts are white, the breast marked with small deep brown spots, the sides with long streaks of the same.

Length $5\frac{1}{2}$ inches; extent of wings $8\frac{1}{2}$; bill along the ridge $\frac{5}{12}$, along the gap $\frac{6}{12}$; tarsus $\frac{10}{12}$.

THE INDIAN PINK-ROOT OR WORM-GRASS.

SPIGELIA MARILANDICA, *Pursch*, Fl. Amer. Sept., vol. i. p. 139.—PENTANDRIA MONOGYNIA, *Linn.*—APOCYNEÆ, *Juss.* Fig. 1. of the Plate.

Clay-coloured Bunting.

Male

Tolepius tuberosa

Drawn from Nature by J J Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J T Bowen. Philad.a

Stem tetragonal, all the leaves opposite, ovate, acuminate. Perennial. This plant grows in damp meadows, along rivulets, and even in the depth of the woods. It is abundant in Kentucky, as well as on the eastern ranges of the Alleghany Mountains, even to the vicinity of the Atlantic. Its rich carmine flowers have no scent.

PHLOX ARISTATA, *Mich.*, Fl. Amer., vol. i. p. 144. *Pursch*, Fl. Amer. Sept., vol. i. p. 150.—PENTANDRIA MONOGYNIA, *Linn.*—POLEMONIA, *Juss.* Fig. 2. of the Plate.

CLAY-COLOURED BUNTING.

+EMBERIZA PALLIDA, *Swains.*

PLATE CLXI.—MALE.

This homely looking little bird was discovered by Dr. RICHARDSON, who states that it "visits the Saskatchewan in considerable numbers, frequents the farm-yard at Carlton House, and is as familiar and confident as the common House-Sparrow of England." My friend Mr. NUTTALL, in speaking of it as allied to *Fringilla pusilla* of WILSON, states that it is distinct in its habits, it being a prairie bird, not seen in the woods, and occurring only in spring, although in all other points it agrees with the species just mentioned. It was not met with by him far up the Platte, but is supposed to visit the prairies of the Missouri down to the line of settlements. My drawing represents a male. A female in my possession differs only in being rather smaller.

Platte river, Missouri plains, and Fur Countries. Common. Migratory.

EMBERIZA PALLIDA, *Clay-coloured Bunting*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 251.

CLAY-COLOURED BUNTING, *Emberiza pallida*, Aud. Orn. Biog., vol. v. p. 66.

Adult Male.

Bill short, strong, conical, compressed toward the end, acute; upper mandible rather broader than the lower at the base, but less deep beyond the nostrils, its dorsal line declinate and slightly convex, the sides convex, the

edges direct, the gape-line ascending to beyond the nostrils, afterwards straight, the tip acute; lower mandible with the angle short and rounded, the dorsal line almost straight, the sides rounded; the edges inflected, the tip acute. Nostrils basal, roundish, partially concealed by the feathers.

Head ovate, of moderate size; neck short; body rather slender. Feet of moderate length, slender; tarsus compressed, with seven anterior scutella, and two plates behind, meeting so as to form a sharp edge; toes free, the first stronger, the third much longer than the lateral, of which the inner is somewhat shorter than the outer; claws of moderate length, arched, much compressed, laterally grooved, acute.

Plumage soft and blended, on the back rather compact. Wings of moderate length, rather rounded, the first quill two-twelfths of an inch shorter than the second, which is scarcely longer than the third and fourth, the other primaries slowly graduated; the secondaries rounded, the inner not elongated. Tail long, emarginate, of twelve narrow feathers, of which the middle are three-twelfths of an inch shorter than the outer.

Bill yellow, greyish-brown toward the end. Feet flesh-coloured, claws dusky brown. The general colour of the upper parts is light yellowish-brown, each feather having a central streak of brownish-black; the streaks on the rump are fainter and more slender. The quills and tail feathers greyish-brown, narrowly margined with brownish-white. Over the eye is a long band of brownish-white; the cheeks are pale brown, the sides of the neck are very light buff, the rest of the lower parts greyish-white, the sides of the body tinged with greyish-brown.

Length to end of tail $5\frac{2}{12}$ inches; bill along the ridge $4\frac{4\frac{1}{2}}{12}$; wing from flexure $2\frac{7}{12}$; tail $2\frac{8}{12}$; tarsus $\frac{8\frac{1}{2}}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{3}{12}$; middle toe $\frac{5\frac{1}{2}}{12}$, its claw $\frac{2\frac{1}{2}}{12}$.

The Female is similar to the male, but has less yellow on the sides of the neck, and is somewhat smaller.

Length to end of tail $5\frac{2}{12}$ inches; bill along the ridge $\frac{4\frac{1}{2}}{12}$; wing from flexure $2\frac{7\frac{1}{2}}{12}$; tail $2\frac{6}{12}$; tarsus $\frac{8}{12}$; hind toe and claw $\frac{6}{12}$; middle toe and claw $\frac{8}{12}$.

This species has some resemblance to *Emberiza pusilla*, from which, however, it is easily distinguishable. The bill is longer and much more slender, its wings and tail also longer, and the latter more deeply emarginate. There are none of the reddish-brown tints conspicuous in the Field Sparrow, which, moreover, has the gape-line less deflected at the base, and has the palate concave, in place of being knobbed. The specimens from which the above descriptions have been taken, were procured on the 15th of June, 1834, on the Rocky Mountains, by Mr. Townsend.

Yellow-winged Bunting.

Male.

WESSELS

Lith.d Printed & Col.d by J. T. Bowen Phila.d

YELLOW-WINGED BUNTING.

†Emberiza passerina, *Wils.*

PLATE CLXII.—Male.

This is another of those remarkable species which pass unobserved from the Mexican dominions and some of the West India Islands, to the middle portions of our Atlantic States. From Maryland to Maine it is found in considerable numbers, and is not uncommon in Pennsylvania, New Jersey, New York, and Connecticut. In all the States it prefers the neighbourhood of the coast and a light sandy soil. It arrives in the latter districts about the 10th of May, and throws itself into the open newly-ploughed fields, and those covered with the valuable red clover. It is never found in the woodlands. Its food consists of such insects and larvæ as are found on the ground, together with the seeds of grasses and other plants.

Its flight is low, short, and performed by a kind of constant tremor of the wings, resembling that of a young bird. It alights on the tops of low bushes, fence-rails, and tall grasses, to sing its unmusical ditty, composed of a few notes weakly enunciated at intervals, but sufficing to manifest its attachment to its mate. Almost unregarded, it raises two broods in the season, perhaps three when it has chosen the warmer sandy soils in the vicinity of the sea, where it is evidently more abundant than in the interior of the country.

The nest of the Yellow-winged Sparrow is as simple as its owner is innocent and gentle. It is placed on the ground, and is formed of light dry grasses, with a scanty lining of withered fibrous roots and horse hair. The female deposits her first egg about the 20th of May. The eggs are four or five, of a dingy white, sprinkled with brown spots. The young follow their parents on the ground for a short time, after which they separate and search for food singly. This species, indeed, never congregates, as almost all others of its tribe do, before they depart from us, but the individuals seem to move off in a sulky mood, and in so concealed a way, that their winter quarters are yet unknown.

The appearance of this humble species on the shores of the Columbia river renders its geographical distribution as difficult of comprehension as that of some other species, which, like it, discard as it were extensive tracts, and appear in distant regions for a season. Thus some of this species, on

their way from their unknown winter abode northward, pass toward the middle and eastern districts of our Atlantic coast, while others diverge to reach the Oregon section, in which this bird has been found by Mr. Townsend, passing over our Southern States without being observed, although, when proceeding toward the Texas in April 1837, I found them abundant on their way eastward.

In a male preserved in spirits, the palate is ascending, and its ridges form a soft prominence at their junction anteriorly; on the fore part are three narrow ridges, forming a large oblong hard knob at their base. The tongue is $4\frac{1}{4}$ twelfths long, deeper than broad, grooved above toward the end, which is horny and pointed. The width of the mouth is $3\frac{1}{2}$ twelfths. Œsophagus 1 inch 8 twelfths in length, its greatest width $3\frac{1}{2}$ twelfths, it being considerably dilated on the neck. Stomach rather small, elliptical, oblique, 6 twelfths in length, 5 twelfths in breadth, muscular, and of the usual structure. It contains insects, seeds, and quartz. Intestine 5 inches long, from $1\frac{1}{2}$ twelfths to 1 twelfth wide; cœca $1\frac{1}{2}$ twelfths long, $\frac{1}{4}$ twelfth broad, 7 twelfths distant from the extremity.

Trachea 1 inch 2 twelfths long, from nearly 1 twelfth to $\frac{1}{2}$ twelfth wide, its rings 55; inferior laryngeal muscles very large. Bronchi very slender, of about 12 rings.

Scarcely any difference is perceptible in the plumage of the sexes, and by the time the young return to us the following spring, they have obtained the full plumage of their parents.

Passes from Texas to Connecticut; breeds from Maryland to Connecticut. Columbia river. Rather common. Migratory.

Yellow-winged Sparrow, *Fringilla passerina*, Wils. Amer. Orn., vol. iii. p. 76.
Fringilla passerina, Bonap. Syn., p. 109.
Savannah Finch or Yellow-shouldered Bunting, Nutt. Man., vol. i. p. 494.
Yellow-crowned Sparrow, *Fringilla passerina*, Aud. Orn. Biog., vol. ii. p. 180; vol. v. p. 497.

Bill short, conical, acute; upper mandible slightly convex in its dorsal outline, angular, and encroaching a little on the forehead, of the same breadth as the lower, with sharp and inflected edges; lower mandible also inflected on the edges; gap-line slightly deflected at the base. Nostrils basal, roundish, open, concealed by the feathers. Head rather large, neck short, body full. Feet of moderate length, slender; tarsus covered anteriorly with a few longish scutella, acute behind; toes free, scutellate above, the lateral ones nearly equal; claws slender, compressed, acute, slightly arched, that of the hind toe elongated.

Plumage soft and blended, slightly glossed. Wings shortish, curved,

Henslow's Bunting

Male

Indian Pink-root or Worm-grass

Spigelia Marilandica

Pl. 163 aristata

Lith. Prints & Col. by J. T. Bowen Phila.

rounded, the first and second primaries longest, the third scarcely shorter: the secondaries long, but less so than in the Henslow Bunting, which belongs to this group. Tail short, small, rounded, slightly emarginate, of twelve narrow, tapering feathers.

Bill flesh-coloured beneath, dusky above. Iris dark brown. Feet light flesh-coloured. The general colour of the upper parts is light greyish-brown, mixed on the neck with ash-grey tints, the central parts of the feathers brownish-black, the margins of those of the back bright chestnut. The upper part of the head brownish-black, with a longitudinal central line of brownish-white. Secondary coverts dusky, margined with greyish-white; along the flexure of the wing the small feathers are bright yellow, whence the name of the species. Quills wood-brown, margined with pale yellow ish-brown. Tail feathers of the same colour, the outermost much paler The under parts pale yellowish-grey, the breast of a richer tint, being of a light yellowish-brown, its sides anteriorly spotted with brownish-black.

Length $4\frac{10}{12}$ inches, extent of wings 8; bill along the ridge $\frac{5\frac{1}{2}}{12}$, along the edge $\frac{1}{2}$; tarsus $\frac{2}{3}$, middle toe a little more than $\frac{2}{3}$, hind toe $\frac{7}{12}$.

HENSLOW'S BUNTING.

Emberiza Henslowi, *Aud.*

PLATE CLXIII.—Male.

I obtained the bird represented in this plate opposite Cincinnati, in the State of Kentucky, in the year 1820, whilst in the company of Mr. Robert Best, then Curator of the Western Museum. It was on the ground, amongst tall grass, and exhibited the usual habits of its tribe. Perceiving it to be different from any which I had seen, I immediately shot it, and the same day made an accurate drawing of it.

In naming it after the Rev. Professor Henslow of Cambridge, a gentleman so well known to the scientific world, my object has been to manifest my gratitude for the many kind attentions which he has shewn towards me.

This species is abundant in the State of New Jersey, and breeds there; but of this I was not aware until after my last journey to England, in the spring of 1838, when my friend Dr. James Trudeau sent me a specimen

procured by himself while in company with our mutual friend EDWARD HARRIS, Esq. This specimen is the finest I have seen, although Dr. BACHMAN and myself have procured a great number in South Carolina, where this species abounds in the latter part of autumn, and where some remain during winter. I have found it in great numbers in all the pine barrens of the Floridas, in winter, but mostly in sandy or light soil, in woods thinly overgrown by tall pines. I never saw this species alight on trees, but on the ground, where it spends its time; it runs with rapidity, passing through the grass with the swiftness of a mouse. In the State of New Jersey it is found in ploughed fields, and I have no doubt was previously overlooked or supposed to be the Yellow-winged Bunting, to which it bears some resemblance. It has not been observed farther to the eastward than the State just mentioned. Its plumage in spring is more richly coloured than in autumn or winter.

Winters in Carolina, Georgia, Alabama, Louisiana, and Florida. Breeds from Maryland to New York. Abundant. Accidental in Ohio.

HENSLOW'S BUNTING, *Emberiza Henslowii*, Nutt. Man. App., vol. ii. p.
HENSLOW'S BUNTING, *Emberiza Henslowii*, Aud. Orn. Biog., vol. i. p. 360; vol. v. p. 498.

Bill short, robust, conical, acute; upper mandible straight in the dorsal outline, angular, and encroaching a little on the forehead, broader than the lower, acute and inflected on the edges; lower mandible also inflected at the edges; the gap-line deflected at the base. Head rather large, neck short, body full. Feet of ordinary length; tarsus scutellate before, acute behind; toes free, scutellate above; claws slightly arched, compressed, acute, that of the hind toe elongated.

Plumage compact, slightly glossed. Wings short, curved, the third and fourth quills longest, the secondaries nearly as long as the primaries, when the wing is closed. Tail short, graduated and deeply notched, of twelve rather narrow very acute feathers.

Bill flesh-colour, darker above. Iris dark-brown. Feet flesh-colour. The general colour of the upper parts is pale brown, the central part of the feathers brownish-black, the margins of those of the back bright red. Secondary coverts yellowish-red on the outer webs. Quills dark brown, externally margined with light yellowish-brown. Tail-feathers dusky, margined externally with yellowish-brown. The under parts pale yellowish-grey, the breast, sides, and throat, spotted with brownish-black.

Length 5 inches, bill along the ridge $\frac{1}{3}$, along the gap nearly $\frac{1}{2}$; tarsus $\frac{2}{3}$, middle toe $\frac{2}{3}$, hind toe the same.

Field Bunting

Male

Catesbeyan Gutchellus Brown.

Dwarf Huckle-berry Vaccinium tenellum

The Indian Pink-root or Worm-grass.

Spigelia marilandica, *Pursch*, Fl. Amer., vol. i. p. 139. Fig. 1. of the Plate.—Pentandria Monogynia, *Linn.*—Apocineæ, *Juss.*

Stem tetragonal, all the leaves opposite, ovate, acuminate. Flowers rich carmine, in a terminal spike. This plant is perennial, flowers in the summer months, and grows in rich soil by the margins of woods, in the Middle States. The roots are used as a vermifuge.

Phlox aristata, *Pursch*, Fl. Amer., vol. i. p. 130. Fig. 2. of the Plate.—Pentandria Monogynia, *Linn.*—Polemonia, *Juss.*

This species is characterized by its erect, feeble stem, its linear-lanceolate leaves, lax fastigiate panicle, twin pedicels, oboval segments of the corolla, pubescent curved tube, and long subulate calycine teeth. The corolla is rose-coloured, but varies in tint, being sometimes nearly white, and sometimes deep red. It is perennial, flowers in the summer months, and occurs in the Middle and Atlantic States.

FIELD BUNTING.

Emberiza pusilla, *Wils.*

PLATE CLXIV.—Male.

This diminutive and elegant species of Bunting may certainly be ranked among our constant residents, numerous individuals remaining during the winter within the limits of the Union. In Louisiana and the countries along the Mississippi, as far as Kentucky, and in all the Southern States, as far as Maryland, they are to be found in the coldest weather. In South Carolina they are met with along every hedge-row and in every briar-patch, as well as in the old fields slightly covered with tall slender grasses, on the seeds of which they chiefly subsist during the inclement season. Loose flocks, sometimes of forty or fifty, are seen hopping along the sandy roads, picking up particles of gravel. On the least alarm, they all take to wing, and alight on

the nearest bushes, but the next moment return to the ground. They leave the south as early as March, move northwards as the season advances, and appear in the States of New York and Pennsylvania about the middle of April.

The song of the Field Sparrow is remarkable, although not fine. It trills its notes like a young Canary Bird, and now and then emits emphatical, though not very distinct sounds of some length. One accustomed to distinguish the notes of different birds can easily recognise the song of this species; but the description of it, I confess, I am unable to accomplish, so at least as to afford you any tolerable idea of it.

It is a social and peaceable bird. When the breeding season is at hand they disperse, move off in pairs, and throw themselves into old pasture grounds, overgrown with low bushes, on the tops of which the males may be heard practising their vocal powers. They usually breed on the ground, at the foot of a small bush or rank weed; but I have also found several of their nests on the lower branches of trees, a foot or two from the ground. The nest is simple, formed chiefly of fine dry grasses, in some instances scantily lined with horse-hair or delicate fibrous roots, much resembling hair. The eggs are from four to six, of a light ferruginous tint, produced by the blending of small dots of that colour. So prolific is this species, that I have observed a pair raise three broods in one summer, the amount of individuals produced being fifteen. The young run after their parents, leaving the nest before they can fly, and are left to shift for themselves ere they are fully fledged; but as they find every where abundance of insects, berries, and small seeds, they contrive to get on without help.

These birds are fond of orchards, enter our country towns in autumn, alight on the tallest trees in open woods, and migrate solely by day. Their flight is rapid, even, and occasionally sustained; for, when fairly alarmed, they move at once over fields of considerable extent.

I saw few in Maine, and none in the British provinces, in Labrador or in Newfoundland.

The colour of the bill varies with the seasons, being in winter of a dingy reddish-brown, and in summer assuming a tint approaching to orange. There is no perceptible difference in the size or colour of the sexes. The young acquire their full plumage the first autumn.

Travelling from Great Egg Harbour towards Philadelphia, I found a nest of this species placed at the foot of a bush growing in almost pure sand. Near it were the plants which you see accompanying the figure.

From Texas to Maryland, in Kentucky and the intermediate parts, during winter. Breeds from Maryland to Maine. Abundant.

FIELD SPARROW, *Fringilla pusilla*, Wils. Amer. Orn., vol. ii. p. 121.
FRINGILLA PUSILLA, Bonap. Syn., p. 110.
FIELD OF RUSH SPARROW, *Fringilla juncorum*, Nutt. Man., vol. i. p. 499.
FIELD SPARROW, *Fringilla pusilla*, Aud. Orn. Biog., vol. ii. p. 229.

Adult Male.

Bill short, rather small, strong, conical, acute; upper mandible rather narrower than the lower, very slightly declinate at the tip, rounded on the sides, as is the lower, which has the edges inflected and acute; the gap-line very slightly arched, slightly deflected at the base. Nostrils basal, roundish, partially concealed by the feathers. The general form rather robust. Legs of moderate length, slender; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, slightly arched, that of the hind toe scarcely larger, much compressed, acute.

Plumage soft, blended, rather compact on the back; wings shortish, curved, rounded, the third quill longest, the second and fourth scarcely shorter; tail long, emarginate.

Bill reddish-brown or cinnamon-colour. Iris chestnut. Feet pale yellowish-brown. Upper part of the head chestnut; anterior portion of the back and scapulars of the same tint, but marked with blackish-brown spots, the middle part of each feather being of that colour; sides of the neck pale bluish-grey, and a line of the same over the eye; rump and tail yellowish-grey, the inner webs of the latter light-brown; quills and coverts blackish-brown, margined with whitish, the two rows of coverts slightly tipped with brownish-white; the under parts are greyish-white; the sides of the neck and fore part of the breast tinged with chestnut.

Length 6 inches, extent of wings 8; bill along the back $\frac{1}{4}$, along the edge $\frac{5}{12}$.

The female is rather less, and somewhat duller beneath, but in other respects is precisely similar.

CALOPOGON PULCHELLUS, *Brown.*—CYMBIDIUM PULCHELLUM, *Willd.*, Sp. Pl., vol. iv. p. 105. *Pursch*, Fl. Amer. Sept., vol. ii. p. 592.—GYNANDRIA MONANDRIA, *Linn.*—ORCHIDEÆ, *Juss.*

Root tuberous, of an oblong form; radical leaves linear-lanceolate, nerved; scape few-flowered; lip at the back clawed, the inside bearded; five distinct petals of a light purplish-red. It grows in sandy soils from Maine to the Floridas; I have not observed it in the more Southern or Western States.

The Dwarf Huckleberry.

Vaccinium tenellum, *Willd.*, Sp. Pl., vol. ii. p. 353. *Pursch*, Flor. Amer. Sept., vol. i. p. 289.—Decandria Monogynia, *Linn.*—Ericæ, *Juss.*

The branches angular, green; leaves sessile, ovato-lanceolate, mucronate, serrulate, glossy on both sides; flowers in sessile clusters; corolla ovate. This plant grows in most of the lands of the Middle and Eastern Districts, both in woods and in open places. Its berries are eaten by various birds, as well as by children.

CHIPPING BUNTING.

Emberiza socialis, *Wils.*

PLATE CLXV.—Male.

Few birds are more common throughout the United States than this gentle and harmless little Bunting. It inhabits the towns, villages, orchards, gardens, borders of fields, and prairie grounds. Abundant in the whole of the Middle States during spring, summer, and autumn; it removes to the southern parts to spend the winter, and there you may meet with it in flocks almost anywhere, even in the open woods. So social is it in its character that you see it at that season in company with the Song Sparrow, the White-throated, the Savannah, the Field, and almost every other species of the genus. The sandy roads exposed to the sun's rays are daily visited by it, where, among the excrement of horses and cattle, it searches for food, or among the tall grasses of our old fields it seeks for seeds, small berries, and insects of various kinds. Should the weather be cold it enters the barn-yard, and even presents itself in the piazza. It reaches Louisiana, the Carolinas, and other southern districts in November, and returns about the middle of March to the Middle and Eastern States, where it breeds.

Early in May the Chipping Sparrow has already formed its nest, which it has placed indifferently in the apple or peach tree of the orchard or garden, in any evergreen bush or cedar, high or low, as it may best suit, but never

R.T.

Chipping Bunting.

Male.

Black locust or False Acacia
Robina pseudacacia.

Drawn & Engraved by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Philad.a

on the ground. It is small and comparatively slender, being formed of a scanty collection of fine dried grass, and lined with horse or cow hair. The eggs are four or five, of a bright greenish-blue colour, slightly marked with dark and light-brown spots, chiefly distributed towards the larger end. They are more pointed at the small end than is common in this genus. Although timorous, these birds express great anxiety when their nest is disturbed, especially the female. They generally raise two broods in the season, south of Pennsylvania, and not unfrequently in Virginia and Maryland.

The song of this species, if song it can with propriety be called, is heard at all hours of the day, the bird seeming determined to make up by quantity for defect in the quality of its notes. Mounted on the topmost branch of any low tree or bush, or on the end of a fence stake, it emits with rapidity six or seven notes resembling the sounds produced by smartly striking two pebbles together, each succeeding note rising in strength, although the song altogether is scarcely louder than the chirping of a cricket. It is often heard during the calm of a fine night, or in the warmer days of winter.

These gentle birds migrate by day; and no sooner has October returned and mellowed the tints of the sylvan foliage, than flitting before you on the road, you see family after family moving southward, chasing each other as if in play, sweeping across the path, or flocking suddenly to a tree if surprised, but almost instantly returning to the ground and resuming their line of march. At the approach of night they throw themselves into thickets of brambles, where, in company with several other species, they keep up a murmuring conversation until long after dark. Their flight is short, rather irregular, and seldom more elevated than the height of moderate-sized trees.

With the exception of the Sharp-shinned Hawk, the Marsh Hawk, and the Black Snake, these birds have few enemies, children being generally fond of protecting them. Little or no difference is perceptible between the sexes, and the young acquire the full plumage of their parents at the earliest approach of spring.

I did not find one individual of the species in Newfoundland, Labrador, or Nova Scotia.

I am now of opinion that this small species is altogether confined within the range of the United States and a small portion of the eastern adjoining provinces. It does not extend westward beyond the head waters of the Missouri, nor south-westward beyond the Opelousas. None were observed by the members of my party in Texas. The Chipping Sparrow is almost as abundant in our country as the Domestic Sparrow is in Europe, and it is nearly as familiar, though otherwise different in its habits. Dr. Brewer has sent me the following notice respecting it: "With hardly a single excep-

tion, it is the most numerous species in Massachusetts. It does not, however, arrive here so soon by seven weeks as most of the same genus, *Fringilla melodia* and *F. graminea* having commenced incubation by the time when it makes its appearance. It is one of the most confiding of our visitors, not unfrequently forming its nest among the vines planted as ornaments to our piazzas. In this part of the country there appears to exist a kind of tacit compact between the Chipping Sparrow and the Field Sparrow, by which all the cultivated ground is appropriated to the former, while the wild retired fields and pastures are occupied by the latter, for the purpose of breeding. I have never met with an instance where the two species bred in the same field. The eggs of the Chipping Sparrow measure six-eighths in length by five-eighths in breadth." Probably the reason of the division of the tracts of land above mentioned is, that the Field Sparrow being more shy or retiring, and reaching the same districts at an earlier period, it has the opportunity of choosing such grounds as suit it best, and is afterwards able to maintain its position.

Abundant throughout the United States. Winter resident in all the Southern States. Not seen in Texas, Nova Scotia, or Labrador.

Chipping Sparrow, *Fringilla socialis*, Wils. Amer. Orn., vol. ii. p. 127.
Fringilla socialis, Bonap. Syn., p. 109.
Chipping Sparrow, *Fringilla socialis*, Nutt. Man., vol. i. p. 497.
Chipping Sparrow, *Fringilla socialis*, Aud. Orn. Biog., vol. ii. p. 21; vol. v. p. 517.

Adult Male.

Bill short, rather small, conical, acute; upper mandible rather narrower than the lower, very slightly declinate at the tip, rounded on the sides, as is the lower, which has the edges inflected and acute; the gap-line straight, slightly deflected at the base. Nostrils basal, roundish, concealed by the feathers. Head rather large, neck short, body robust. Legs of moderate length, slender; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, greatly compressed, acute, slightly arched, that of the hind toe little larger.

Plumage soft, rather compact. Wings shortish, curved, rounded, the third and fourth quills longest, the second nearly as long, the first little shorter. Tail rather long, emarginate.

Bill dusky. Iris brown. Feet flesh-colour. Upper part of the head, anterior portion of the back, and scapulars, bright chestnut, with blackish-brown spots, the middle of each feather being of the latter colour. Sides of the neck and rump light greyish-blue, as are the smaller wing-coverts. Quills, larger coverts and first row of smaller, dusky, the two latter tipped

Canada Bunting (Tree Sparrow)

1. Male 2. Female

Canadian Barberry

with white, the former more or less margined with chestnut. Tail dusky, the feathers edged with pale ochre. A white line over the eye, and the lower parts generally of a greyish-white.

Length $5\frac{1}{4}$ inches, extent of wings 8; bill little more than $\frac{1}{4}$.

The female differs only in having the tints generally less intense. In winter both have a blackish frontlet.

The Black Locust or False Acacia.

Robinia pseudacacia, *Willd.*, Sp. Pl., vol. iii. p. 1131. *Pursch*, Flor. Amer., vol. ii. p. 487.—Diadelphia Decandria, *Linn.*—Leguminosæ, *Juss.*

This beautiful tree grows in the mountainous parts of the United States, from Canada to Carolina. Its wood, which is of great durability, is employed for various purposes, and particularly for gates and fence-stakes. The species is characterized by its spinescent stipules, pendulous racemes of white, sweet-scented flowers, and large smooth legumes. Although abundant in the natural state, it is now planted around farms and plantations, on account of the great value of its timber. It is besides a charming ornament of our avenues, either in the country, or in the streets of villages and cities.

CANADA BUNTING (TREE SPARROW.)

Emberiza canadensis, *Lath.*

PLATE CLXVI.—Male and Female.

This species seldom if ever resorts to the Southern States during winter, and to the westward of the Alleghany mountains scarcely proceeds farther down the Ohio than the neighbourhood of Louisville in Kentucky; so that it may be considered as quite a northern bird. It reaches Massachusetts at the approach of winter, and is more frequent in the maritime districts of that State than in the interior, where, however, it is met with in considerable numbers. In the beginning of October, if the weather be cold, the Tree Sparrow is seen among the magnificent elm trees that ornament the beautiful city of Boston and its neighbouring villages; and, like the hardy, industrious,

and enterprising people among whom it seems to spend the severe season by choice, it makes strenuous efforts to supply itself with the means of subsistence. Many remove as far south as Pennsylvania, and even Maryland; but I never observed one in either of the Carolinas. Their return to the north is marked by a lingering disposition to wait each day for a finer and warmer morrow. They appear, indeed, so perfectly aware of the danger to be encountered during a forced march in the early spring, that on the least change from mild weather to cold, they immediately return to their loved winter quarters. By the middle of May, however, they have begun to move regularly, and their songs announce the milder season at every resting place at which they tarry.

The Tree Sparrow sings sweetly during the love season. I have frequently listened to their musical festivals near Eastport, in the State of Maine, while gazing upon them with an ardent desire to follow them in their progress northward. Twenty or more, perched on the same tree, often delighted me with their choruses, now and then varied with the still clearer notes of one or two White-throated Finches, that, like leaders of an orchestra, seemed to mark time for the woodland choristers. Toward the close of the day their single notes were often repeated, and sounded like those of a retreat. They seemed to hop and dance about among the branches, mixing with the "White-throats," and enjoying a general conversation, when the pipings of two or three frogs would suspend their entertainment. At early dawn they were all on the alert, and if the rising sun announced a fine day, group after group would ascend in the air, and, with joyful feelings, immediately proceed towards their breeding-places in the distant north.

I followed them as far as the Magdeleine Isles, saw some in Newfoundland, and all the countries between it and Maine, but did not find a single individual in Labrador. On the islands above mentioned I saw them arriving in flocks of from five to a dozen, flying widely apart. They dived towards the ground, and at once threw themselves among the thickest coverts of the tangled groves, where, although I could hear their single *chip*, I could seldom see them afterwards. Their flight is more elegant and elevated than that of most of our Sparrows, and they pass through the air in rapid undulations, more regular and continued than those of any other bird of the family, except the Fox-coloured Sparrow.

On opening several of these birds, I found their stomach to contain very minute shell-fish, the remains of coleopterous insects, some hard seeds, small berries, and grains of sand.

Many of the Tree Sparrows breed in New Brunswick, in Nova Scotia, and, I have reasons for believing, in the northern portions of the State of Maine. A nest given me by Professor MacCulloch, had been found a few

feet from the ground, on the horizontal branch of a fir tree, not far from the stem. It was principally formed of rough grass, and lined with fibrous roots, hairs of various quadrupeds, and some from the horse. It contained five eggs, of a uniform deep blue, so closely resembling those of the Common Chipping Sparrow, that, had they not been much larger, I might have concluded them to be those of that bird. I suspect that, in a country where the summer is so short, the Tree Sparrow seldom if ever breeds more than once in the season.

When we returned to the United States late in August, the Tree Sparrows with their young were already moving southward. A mere intimation of the rich chestnut colour of the head of the adult in summer was seen. They had already tuned their pipes, which sounded in my ear as their affectionate farewell to a country, where these sweet little creatures had met with all of happiness that their nature could desire.

The pair represented in the plate, and which have been placed on a twig of the *barberry* bush, were procured at Boston. The drawing from which it has been copied was made by my youngest son.

According to Dr. T. M. Brewer, this is the most common Sparrow found near Boston during the winter, inhabiting in large flocks the low bushes and grass in marshy, sheltered situations, much of the time very quiet and inactive.

A specimen sent by him in spirits has the palate ascending obliquely, and of the usual appearance, the upper mandible beneath with a middle prominent line and two broad ridges, which at the base form a hard flattened prominence, similar to that of the true Bunting, but not so elevated. Tongue $4\frac{1}{4}$ twelfths long, about as deep as broad, fleshy and convex at the base above, channelled toward the end, which is pointed and horny. Width of mouth $3\frac{1}{2}$ twelfths. Œsophagus 2 inches 1 twelfth long, dilated on the middle of the neck into a large crop, 5 twelfths in width, which winds round into the hollow of the neck behind. Stomach roundish, placed obliquely, 6 twelfths long, $7\frac{1}{2}$ twelfths broad; its lateral muscles very large, as are the tendons; the epithelium dense and longitudinally rugous. The stomach filled with seeds and sand, and the crop partially filled with the former. The intestine is 7 inches long, from 2 twelfths to 1 twelfth in width; the cœca 2 twelfths long, $\frac{1}{4}$ twelfth width, 10 twelfths from the extremity.

The trachea is 1 inch 8 twelfths long, nearly 1 twelfth in breadth; its rings 75, firm and considerably flattened. Inferior laryngeal muscles small. Bronchi of about 12 half rings.

Rarely reaches the Carolinas during winter, or Louisville on the Ohio. Breeds from Maine northward to the Fur Countries. Abundant. Migratory.

TREE SPARROW, *Fringilla arborea*, Wils. Amer. Orn., vol. ii. p. 12.
FRINGILLA CANADENSIS, Bonap. Syn., p. 109.
EMBERIZA CANADENSIS, *Tree Bunting*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 252.
TREE SPARROW, *Fringilla canadensis*, Nutt. Man., vol. i. p. 495.
TREE SPARROW, *Fringilla canadensis*, Aud. Orn. Biog., vol. ii. p. 511; vol. v. p. 504.

Adult Male.

Bill short, strong, conical, acute; upper mandible rather narrower than the lower, with the dorsal outline very slightly convex, the sides rounded, the edges sharp and inflected, the tip very slightly declinate; lower mandible also slightly convex in its dorsal line, the sides rounded, the edges involute; the gap-line slightly deflected at the base. Nostrils basal, roundish, concealed by the feathers. The general form rather robust. Legs of moderate length, slender; tarsus compressed, anteriorly covered with a few long scutella, sharp behind; toes scutellate above, free, the lateral ones nearly equal; claws slender, slightly arched, that of the hind-toe considerably larger, much compressed, acute.

Plumage soft, blended. Wings of moderate length; the third and fourth quills longest and equal, but the second, third, fourth, and fifth are about the same length, and slightly cut out on the outer edge; secondaries emarginate. Tail long, emarginate, nearly straight, of twelve rather narrow, obliquely pointed feathers.

Bill black above, reddish-yellow beneath, with the tip blackish. Iris brown. Legs dusky brown, the toes blackish-brown. Upper part of the head bright bay; a band of greyish-white passes over the eye, lighter at its commencement near the upper mandible, and gradually shaded into ash-grey; sides of the head and neck ash-grey, the latter with some streaks of bay, of which a short band proceeds from the eye backwards. Middle of the back streaked with deep brown, bay, and pale yellowish-grey; rump light yellowish-grey. Wing-coverts similar to the back, the first row of small coverts and the secondary coverts broadly edged with bright bay and largely tipped with white, of which there are thus two conspicuous bands across the wing; quills dusky, the outer margined with dull white, the inner with pale bay, the three inner secondaries broadly margined towards the end with white. Tail-feathers also dusky, margined externally and internally with greyish-white, the edge of the outermost pure white. Fore-neck pale grey, the sides yellowish-grey, the breast and abdomen white, tinged with cream-colour, the under tail-coverts white. An obscure spot of dark brown on the middle of the breast; and the feathers that cover the flexure of the wing, when closed, are bay.

Length $6\frac{1}{4}$ inches, extent of wings $8\frac{3}{4}$; bill along the back $\frac{4}{12}$, along the edge $\frac{6}{12}$; tarsus $\frac{10}{12}$.

Adult Female.

The female resembles the male, but is paler in its tints, and rather smaller.

The Canadian Barberry.

Berberis canadensis, *Willd.*, Sp. Pl., vol. ii. p. 227. *Pursch*, Fl. Amer. Sept., vol. i. p. 219.—Hexandria Monogynia, *Linn.*—Berberides, *Juss.*

This species of *barberry* is very abundant in Maine and Massachusetts, as well as in the British provinces. It is an erect shrub, from five to eight feet in height, with triple prickles, simple obovate remotely serrated leaves, short corymbose racemes; yellow flowers, and pendulous oblong red berries, having an agreeable acid taste.

Genus III.—NIPHÆA, *Aud.* SNOW-BIRD.

Bill short, rather small, conical, acute; upper mandible a little broader than the lower, its dorsal line straight, slightly declinate at the tip, the sides convex, the edges nearly straight, slightly inflected, but overlapping; lower mandible with the angle short and rounded, the dorsal line straight, the sides convex, the edges a little inflected, the tip acute. Nostrils basal, roundish, concealed by the feathers. Head broadly ovate; neck short; body full. Feet of moderate length; tarsus rather short, stout, with seven scutella; toes rather strong, the first stout, the lateral equal. Claws rather long, arched, compressed, laterally grooved, tapering to a fine point. Plumage very soft and blended. Wings rather short, curved, rounded; second, third, and fourth quills longest, first longer than fifth. Tail rather long, slightly emarginate. Roof of upper mandible concave, with thin ridges, and a small knob at the base; tongue narrow, deep, grooved above, tapering to a horny point; œsophagus dilated about the middle; stomach rather small, roundish, muscular; intestine rather short; cœca very small. Name from Νιφος, snow.

COMMON SNOW-BIRD.

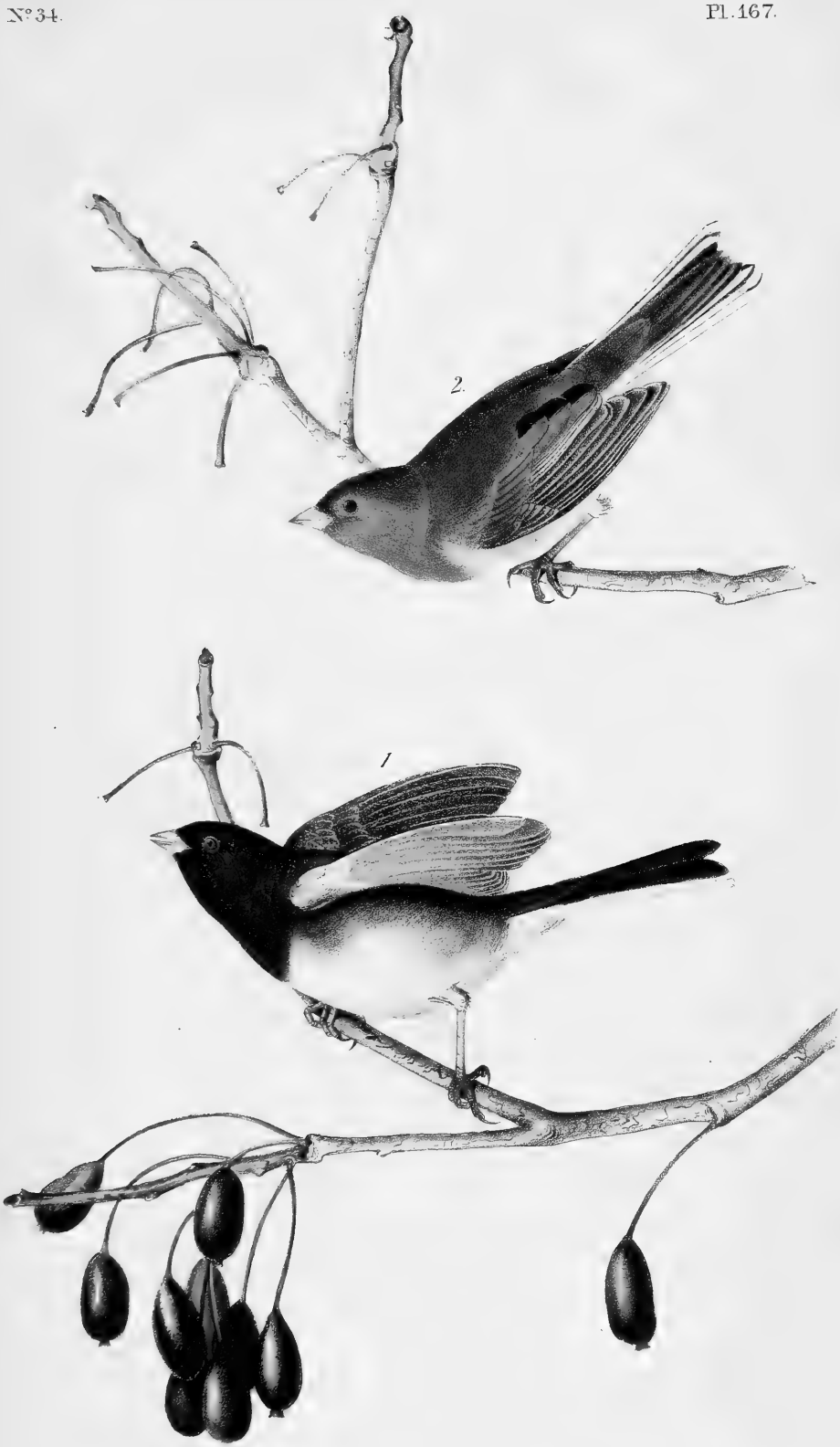
NEPHÆA HYEMALIS, *Linn.*

PLATE CLXVII.—MALE AND FEMALE.

This is one of our winter visitants from the north, which, along with many others, makes its appearance in Louisiana about the beginning of November, to remain a few months, and again, when spring returns, fly off, to seek in higher latitudes a place in which to nestle and rear its young. So gentle and tame does it become on the least approach of hard weather, that it forms, as it were, a companion to every child. Indeed, there is not an individual in the Union who does not know the little Snow-bird, which, in America, is cherished as the Robin is in Europe. I have seen it fed by persons from the "Old Country," and have always been pleased by such a sight. During fine weather, however, it becomes more timorous, and keeps aloof, resorting to the briar patches and the edges of the fences; but even then it is easily approached, and will suffer a person on horseback to pass within a few feet of the place where it may be searching for food on the road, or the rails of the fences on which it is perched.

Although the Snow-birds live in little families, consisting of twenty, thirty, or more individuals, they seem always inclined to keep up a certain degree of etiquette among themselves, and will not suffer one of their kind, or indeed any other bird, to come into immediate contact with them. To prevent intrusions of this kind, when a stranger comes too near, their little bills are instantly opened, their wings are extended, their eyes are seen to sparkle, and they emit a repelling sound peculiar to themselves on such occasions.

They are aware of the advantages to be derived by them from larger birds scratching the earth, and in some degree keep company with Partridges, Wild Turkeys, and even Squirrels, for the purpose of picking up such food as these animals may deem beneath their notice. This habit is more easily observed in those which frequent the farm-yards, where the domestic fowls prove regular purveyors to them. The report of a gun, or the unexpected barking of a dog, cause the little flock to rise and perch either on the fences or an adjoining tree, where, however, they remain only for a few minutes, after which they return to their avocations. They are particularly fond of



Common Snow-Bird.

1. Male. 2 Female

grass-seeds, to procure which they often leap up from the ground, and dexterously seize the bending panicles.

It is a true hopping bird, and performs its little leaps without the least appearance of moving either feet or legs, in which circumstance it resembles the Sparrows. Another of its habits, also indicative of affinity to these birds, is it resorting at night, during cold weather, to stacks of corn or hay, in which it forms a hole that affords a snug retreat during the continuance of such weather, or its recurrence through the winter. In fine weather, however, it prefers the evergreen foliage of the holly, the cedar or low pines, among which to roost. Its flight is easy, and as spring approaches, and its passions become excited by the increased temperature, the males chase each other on wing, when their tails being fully expanded, the white and black colours displayed in them present a quite remarkable contrast.

The migration of these birds is performed by night, as they are seen in a district one day, and have disappeared the next. Early in March, the Snow-bird is scarcely to be seen in Louisiana, but may be followed, as the season advances, retreating towards the mountains of the middle districts, where many remain during the summer and breed. Although I never had the good fortune to find any of their nests, yet I have seen them rear their young in such places, and particularly in the neighbourhood of the Great Pine Forest, where many persons told me they had often seen their nests.

During the period when the huckleberries are ripe, they feed partially upon them, being found chiefly on the poorest mountain lands, in which that shrub grows most abundantly. I have seen the Snow-birds far up the Arkansas, and in the province of Maine, as well as on our Upper Lakes. I have been told of their congregating so as to form large flocks of a thousand individuals, but have never seen so many together. Their flesh is extremely delicate and juicy, and on this account small strings of them are frequently seen in the New Orleans market, during the short period of their sojourn in that district. Towards the spring, the males have a tolerably agreeable song.

The twig on which you see them is one of the *tupelo*, a tree of great magnitude, growing in the low grounds of the State of Louisiana, and on one of which I happened to shoot the pair represented in the plate.

The principal breeding places of this species are in the range of the Alleghany Mountains, and their spurs, commencing in the State of Virginia, and continuing eastward. It is merely a summer resident in the Fur Countries, where it is not common, and where it was not met with by Dr. Richardson beyond the 57th parallel. I did not find it in Labrador, nor does it occur on the Rocky Mountains, where it seems to be represented by *Fringilla oregona*. My friend Dr. Bachman has seen it in the breeding season (June) in the mountainous districts of Virginia, in considerable

numbers. At this season it has a sweet note. In July the young were full grown, and kept among the huckleberry bushes. It arrives in South Carolina in November, and departs in March. When kept in aviaries in that State, it appears to suffer much from heat, bathing frequently to cool itself, but it never breeds, and is always silent.

My friend Dr. T. M. Brewer of Boston, has sent me the following account of the nest and eggs, as found among the mountains in Oswego county, in the State of New York, by Mr. Edward Appleton:—"The nests were all situated on the ground, some of them having concealed entrances in the same manner as is frequently practised by the Song Sparrow, and their complement of eggs was four. The external diameter of the nest given me was four and a half inches, its internal two and a half, the internal depth an inch and a half, the external about two. It is composed of stripes of bark, straw roots, and horse-hair, lined with fine moss and the soft hair of small quadrupeds. In size and appearance it is not unlike the nest of the common *Fringilla melodia*. The eggs measure six-eighths of an inch in length, five-eighths in breadth, and are more nearly spherical than any of the eggs of this genus with which I am acquainted. Their ground-colour is yellowish-white, thickly covered with small dots of a reddish-brown colour; in the broadest part of the egg the spots are more numerous and confluent, forming a crown or belt, but at the end they are more sparse.

Distributed, in winter, over the Southern, Western, and Middle Districts, as far as the base of the Rocky Mountains, and in the Fur Countries. Breeds from Maryland eastward, on the mountains. Very abundant.

Snow-bird, *Fringilla nivalis*, Wils. Amer. Orn., vol. ii. p. 129.
Fringilla hyemalis, Bonap. Syn., p. 109.
Fringilla hyemalis, *Black Finch*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 259.
Common Snow-bird, *Fringilla Hudsonia*, Nutt. Man., vol. i. p. 491.
Snow-bird, *Fringilla hyemalis*, Aud. Orn. Biog., vol. i. p. 72; vol. v. p. 505.

Adult Male.

Bill short, rather small, conical, very acute; upper mandible a little broader than the lower, very slightly declinate at the tip, rounded on the sides, as is the lower, which has the edges inflected and acute; the gap-line straight, not extending to beneath the eye. Nostrils basal, roundish, concealed by the feathers. Head rather large. Neck short. Body full. Legs of moderate length, slender; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws very slender, greatly compressed, acute and slightly arched, that of the hind toe little larger.

Plumage soft and blended. Wings shortish, curved, rounded, the third

Oregon Snow Bird.

1. Male 2. Female

Rosa Lacrigata

Drawn from Nature by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Philad.a

and fourth quills longest, the second nearly as long, the first little shorter. Tail long, forked, the lateral feathers curved outwards a little towards the tip.

Bill white, tinged with red, dark coloured at the tip. Iris blackish-brown. Feet and claws flesh-coloured. Head, neck, fore part of the breast, back, wings and upper part of the sides blackish-grey, deeper on the head. Quills margined with whitish; tail of the same dark colour as the wings, excepting the two outer feathers on each side, which are white, as are the lower breast and abdomen.

Length $6\frac{1}{4}$ inches, extent of wings 9; beak $\frac{1}{3}$ along the ridge, $\frac{1}{2}$ along the gap; tarsus $\frac{3}{4}$, middle toe $\frac{1}{2}$.

Adult Female.

The female differs from the male in being of a lighter grey, tinged on the back with brown. Length $5\frac{1}{2}$ inches.

OREGON SNOW-BIRD.

Niphæa Oregona, *Towns.*

PLATE CLXVIII.—Male and Female.

This species, which is so nearly allied to our Common Snow-bird, is another of those recently added to our Fauna by Mr. Townsend, from whom I purchased several specimens. All that I know of its habits is derived from the following notice given me by Mr. Nuttall. "It was first seen by us in the woods of the Columbia, in the autumn and winter, flitting about in small flocks, always in the forest, never in the open fields, or on the way-sides. At this time they rarely utter an occasional chirp, or remain wholly silent. We afterwards saw them inhabiting the same woods throughout the summer, in diminished numbers, or in pairs, but I do not recollect hearing them utter any song, though they are probably not silent in the season of breeding. With the nest, eggs, and young I am not acquainted."

I have represented the male and female from specimens procured by Mr. Townsend on the Columbia river, on the 5th of October, 1834.

Columbia river. Common. Migratory.

FRINGILLA OREGONA, *Oregon Snow-Finch*, Towns., Jour. Acad. Nat. Sc. Philadelphia, vol. vii. p. 188.

OREGON SNOW-FINCH, *Fringilla Oregona*, Aud. Orn. Biog., vol. v. p. 68.

Adult Male.

Bill short, rather small, conical, considerably compressed, acute; upper mandible a little broader than the lower, its dorsal line straight, slightly declinate at the tip, the sides convex, the edges slightly inflected, but overlapping; the gap-line straight; lower mandible with the angle short and rounded, the dorsal line straight, the sides convex, the edges a little inflected, the tip acute. Nostrils basal, roundish, concealed by the feathers.

Head rather large, broadly ovate; neck short; body full. Feet of moderate length; tarsus rather short, stout, with seven anterior scutella, of which the upper are blended, sharp-edged behind; toes rather strong, the first stout, the middle one considerably longer than the lateral, which are equal; claws rather long, arched, compressed, laterally grooved, tapering to a fine point.

Plumage very soft and blended. Wings shortish, curved, rounded, the first quill three and a half twelfths of an inch shorter than the second, which is half a twelfth shorter than the third, and about the same length as the fourth; the secondaries rounded. Tail rather long, slightly emarginate.

Bill reddish-white, the tip dusky. Iris hazel. Feet and claws flesh-coloured. The head, neck all round, and a portion of the breast black, the feathers faintly margined with grey; the rest of the lower parts white, excepting the sides, which are tinged with brown. The fore part of the back is dark reddish-brown, the hind parts dull grey. The smaller coverts, secondary coverts and inner secondaries are dusky, with broad light-brown margins; the primary coverts and the rest of the quills brownish-black, narrowly edged with brownish-white. The tail is of the same dark colour as the wings, excepting the two outer feathers on each side, which are white; the second, however, having a part of the outer web dusky, and the third having a white streak on the inner web toward the end.

Length to end of tail $6\frac{1}{4}$ inches; bill along the ridge $\frac{4\frac{3}{4}}{12}$; wing from flexure $3\frac{1}{12}$; tail $2\frac{7\frac{1}{2}}{12}$; tarsus $\frac{10}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{3\frac{3}{4}}{12}$.

Adult Female.

The female has the bill and feet coloured like those of the male. The head and neck are blackish-grey, the feathers edged with paler; the back and wing-coverts dull reddish-brown; the wings and tail as in the male; the breast and abdomen white, the sides pale reddish-brown.

Length to end of tail $5\frac{3}{4}$ inches; bill along the ridge $\frac{5}{12}$; wing from flexure 3; tail $2\frac{7}{12}$; tarsus $\frac{9\frac{1}{2}}{12}$; hind toe and claw $\frac{6\frac{1}{2}}{12}$; middle toe and claw $\frac{9\frac{1}{2}}{12}$.

Genus IV.—SPIZA, *Bonap.* PAINTED-BUNTING.

Bill short, moderately stout, conical, acute; upper mandible rather narrower, with the dorsal line somewhat convex, the ridge narrow, the sides sloping and a little convex, the edges inclining upwards for a third of their length, then direct, with a slight notch close to the narrow declinate tip; lower mandible with the angle short and rounded, the dorsal line very slightly convex, the sides rounded, the edges involute, the tip acute. Nostrils basal, roundish, partly concealed by the feathers. Head broadly ovate; neck short; body rather full. Feet of moderate length; tarsus much compressed, with seven scutella; toes of moderate size, hind toe large, lateral equal. Claws slender, compressed, well arched, acute. Plumage full, soft, and blended. Wings of moderate length, the second and third quills longest, the first about equal to the fourth. Tail of moderate length, emarginate. Palate anteriorly with their narrow ridges, forming a large oblong hard knob at their base; tongue higher than broad, deeply grooved above, pointed; œsophagus dilated into a crop; stomach elliptical, muscular; intestine of moderate length; cœca very small.

PAINTED BUNTING.

Spiza Ciris, *Wils.*

PLATE CLXIX.—Male in different states of Plumage, and Female.

About the middle of April, the orange groves of the lower parts of Louisiana, and more especially those in the immediate vicinity of the City of New Orleans, are abundantly supplied with this beautiful little Finch. But no sooner does it make its appearance than trap-cages are set, and a regular business is commenced in the market of that city. The method

employed in securing the male Painted Finch is so connected with its pugnacious habits, that I feel inclined to describe it, especially as it is so different from the common way of alluring birds, that it may afford you, kind reader, some amusement.

A male bird in full plumage is shot and stuffed in a defensive attitude, and perched among some grass-seed, rice, or other food, on the same platform as the trap-cage. This is taken to the fields or near the orangeries, and placed in so open a situation, that it would be difficult for a living bird of any species to fly over it, without observing it. The trap is set. A male Painted Finch passes, perceives it, and dives towards the stuffed bird, with all the anger which its little breast can contain. It alights on the edge of the trap for a moment, and throwing its body against the stuffed bird, brings down the trap, and is made prisoner. In this manner, thousands of these birds are caught every spring. So pertinacious are they in their attacks, that even when the trap has closed upon them, they continue pecking at the feathers of the supposed rival. The approach of man seems to allay its anger in a moment. The live bird is removed to the lower apartment of the cage, and is thereby made to assist in decoying others.

They feed almost immediately after being caught; and if able to support the loss of liberty for a few days, may be kept for several years. I have known some instances of their being kept in confinement for upwards of ten years. Few vessels leave the port of New Orleans during the summer months, without taking some Painted Finches, and through this means they are transported probably to all parts of Europe. I have seen them offered for sale in London and Paris, with the trifling difference of value on each individual, which converted the sixpence paid for it at New Orleans to three guineas in London.

The pugnacious habits of this species are common in a great degree to the whole family of Sparrows. Like the most daring, the Common House Sparrow of Europe, they may be observed in spring time, in little groups of four, five or six, fighting together, moving round each other to secure an advantageous position, pecking and pulling at each other's feathers with all the violence and animosity to which their small degree of strength can give effect.

A group thus occupied I have attempted to represent in the plate. I have at the same time endeavoured to save you the trouble of reading a long description of the changes which take place in their plumage, from the time at which the young leave the nest, until the second year following, when the males attain the full beauty of their brilliant livery.

The flight of the *Pape*, by which name the Creoles of Louisiana know this bird best, is short, although regular, and performed by a nearly constant

Painted Bunting

1. 2. 3. Males in different States of Plumage 4. Female.

Chicasaw Wild Plum.

Drawn from Nature by J. J. Audubon F.R.S. F.L.S

Lith.d Printed & Col.d by J. T. Bowen Phila.d

motion of the wings, which is rendered necessary by their concave form. It hops on the ground, moving forward with ease, now and then jetting out the tail a little, and, like a true Sparrow, picking up and carrying off on wing a grain of rice or a crum of bread to some distance, where it may eat in more security. It has a sprightly song, often repeated, which it continues even when closely confined. When the bird is at liberty, this song is uttered from the top branches of an orange-tree, or those of a common briar, and although not so sonorous as that of the Canary, or of its nearer relative, the Indigo Bunting, is not far from equalling either. Its song is continued during the greatest heats of the day, which is also the case with that of the Indigo-bird.

The nest of this pretty bird is generally placed in a low situation, in an orange-tree, frequently within a few paces of the house, or far from it on the edge of the fences, where briars are convenient. It raises two broods each season. The eggs are four or five, of a beautiful pearly, rather bluish colour, speckled with blackish, and are deposited in a simply constructed nest, lined with fine fibrous roots or horse-hair, and externally formed of fine grass. They readily breed in confinement, if their prison is rendered tolerably comfortable. The young are fed at first in the manner of Canaries, but at the end of ten or twelve days are taught to swallow grains of rice, insects or berries. No sooner are figs or grapes ripe than these birds attack them, feeding for some time almost entirely upon them. Towards evening they also pursue insects on wing.

Some persons give the name of *Nonpareil* to this species, but it is more commonly known by the name of *Pape*, which, in fact, is a general appellation given by the inhabitants of Louisiana to all the smaller species of thick-billed birds.

The Painted Finches do not proceed far eastward, nor, indeed, up the Mississippi, being seldom seen above the city of Natchez, on that river, or farther to the east than the Carolinas. It retires southward in the beginning of October.

My friend Dr. Bachman has favoured me with the following very interesting notice regarding its change of plumage, which is greatly at variance with Wilson and other writers. "I have kept these birds for many years in aviaries. The males and females of a year old were of a uniform colour, but I have invariably found them to assume their perfect plumage in the second year. This bird could be easily domesticated and multiplied in Europe, in the manner of the Canary. I have had them to raise three broods of young in the year in confinement. The plumage, however, in this state, was never so brilliant as when wild."

The *Chickasaw wild plum*, on a twig of which I have represented a

group of these birds, is found growing abundantly in the country where the birds occur. It is a small shrub, the fruit of which is yellow when ripe, and excellent eating.

From Texas to North Carolina, and up the Mississippi to Natchez. Abundant. Migratory.

PAINTED BUNTING, *Emberiza Ciris*, Wils. Amer. Orn., vol. iii. p. 68.
FRINGILLA CIRIS, Bonap. Syn., p. 107.
PAINTED BUNTING, Nutt. Man., vol. i. p. 477.
PAINTED FINCH, *Fringilla Ciris*, Aud. Orn. Biog., vol. i. p. 279; vol. v. p. 517.

Adult Male, in full plumage.

Bill short, robust, conical, somewhat bulging, straight, acute; upper mandible broader, slightly declinate at the tip; gap-line a little declinate at the base. Nostrils basal, roundish, partly concealed by the frontal feathers. Head and neck rather large. Body full. Feet of moderate length; tarsus a little longer than the middle toe; toes free, the lateral ones nearly equal; claws compressed, arched, acute.

Plumage blended, tufty, somewhat compact on the head and back. Wings of ordinary length, the third quill longest. Tail shortish, even, of twelve rounded feathers.

INDIGO BUNTING.

SPIZA CYANEA, *Wils.*

PLATE CLXX.—MALE, FEMALE, AND YOUNG.

The species here presented for inspection is best known to the Creoles of Louisiana by the name of *Petit Papebleu.* This is in accordance with the general practice of the first settlers of that State, who named all the Finches, Buntings, and Orioles, *Papes;* and all the Warblers and Fly-catchers, *Grassets.* They made an exception, however, in favour of the Rice-bird, which they honoured with the name of *Ortolan*, an appellation given in the Island of St. Domingo to the Ground Dove, which, however, is seldom seen near New Orleans.

Indigo Bunting

1. 2. 3. Males in different States of Plumage 4. Female

Wild Sarsaparilla

Lith.d Bordet & Col.d by J. T. Bowen. Philad.a

The Indigo-bird arrives in the Southern States from the direction of Mexico, along with its relative the Painted Finch, and is caught in trap-cages, but with more difficulty than the latter bird. It spreads far and wide over the United States, extending from the borders of our Atlantic shores to those of our great lakes. It is not a forest bird, but prefers the skirts of the woods, the little detached thickets in and along the fields, the meadows, the gardens, and orchards, and is frequently seen hopping along, or perched on a fence, from which it does not disdain to send forth its pretty little song. The highest top of a detached tree is, however, preferred for this purpose, and the Indigo-bird is to be observed perched on this pinnacle, singing at short intervals for half an hour at a time. Its song is at first loud and clear, falling in cadences to a very low key. The whole consists of eight or ten notes. The bird now and then launches into the air, to cross a field, and sings until it has espied a favourite spot amongst the clover, when it immediately becomes silent and dives to the ground. The whole of this parade is performed by the male, which is alone to be seen, the female at this season keeping amongst the grass or the briars along the fields, where her humble plumage hides her in a great measure from observation. Some persons have thought that this practice was changed towards the latter part of summer, when, by a casual observer, only the females are to be seen. The true reason of this, however, is, that the young birds of both sexes resemble the mother during the first season.

The Indigo-bird is an active and lively little fellow, possesses much elegance in his shape, and also a certain degree of firmness in his make, which renders him equally a favourite with the Painted Finch, although he does not possess the variegated plumage of the latter. When the male of the species now before you is in full plumage, the richness of his apparel cannot fail to attract and please the eye of any observer. It is highly glossy, and changes from the brightest azure to green, when placed in a strong light. It requires three years to attain this perfect state. The female continues in the same very humble vesture which nature first accorded to her. The males, in the first spring, and not unfrequently during the first autumn, are mottled with dull light blue, interspersed among the original deep buff of their earlier stage. The blue increases in extent, and acquires a deeper tint, as the age of the bird advances. I have often seen males two years old which were still much inferior in the beauty of their plumage to those which had passed through three springs. Should the birds be caught when in full plumage, they gradually lose their brilliant tints, which at length become extremely dull. A similar alteration is observed to take place in Painted Finches which have been kept in cages for a certain period, as well as in the

Baltimore and Orchard Orioles, and in the Bulfinch, Chaffinch, and other European birds.

The nest of the Indigo-bird is usually fixed amongst the rankest stalks of weeds or grass, now and then amongst the stems of a briar, or even in a small hollow in a decayed tree. In all cases its composition is the same; but when amongst grass, clover, or briars, it is attached to two or three of the stalks by its sides. It is formed of coarse grasses, hemp stalks, and flax, and is lined with slender grasses. The female lays from four to six eggs, which are blue, with a spot or two of purple at the larger end.

Towards fall, the young congregate into loose flocks or parties of eight or ten individuals, and proceed southward. I think their migration, at both periods of the year, is performed during night. Two broods are generally raised in a season. The food of the Indigo-bird consists of small seeds of various kinds, as well as insects, some of which it occasionally pursues on wing with great vigour. They are fond of basking and rolling themselves in the roads, from which they gather small particles of sand or gravel. I have frequently seen live birds of this species offered for sale in Europe.

I have represented an adult female, two young males of the first and second year, in autumn, and a male in the full beauty of its plumage. They are placed on a plant usually called the *wild sarsaparilla.* It grows in Louisiana, on the skirts of the forests, in low damp places, and along the fields, where the Indigo-birds are to be found. It is a creeping plant, and is considered valuable on account of its medicinal properties.

I observed this species breeding in the Texas late in April, and it would appear from a note sent by my friend Dr. T. M. Brewer of Boston, that it reaches the neighbourhood of that city early in June, but does not commence its nest there until the latter part of that month, or early in July. He further states that it "is abundant near Boston, and when it arrives in spring generally chooses the highest chimney-tops to alight upon. They appear much attached to particular districts. A pair has now for five years in succession built in my father's garden, but this year, something would seem to have befallen them, for they have not made their appearance. One year they raised a second brood. This is the only instance in which I have known them to do so. The nest is usually placed in a bush or low tree, about three feet from the ground, and with us has uniformly been built of Russia matting, purloined from our grape-vines, lined with fine grass and hair. The eggs, four in number, are eleven-sixteenths of an inch in length, seven-sixteenths in breadth, and of a uniform white colour, without the slightest blotch or mark. I have never met with an egg having this purple blotch at the larger end, which you and Wilson mention as existing there,

although my observations are taken from the contents of more than eight nests. The second brood spoken of above was hatched in September."

I have before me at this moment an egg of the Indigo-bird procured by myself, which has several dots toward the larger end, and of which the general colour is not pure white, but, as described by NUTTALL, greenish-white, or rather, as I would call it, lightish-blue.

Distributed throughout the United States during summer. Abundant. Migratory.

INDIGO-BIRD, *Fringilla cyanea*, Wils. Amer. Orn., vol. i. p. 100.
FRINGILLA CYANEA, Bonap. Syn., p. 107.
INDIGO-BIRD, Nutt. Man., vol. i. p. 473.
INDIGO-BIRD, *Fringilla cyanea*, Aud. Orn. Biog., vol. i. p. 377; vol. v. p. 503.

Male in full plumage.

Bill short, robust, conical, a little bulging, straight, acute; upper mandible broader, slightly declinate at the tip; gap-line a little declinate at the base. Nostrils basal, roundish, partially concealed by the frontal feathers. Head rather large. Neck of ordinary size. Body ovate. Feet of ordinary length, rather slender; tarsus covered anteriorly with a few scutella, the uppermost long, posteriorly edged; toes free, scutellate above; claws slender, compressed, arched, acute.

Plumage glossy, somewhat silky, blended. Wings of ordinary length, the second and third quills longest. Tail of ordinary length, distinctly emarginate, of twelve obtuse feathers.

Bill brownish-black, light blue beneath. Iris dark brown. Feet yellowish-brown. The general colour is a rich sky-blue, deeper on the head, lighter beneath, and in certain lights changing to verdigris-green. The quills, larger wing-coverts, and tail-feathers dark brown, margined externally with blue.

Length $5\frac{1}{4}$ inches, extent of wings $7\frac{1}{2}$; bill along the ridge $\frac{1}{3}$, along the gap nearly $\frac{1}{2}$; tarsus $\frac{3}{4}$.

Male in the second year.

Bill lighter, irides and feet as in the adult. Head, neck and body, blue, but of a lighter tint; tail as in the adult; wings, including the lesser coverts, dull brown, the secondary coverts and some of the quills margined with blue.

Male in the first autumn.

Bill, irides and feet as in the last. Head and body of a lighter and duller blue, interspersed with brown patches; wings brown, secondary coverts tipped with whitish.

Adult Female.

Bill light brown, tinged with blue. Iris hazel. Feet yellowish-brown. The general colour is light yellowish-brown, the under parts and the sides of the head lighter; the wings deep brown, margined with lighter. The female is also considerably smaller.

The Wild Sarsaparilla.

Schisandra coccinea, *Mich.*, Flor. Amer., vol. ii. p. 218. *Pursch*, Flor. Amer., vol. i. p. 212.—Pentandria Polygynia, *Linn.*

A climbing shrubby plant, distinguished by its carmine-coloured flowers, consisting of nine sepals; its numerous, one-seeded berries, and elliptico-lanceolate leaves, acute at both ends, and supported upon a long petiole.

LAZULI FINCH.

Spiza Amœna, *Say.*

PLATE CLXXI.—Male and Female.

The Lazuli Finch, one of the handsomest of its tribe, was added to our Fauna by Thomas Say, who procured it in the course of Long's expedition already mentioned. A figure of the only specimen then obtained was given in the continuation of Wilson's American Ornithology by the Prince of Musignano. It has been my good fortune to procure a fine pair from Mr. Townsend, who shot them on the Columbia river, on the 3d of June, 1836, so that I have been enabled to represent the female, which has not hitherto been figured, as well as the male. That enterprising naturalist has informed me, that "the Chinook Indians name this species *Tilkonapaooks*, and that it is rather a common bird on the Columbia, but is always shy and retiring in its habits, the female being very rarely seen. It possesses lively and pleasing powers of song, which it pours forth from the top branches of moderate-sized trees. Its nest, which is usually placed in the willows along the margins of the streams, is composed of small sticks, fine grasses, and cow or buffalo hair."

A nest of this species presented to me by Mr. Nuttall, who found it on

Lazuli Finch.

1. Male 2 Female

Wild Spanish Coffee

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Phila.d

the Columbia river, is fastened between the stem and two branches of a large fern, round which many of the fibres are woven. It is funnel-shaped, six inches in length, three inches in breadth externally at the mouth, from which it gradually tapers. Internally its diameter at the mouth is two inches, and its depth three. It is composed of fibrous lichens, mosses, decayed leaves and grasses, of coarse texture and rudely interwoven. It is lined with finer fibres and a few horse-hairs.

From the Arkansas to the Columbia river. Never seen near the Atlantic coast. Plentiful. Migratory.

EMBERIZA AMŒNA, Say, Long's Exped.
LAZULI FINCH, *Fringilla amœna*, Bonap. Amer. Orn., vol. i. p. 61.
FRINGILLA AMŒNA, Bonap. Syn., p. 106.
LAZULI FINCH, Nutt. Man., vol. i. p. 478.
LAZULI FINCH, *Fringilla amœna*, Aud. Orn. Biog., vol. v. p. 64, and p. 230.

Adult Male in summer.

Bill short, robust, conical, a little bulging, straight, acute; upper mandible broader, its dorsal outline somewhat convex, the ridge narrow, the sides sloping and a little convex, the edges sharp, with a slight notch close to the narrow declinate tip; gap-line a little deflected at the base; nostrils basal, roundish, partly concealed by the feathers; lower mandible with the angle short and rounded, the dorsal line ascending and very slightly convex, the sides rounded, the edges involute, the tip acute.

Head of moderate size, broadly ovate; neck short; body rather full. Feet of ordinary length; tarsus much compressed, covered anteriorly with seven scutella, of which the upper are blended, posteriorly with two long plates, meeting so as to form a very thin edge; toes free, of moderate size, the first large, the lateral equal, the middle toe longer than the first. Claws slender, compressed, well arched, acute.

Plumage full, soft, blended. Wings of ordinary length, the second and third quills longest, the first nearly one-twelfth of an inch shorter and about equal to the fourth; outer secondaries slightly emarginate, inner not elongated. Tail of moderate length, emarginate, of twelve obtuse feathers.

Bill and feet brownish-black. The head and neck all round are of a beautiful greenish-blue, as are the hind part of the back and rump; the loral space black; the fore part of the back, the scapulars, the wings and tail are brownish-black, all the feathers margined with blue; the wing crossed by a conspicuous white band formed by the first row of small coverts, and an obscure band of bluish-white formed by the tips of the secondary coverts. On the fore part of the breast is a broad band of light brownish-red; the

sides, lower wing-coverts, and tibial feathers are bluish-grey; the rest of the lower parts white.

Length to end of tail $5\frac{6}{12}$ inches; bill along the ridge $\frac{4\frac{3}{4}}{12}$; wing from flexure $3\frac{1}{12}$; tail $2\frac{4\frac{1}{2}}{12}$; tarsus $\frac{8}{12}$; hind toe $\frac{3}{12}$, its claw $\frac{3}{12}$; middle toe $\frac{6\frac{1}{2}}{12}$, its claw $\frac{2\frac{3}{4}}{12}$.

Adult Female.

The female has the bill and feet like those of the male; the upper parts light greyish-brown, the hind part of the back and the rump greenish-blue, but of a faint tint; the cheeks and throat pale reddish-grey; the lower part of the neck, and the fore part of the breast light greyish-red; the sides, lower wing-coverts, and tibial feathers light brownish-grey, the rest of the lower parts white. The wings and tail are blackish-brown, the feathers slightly edged with blue; the transverse bar on the wing narrower than in the male, and brownish-white.

Length to end of tail $5\frac{4}{12}$ inches; bill along the ridge $\frac{4\frac{3}{4}}{12}$; wing from flexure $2\frac{10}{12}$; tail $2\frac{1}{4}$; tarsus $\frac{7\frac{1}{2}}{12}$, hind toe and claw $\frac{6}{12}$; middle toe and claw $\frac{10}{12}$.

Wild Spanish Coffee.

Cassia occidentalis, *Willd.*, Sp. Pl., vol. ii. p. 518. *Pursch*, Flor. Amer., vol. i. p. 305. —Decandria Monogynia, *Linn.*—Legugiminosæ, *Juss.*

This species is distinguished by its ovato-lanceolate, quinquejugate leaves, scabrous at the margin, the outer larger; its many-flowering capillary and somewhat panicled peduncles; and its linear, falciform legumes. It flowers through the summer, and grows chiefly in old fields, in the Southern States.

Sea Side Finch

Male & Female

Cactus Flow.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Philad.

Genus V.—AMMODRAMUS, *Swains.* SHORE-FINCH.

Bill rather long, being little shorter than the head, rather slender, straight, considerably compressed, acute; upper mandible with the dorsal line considerably convex, the ridge narrow, the sides convex, the edges inflected, with a slight festoon about the middle, and a faint notch, close to the tip, which is deflected and acute; lower mandible with the angle short and rounded, the dorsal line ascending and straight, the ridge rounded, the sides convex, the edges involute, the tip acute. Nostrils small, elliptical, basal, partially concealed by the plumage. Head ovate; neck short; body slender. Tarsus rather short, stoutish, compressed, with seven scutella; toes rather long, hind toe large, outer shorter than inner, and adherent at the base. Claws long, slender, little arched, much compressed, laterally grooved, tapering to a fine point. Plumage soft and blended, with the filaments stiffish and disunited. No bristles. Wings short, convex, rounded, the second, third, and fourth quills longest, the first considerably shorter. Tail of moderate length, graduated, slender, of twelve narrow, acuminate feathers. No difference in the colours of the sexes.

SEA-SIDE FINCH.

Ammodramus maritimus, *Wils.*

PLATE CLXXII.—Male and Female.

The monotonous chirpings which one hears in almost every part of our maritime salt-marshes, are produced by this bird and another nearly allied to it. The Sea-side Finch may be seen at any hour of the day, during the months of May and June, mounted on the tops of the rankest weeds which grow by the margins of tide-waters along the greater portion of our Atlantic

coast, whence it pours forth with much emphasis the few notes of which its song is composed. When one approaches it, it either seeks refuge amongst the grass, by descending along the stalks and blades of the weeds, or flies off to a short distance, with a continued flirting of its wings, then alights with a rapid descent, and runs off with great nimbleness. I am inclined to believe that it rears two broods in the season, as I have found birds of this species sitting on their eggs early in May, and again in the beginning of July. The nest is placed so close to the ground that one might suppose it partly sunk in it, although this is not actually the case. It is composed of coarse grasses externally, and is lined with finer kinds, but exhibits little regularity in its structure. The eggs are from four to six, of an elongated oval form, greyish-white, freckled with brown all over. The male and the female sit alternately, and will not fly off at the sight of man, unless he attempts to catch them on the nest, when they skulk off as if badly wounded. Many nests may be found in the space of a few acres of these marshes, where the land is most elevated, and where small shrubs are seen. They select these spots, because they are not liable to be overflowed by high floods, and because there are accumulated about them drifted sand, masses of sea-weed, and other castings of the sea, among which they find much food of the kind which they seem to prefer. This consists of marine insects, small crabs and snails, as well as the green sand beetle, portions of all of which I have found in their stomach.

It is very difficult to shoot them unless when they are on wing, as their movements while they run up and down the weeds are extremely rapid; but their flight is so direct and level, that a good marksman can easily kill them before they alight amongst the grass again. After the young are well grown, the whole of these birds betake themselves to the ditches or sluices by which the salt-marshes are intersected, fly along them, and there find abundant food. They enter the larger holes of crabs, go into every crack and crevice of the drying mud, and are then more difficult to be approached, as the edges of these ditches are usually overgrown with taller and ranker sedges. Having one day shot a number of these birds, merely for the sake of practice, I had them made into a pie, which, however, could not be eaten, on account of its fishy savour.

The *rose* on which I have drawn these birds is found so near the sea, on rather higher lands than the marshes, that I thought it as fit as any other plant for the purpose, more especially as the Finches, when very high tides overflow the marshes, take refuge in these higher grounds. It is sweetly scented, and blooms from May to August. I have never met with it elsewhere than on the small sea islands and along the coasts, where it grows in loose sandy soil.

From Texas to Massachusetts along the shores of the Atlantic. Resident in the Southern States. Abundant.

SEA-SIDE FINCH, *Fringilla maritima*, Wils. Amer. Orn., vol. iv. p. 68.
FRINGILLA MARITIMA, Bonap. Syn., p. 110.
SEA-SIDE FINCH, *Fringilla maritima*, Nutt. Man., vol. i. p. 505.
SEA-SIDE FINCH, *Fringilla maritima*, Aud. Orn. Biog., vol. i. p. 471.

Third and fourth quills longest, first and eighth equal; tail graduated; upper parts brownish-grey, tinged with olivaceous, two faint longitudinal bands of darker on the head; the feathers on the fore part of the back brown in the centre; margin of the wing at the flexure light yellow, smaller wing-coverts and outer webs of secondary coverts dull reddish-brown; quills and tail-feathers dusky brown, edged with pale brownish-grey; a yellow band from the base of the upper mandible over the eye, fainter behind; throat greyish-white, with a longitudinal bluish-grey band on each side; lower part of neck, fore part of breast and sides light bluish-grey, streaked with light olivaceous-brown; middle of breast pale grey, abdomen white, lower tail coverts pale yellowish-brown, with a central dusky streak.

Male, 8, 11.

THE CAROLINA ROSE.

ROSA CAROLINA, *Pursch*, Flor. Amer., p. 345.—ICOSANDRIA POLYGYNIA, *Linn.*—ROSACEÆ, *Juss.*

This beautiful species, which attains a height of five or six feet, is generally characterized by its globose germens, which, with the peduncles, are more or less hispid; its hairy petioles, slightly curved prickles, and oblongo-lanceolate, acute, serrated leaflets, which are glaucous beneath. It varies greatly, however, like many other species of the same genus.

MACGILLIVRAY'S SHORE-FINCH.

Ammodramus Macgillivrayi, *Aud.*

PLATE CLXXIII.—Male and Female.

Whilst Bachman's Finch resides in the pine forests of the Carolinas and other Southern States, preferring dry and sandy lands covered with grasses; and whilst Henslow's Bunting or Finch, and the Yellow-winged Bunting, are fond of open prairies and ploughed fields, in which they nestle; the species, on which I have bestowed the name of my friend Macgillivray, chooses for its residence the salt marshes of our Southern Atlantic shores, in which also are found the Sharp-tailed and Sea-side Finches of Wilson and other authors. The three former spend the greater part of the winter in the forests, perch occasionally on trees, and feed principally on seeds; whereas the latter three are never found elsewhere than in the salt marshes, and feed chiefly on minute shells and aquatic insects.

Macgillivray's Finch is as yet very rare within the United States, and has not been observed farther eastward than Sullivan Island, about six miles from Charleston in South Carolina; but it is very abundant in the Texas, occurring on all the low islands that are much intersected by salt-water bayous, and interspersed with ponds of brackish water, seldom leaving these localities unless whilst travelling, or passing from one island to another, which they do by flying at the height of only a few feet above the surface. They run among the rankest weeds with uncommon celerity, and do not seem to mind being followed by a dog, which they very easily elude amongst the thick grass. Whilst breeding they often start from a little distance, and pursue a singularly irregular or zigzag flight, much resembling that of the Jack Snipe of Europe, and yet performed with apparently slow beats of the wings. They fall as it were among the grass as suddenly as they rise from it, and by these manœuvres save their nests from the searching eye of the keenest student of nature. They very seldom alight on the stems of grasses, although when they do they climb with facility, occasionally using their tail as a support, in the same manner as the Rice-bird. Their strong tarsi and toes enable them to walk on the ground with great vigour. When they take wing deliberately, their flight resembles that of a young partridge, and, if over the land, is seldom extended beyond forty or fifty yards at a time. The males appear very jealous of each other, and frequently one pursues

R.T.

Macgillivray's Shore-Finch

1. Male 2. Female

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Phiad.

another on wing, but usually abandons the chase before the conquered bird has alighted, leaving it to pursue its course as it pleases after it has been driven beyond the assailant's jurisdiction. The notes of this species are few and unmusical, consisting of a sort of roll of five or six syllables, which it seems to me impossible to imitate. They are usually heard early in the morning. My friend Dr. BACHMAN informs me that none of these Finches remain in South Carolina during winter, and that they generally disappear early in November, when the weather is still very pleasant in the maritime portions of that state. Many, however, spend the winter in the salt marshes about the mouths of the Mississippi, and I have no doubt that they are constant residents there, as they are in the Texas.

Abundant in Texas and along the Gulf of Mexico. Rather rare in South Carolina, from which it migrates in autumn.

MACGILLIVRAY'S FINCH, Aud. Orn. Biog., vol. ii. p. 285; vol. iv. p. 394; vol. v. p. 499.

Bill dusky brown above, the sides of the upper mandible paler, the lower mandible bluish-grey. Iris hazel. Feet dark brown. The colouring is similar to that of *A. maritimus* in the upper parts, and to that of *A. caudacutus* in the lower, but is darker above than the former, and duller beneath than the latter. Feathers of the head brownish-black, margined with dull greyish-brown, but not grey in the middle nor darker towards the sides, as in the other species. Hind neck and back of the same colour, the middle of the latter having some of the margins pale reddish-brown. Primary quills hair-brown; secondary dark brown, edged with reddish-brown; the secondary and smaller coverts like the latter; the edge of the wing white, slightly tinged with yellow. Tail-feathers hair-brown at the edges, the centre blackish-brown, except the lateral, which are plain, but scarcely paler. A yellowish-brown streak from the nostrils over the eye. Throat and fore neck greyish-white, with an indistinct dusky streak on each side. Breast and sides pale dull yellowish-brown, marked with brownish-black streaks. The middle of the breast and the abdomen greyish-white, tinged with yellowish-brown.

Length $5\frac{1}{2}$ inches, extent of wings $7\frac{3}{4}$; bill along the back $\frac{6\frac{1}{2}}{12}$, along the edge $\frac{8}{12}$; tarsus $\frac{11}{12}$.

SHARP-TAILED FINCH.

AMMODRAMUS CAUDACUTUS, *Lath.*

PLATE CLXXIV.—MALE, FEMALE, AND NEST.

This species and the *Ammodramus maritimus* spend the winter among the salt marshes of South Carolina, where I have observed thousands of both late in December, and so numerous are they, that I have seen more than forty of the latter killed at one shot. At that season, the neighbourhood of Charleston seems to be peculiarly suited to their habits, and there they are found in great abundance along the mouths of all the streams that flow into the Atlantic. When the tide is out, they resort to the sedgy marshes, but on the approach of the returning waters, they take wing and alight along the shores and on the artificial banks formed for the protection of the rice fields.

The flight of this species is so different from that of any other Finch, that one can easily know them at first sight, if he only observes that when flying from one spot to another, they carry the tail very low. During winter, both species are provided with an extra quantity of feathers on the rump. This circumstance has not a little surprised me, when I found them residing in a climate where the Blue Heron (*Ardea cœrulea*) also is now and then to be seen in the young state during winter. I am indeed of opinion that most birds of this species and of the other remain here the whole year, and that if some go farther south, they must be the weaker and younger birds, whose constitution is unable to bear the least degree of cold.

These Finches keep so much about the water, that they walk upon the floating weeds as unconcernedly as if on land, or on any drifting garbage raised from the mud at high tides; they congregate and feed together, and doubtless are constant companions until the spring, when these species separate for the purpose of breeding.

The Sharp-tailed Finch is rather silent, a single *tweet* being all that I have heard it utter. In spring their attempts to sing can hardly be said to produce a series of notes that can be dignified by the name of song. They feed on the smaller species of shell-fish, on shrimps, and aquatic insects or crustacea, as well as on the seeds of the grasses growing on the grounds which they inhabit.

Within a few years this species has extended its range towards the eastern

R. F.

Sharp-tailed Finch.

1. Males. 2. Female & Nest.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Phila.d

portions of the Union, as far as the vicinity of Boston, perhaps farther. I doubt, however, that they ever reach the State of Maine and the British provinces, chiefly because the shores of those countries are rocky, and because very few salt marshes are to be met with there. None were seen by me in Newfoundland, Labrador, or the intervening islands.

The young birds of this species are considerably lighter in the tints of their plumage, during winter, than their parents. Some shot on the 11th of December, in the neighbourhood of Charleston in South Carolina, were so pale as almost to tempt one to pronounce them of a different species. At that period, the mornings were very cold, the ground being covered with a thick white frost. So very intent are they on visiting the interior of the broadest salt-marshes, that on returning, when the tide declined, to the same banks where we had seen so many at the time of flowing, we could scarcely find an individual. They are, however, less addicted to search into the muddy recesses along the creeks and bayous than the Sea-side Finches.

The nest is placed on the ground, as represented in my plate, at the distance of a few feet from high-water mark, and generally in a place resembling a portion of a newly mown meadow. A slight hollow is scraped, in which are placed the delicate grasses forming the nest, disposed rather loosely in a circular form. The eggs are from four to six, rather small, dull white, sprinkled with light brown dots, more numerous towards the greater end. About Cape May and Great Egg Harbour, two broods are usually raised in a season; but from the immense numbers seen in autumn, when they begin to congregate, I am inclined to believe that in many instances they have three broods in the same year, especially in South Carolina and Georgia. I saw none of these birds on the eastern coast of the Floridas. They are most easily shot on the wing, for while among the sedges and tall grasses, they move with great celerity, gliding from one blade to another, or suddenly throwing themselves amid the thickest parts of the weeds, where it is impossible to see them.

According to my friend Dr. T. M. Brewer, "this species is not rare among the high grass upon Chelsea Beach, near Boston, in the summer, where it no doubt breeds. It runs with wonderful speed, and is unwilling to take wing until almost trodden upon."

Breeds from Texas along the coast to Massachusetts. Never in the interior. Resident in the Southern States. Very abundant.

Sharp-tailed Finch, *Fringilla caudacuta*, Wils. Amer. Orn.,vol. iv. p. 70.
Fringilla caudacuta, Bonap. Syn., p. 110.
Shore Finch, *Fringilla littoralis*, Nutt. Man., vol. i. p. 504.
Sharp-tailed Finch, *Fringilla caudacuta*, Aud. Orn. Biog., vol. ii. p. 281; vol. v. p. 499.

Second, third, and fourth quills longest, first and fifth equal; tail graduated. Upper part of the head with a central bluish-grey streak, deep brown at the sides, with the feathers black in the centre; hind neck dull grey, tinged with brown; back brown, tinged with grey, some of the feathers marked with black and edged with greyish-white; quills dusky brown, edged with reddish-brown, the secondary and smaller coverts with their outer webs chiefly of the latter colour; tail-feathers dusky brown, margined with greyish-olive; a broad band of light yellowish-red from the base of the upper mandible over the eye, and extending beyond the middle of the neck, where it is broader; ear-coverts grey; a broad band of yellowish-red from the lower mandible down the neck; throat whitish, with a line of dusky streaks on each side; the lower part of the neck, a portion of the breast, the lower tail-coverts, and the sides, pale yellowish-red, streaked with dusky; the rest of the lower parts white.

Male, 5, 7¼.

SWAMP SPARROW.

AMMODRAMUS PALUSTRIS, *Wils.*

PLATE CLXXV.—MALE.

The shores and such flat sand-bars as are overgrown with grasses and rank weeds, along the Mississippi, from its mouth to a great height, as well as the swamps that occur in the woods, within a short distance from the margins of that river, are the resorts of the Swamp Sparrow, during autumn and winter. Although these birds do not congregate in flocks, their numbers are immense. They form the principal food of the many Sparrow Hawks, Pigeon Hawks, and Hen-harriers, which follow them as well as several other species, on their return from the Middle Districts, where they go towards spring, for the purpose of breeding. In those districts they continue to prefer low swampy places, damp meadows, and the margins of creeks and rivers.

It is a timid species, destitute of song, and merely uttering a single *cheep*, which is now and then heard during the day, but more frequently towards evening. They skulk along the weeds with activity, and feed principally upon the seeds of grasses, with a few insects, sometimes wading in shallow

R. T.

Swamp Sparrow

Male.

May-apple

Drawn from Nature by Mrs Lucy Audubon.

Lith.d Printed & Col.d by J. T. Bowen Philad.a

water. When wounded and forced to fall in the stream, they swim off to the nearest tuft of grass and hide in it. Their flight is short, low, and assisted by strong jerking motions of the body and tail, accompanied by a rustling of the wings. They alight by dropping suddenly amongst the weeds, seldom making towards a high tree. They are rarely if ever met with in dry woodlands.

Their nest is placed on the ground, at the foot of a large bunch of tall grass. It is composed of dry weeds and finer fibres of the same, and is sometimes partially covered over. The eggs are four or five, of a dull white, speckled with reddish. They raise two, sometimes three, broods in a season.

I found these birds abundantly dispersed in the swamps of Cayuga Lake, and those bordering the Illinois river, during summer, and far up the Arkansas river in the winter months. Their flesh is sedgy, which perhaps forms no objection to some people against its use. They become fat and tender, when the weeds have produced an abundance of seeds. Their note differs from that of all other species of Sparrow, being harsher in its tone. The young follow the parents on the ground, skulking among the grass for nearly a week before they are able to fly.

This bird is abundant, in company with the Tree Sparrow, during winter, about Boston. It is not mentioned by Dr. Richardson as being an inhabitant of the Fur Countries, although I found it plentiful in Labrador and Newfoundland, as well as in all the districts suited to its habits between these countries and the Texas. Mr. Townsend informs me that it is found on the Missouri, but was not observed beyond the head-waters of that river.

From Texas to North Carolina in winter. Spreads in spring and summer to the Missouri westward, and to Labrador eastward. Abundant.

Swamp Sparrow, *Fringilla palustris*, Wils. Amer. Orn., vol. iii. p. 49.
Fringilla palustris, Bonap. Syn., p. 110.
Swamp Sparrow, *Fringilla Georgiana*, Nutt. Man., vol. i. p. 502.
Swamp Sparrow, *Fringilla palustris*, Aud. Orn. Biog., vol. i. p. 331; vol. v. p. 508.

Male.

Bill shorter than in the other species; tail-feathers less acuminate; upper part of head deep chestnut-red, streaked with black; hind part and sides of the neck light bluish-grey, cheeks dusky brown; a greyish-yellow streak over the eye; upper parts of body yellowish-brown, streaked with brownish-black; wing-coverts and secondaries broadly edged with yellowish-red, primaries with duller red; tail similar; throat greyish-white, with two small dusky streaks, the rest of the fore neck and part of the breast pale bluish-grey, the abdomen whitish, the sides yellowish-brown, streaked with dusky.

Male, $5\frac{1}{2}$, $7\frac{1}{2}$.

The plant on which you see this bird is called the *May-apple.* It shoots from the ground in great numbers, and grows very close. The flowers appear at an early season, and are succeeded by a pulpy yellowish fruit, about the size of a pullet's egg, and which, when ripe, is pleasant to the taste, being a little acid and very cooling.

Genus VI.—PEUCÆA, *Aud.* PINEWOOD-FINCH.

Bill of moderate length, rather stout, straight, considerably compressed, acute; upper mandible with the dorsal line somewhat convex, the ridge rather narrow, the sides convex, the edges inflected, with the notches obsolete, the tip acute; lower mandible with the angle short and rounded, the dorsal line ascending and slightly convex, the ridge rounded, the sides convex, the edges involute, the tip acute. Nostrils small, roundish, partially concealed by the plumage. Head ovate; neck short; body moderately stout. Tarsus rather short, compressed, with seven scutella; toes moderate, very slender, hind toe rather large, lateral toes about equal, outer adherent at the base. Claws of moderate length, very slender, extremely compressed, arched, tapering to a fine point. Plumage very soft, blended. Wings very short, convex, rounded, the third and fourth quills longest, the first and seventh about equal. Tail rather long, graduated, of twelve narrow rounded feathers. No difference in the colours of the sexes. Name from πεύκη, a pine.

Bachman's Pinewood Finch.

Male

Pinckneya pubescens

Drawn from Nature by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Philad.a

BACHMAN'S PINEWOOD-FINCH.

✝ Peucæa Bachmanii, *Aud.*

PLATE CLXXVI.—Male.

In honouring so humble an object as this Finch with the name of Bachman, my aim is to testify the high regard in which I hold that learned and most estimable individual, to whose friendship I owe more than I can express on this occasion.

"In the month of April, 1832," says my worthy friend, the gentleman just named, "I discovered near Parker's Ferry, on the Edisto river, in this State, a Fringilla which I had not seen before, and which, on investigation, I found had never been described. On searching for the same bird in the neighbourhood of Charleston, I discovered it breeding in small numbers on the Pine Barrens, about six miles north of this city, where I obtained many specimens of it.

"This bird appears to be rarer in Carolina than it really is. It is in fact oftener heard than seen. When I first heard its notes, they so nearly resembled those of the Towee Bunting, that I took it to be that bird: a somewhat greater softness, and a slight variation in the notes, alone induced me to suspect that it was another, and caused me to go in pursuit of it. Since then I have heard as many as five or six in the course of a morning's ride, but found it almost impossible to get even a sight of the bird. This was owing, not to its being particularly wild, but to the habits it possesses of darting from the tall pine-trees, where it usually sits to warble out its melodious notes, and concealing itself in the tall broom-grass which is almost invariably found in those places which it frequents. As soon as alighted, it keeps running off in the grass, like a mouse, and it is extremely difficult to put them up, or see them afterwards.

"It breeds in Carolina, to all appearance on the ground, where it is usually found when not singing. I never saw its nest; but in the month of June last (1833), I observed two pair of these birds, each having four young ones, that were pretty well fledged, and following their parents along the low scrub oaks of the pine lands.

"This is decidedly the finest songster of the Sparrow Family with which I am acquainted. Its notes are very loud, considering the size of the bird,

and can be heard at a considerable distance in the pine woods, where it is found, and where it is the only songster at that season.

"In the beginning of November, this bird usually disappears, and I think it probably migrates farther south. Still it is likely that it does not go beyond the limits of the United States, and that some few remain in Carolina during the whole winter, as, on the 6th of February, the coldest time of the year, I found one of these birds in some long grass, a few miles from Charleston."

Since then, kind reader, I have had the pleasure, in the company of its amiable discoverer, to hear the melodious notes of this southern species. Our endeavours, however, to find its nest have been unsuccessful.

On my return from the Floridas to New York, in June 1832, I travelled through both the Carolinas, and observed many of these Finches on the sides of the roads cut through the pine woods of South Carolina. At this time, they filled the air with their melodies. I traced them as far as the boundary between that State and North Carolina, in which none were seen or heard. They were particularly abundant near the Great Santee river.

The food of this species consists of the seeds of grasses, coleopterous insects, and a variety of the small berries so abundant in that part of the country. Its flight is swift and direct, now and then protracted, so that the bird is out of sight before it alights.

I observed no difference in the size or colour of the sexes, and have represented a male in full summer dress, which was presented to me, while yet quite fresh, by my friend BACHMAN.

Georgia and South Carolina. Rather rare. Migratory.

BACHMAN'S FINCH, *Fringilla Bachmanii*, Aud. Orn. Biog., vol. ii. p. 366.

Adult Male.

Bill short, conical, acute: upper mandible almost straight in its dorsal outline, rounded on the sides; lower mandible slightly convex beneath, the sides rounded; edges of both sharp and inflected; gap-line deflected at the base. Nostrils basal, roundish, partially concealed by the feathers. Head rather large, neck short, body rather full. Feet of moderate length, slender; tarsus covered anteriorly with a few longish scutella; toes free, scutellate above, the lateral ones nearly equal, hind-toe proportionally large; claws slender, compressed, acute, slightly arched, that of the hind-toe longer.

Plumage soft, blended, rather compact on the back, slightly glossed. Wings shortish, curved, third and fourth quills longest, fifth and second nearly equal; the secondaries long and rounded. Tail long, graduated, and

deeply emarginate, of twelve straight, narrow feathers, tapering to a rounded point.

Bill dark brown above, light blue beneath. Iris hazel. Feet very light flesh-coloured. The general colour of the upper parts is reddish-brown, the central parts of the feathers on the back black, their margins bluish-grey. Secondary coverts dull yellowish-brown on the outer edge; quills dark brown, the first seven or eight slightly edged with pale ochre, the rest edged with light brown; flexure of the wing bright yellow; small coverts varied with brown and yellowish-grey. Tail-feathers brown, lighter on the outer edges. A streak from the upper mandible over the eye, as well as the margin of the eye, ochre-yellow. Throat pale yellowish-grey, with a short streak of blackish on each side, from the base of the mandible; fore part of the breast and sides tinged with brown; the rest of the lower parts yellowish-grey.

Length 6 inches, extent of wings $7\frac{1}{2}$; bill along the ridge $\frac{1}{2}$, along the sides $\frac{5}{8}$; tarsus $\frac{7}{8}$.

The Female is slightly smaller, but does not differ in colouring.

PINCKNEYA PUBESCENS, *Mich.*, Fl. Amer., vol. i. p. 105. *Pursch*, Fl. Amer. Sept., vol. i. p. 158.—PENTANDRIA MONOGYNIA, *Linn.*

This shrubby tree grows on the banks of rivers, and near swamps, in Georgia; but the twig represented in the Plate was from a tree in the beautiful botanic garden of M. NOISETTE, a few miles from Charleston, in South Carolina. The leaves are oval, acute at both ends, somewhat downy beneath; the flowers are yellow, tinged with red; one of the divisions of the calyx enlarges to a whitish leaf, tinged with red, which renders the plant highly ornamental.

LINCOLN'S PINEWOOD-FINCH.

✝ Peucæa Lincolnii, *Aud.*

PLATE CLXXVII.—Male and Female.

We had been in Labrador nearly three weeks before this Finch was discovered. One morning while the sun was doing his best to enliven the gloomy aspect of the country, I chanced to enter one of those singular small valleys here and there to be seen. The beautiful verdure of the vegetation, the numerous flowers that grew sprinkled over the ground, the half-smothered pipings of some frogs, and the multitudes of mosquitoes and flies of various sorts, seemed to belong to a region very different from any that I had previously explored. But if the view of this favoured spot was pleasing to my eye, how much more to my ear were the sweet notes of this bird as they came thrilling on the sense, surpassing in vigour those of any American Finch with which I am acquainted, and forming a song which seemed a compound of those of the Canary and Wood-lark of Europe. I immediately shouted to my companions, who were not far distant. They came, and we all followed the songster as it flitted from one bush to another to evade our pursuit. No sooner would it alight than it renewed its song; but we found more wildness in this species than in any other inhabiting the same country, and it was with difficulty that we at last procured it. Chance placed my young companion, Thomas Lincoln, in a situation where he saw it alight within shot, and with his usual unerring aim, he cut short its career. On seizing it, I found it to be a species which I had not previously seen; and, supposing it to be new, I named it *Tom's Finch*, in honour of our friend Lincoln, who was a great favourite among us. Three cheers were given him, when, proud of the prize, I returned to the vessel to draw it, while my son and his companions continued to search for other specimens. Many were procured during our stay in that country. They became more abundant and less shy the farther north we proceeded, but no longer sang, in consequence of the advance of the season. We did not, however, succeed in finding a nest.

The habits of this sweet songster resemble those of the Song Sparrow. Like it, mounted on the topmost twig of the tallest shrub or tree it can find, it chants for hours; or, diving into the thickets, it hops from branch to branch, until it reaches the ground, in search of those insects and berries

Lincoln's Pinewood Finch.

1 Male 2 Female

1. Dwarf Cornel. 2. Cloudberry 3. Glaucous Kalmia

J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.

from which it derives its support. It moves swiftly off when it discovers an enemy; and, if forced to take wing, flies low and rapidly to some considerable distance, jerking its tail as it proceeds, and throwing itself at the foot of the thickest bush it meets. I found it mostly near streams, and always in the small valleys, guarded from the cold winds so prevalent in the country, and which now and then nip the vegetation, and destroy many of the more delicate birds.

Like every other species of the genus, Lincoln's Finch is petulant and pugnacious. Two males often chase each other, until the weaker is forced to abandon the valley, and seek refuge in another. On this account I seldom saw more than two or three pairs in a tract seven or eight miles in extent.

On the 4th of July, the young were out of the nest, following their parents; and as, from that time, the old birds ceased to sing, I concluded that they raise only one brood each year. Before we left Labrador, these Finches had all disappeared. In what parts this species passes the winter is unknown to me; nay, I never met with it in any of the Southern States, although I saw several specimens in the collection of the learned William Cooper, Esq. of New York, that had been procured in the vicinity of that city.

The plants represented along with a pair of these birds, grew in the little valley in which the first individual seen by us was procured. They were taken up with a spade from the midst of a rich broad bed of mosses, and may serve to convey an idea of the nature of the vegetation of those places.

New York and Labrador. Rather rare. Migratory.

Lincoln's Finch, *Fringilla Lincolnii*, Aud. Orn. Biog., vol. ii. p. 539.

Adult Male.

Bill short, conical, acute; upper mandible almost straight in its dorsal outline, rounded on the sides; lower mandible slightly convex beneath, the sides rounded; edges of both sharp and inflected; gap-line deflected at the base. Nostrils basal, roundish, partially concealed by the feathers. Head rather large, neck short, body rather full. Feet of moderate length, slender; tarsus covered anteriorly with a few longish scutella; toes free, scutellate above, the lateral ones nearly equal; hind-toe not much stouter; claws slender, compressed, slightly arched, acute.

Plumage soft, blended, the feathers somewhat distinct on the back, slightly glossed. Wings shortish, curved, second and third quills longest, and equal, first almost as long as fifth, secondaries long and rounded. Tail rather long, graduated and emarginate, of twelve straight, narrow, rather acute feathers.

Bill dark brown at the end, greyish-blue at the base. Iris brown. Feet yellowish-brown. The upper part of the head has a greyish-blue band in the centre, and two at the sides, the intermediate spaces chestnut, streaked with brownish-black. The general colour of the upper parts is yellowish-brown, with streaks of brownish-black. Quills and larger coverts deep brown, margined externally with yellowish-brown, and the latter slightly tipped with whitish. Tail yellowish-brown, the outer feathers paler. Cheeks of the same tint, tinged with grey, beneath which is a curved band of ochraceous yellow; throat white, streaked with dusky, and having a line of dusky spots on each side; fore part of the breast and the sides pale greyish-yellow, streaked with dusky, the rest greyish-white.

Length $5\frac{3}{4}$ inches, extent of wings $8\frac{2}{12}$; bill along the ridge $\frac{5}{12}$, along the edge $\frac{7}{12}$; tarsus $\frac{10}{12}$.

Adult Female.

The female differs from the male only in having the tints a little duller.

The Swedish or Dwarf Cornel. Fig. 1.

Cornus suecica, *Linn.*, Sp. Pl., p. 171. *Willd.*, Sp. Pl., vol. i. p. 660.—Tetrandria Monogynia, *Linn.*—Caprifolia, *Juss.*

A small herbaceous plant with stems from three to five or six inches high, with opposite, ovate, acute leaves, and two branches, between which is the involucrum of four large unequal white leaves, containing an umbel of dark purple flowers. The berry is red, and has a sweetish taste.

The Cloudberry.

Rubus Chamæmorus, *Linn.*, Sp. Pl., p. 708. *Willd.*, Sp. Pl., vol. ii. p. 1090. *Pursch*, Flor. Amer. Sept., vol. i. p. 349.—Icosandria Polygynia, *Linn.*—Rosaceæ, *Juss.*

An herbaceous bramble with simple, plaited, and lobed leaves; stem without prickles, undivided and singe-flowered. The flowers are white, and the berries large and of a yellowish-red colour. They are ripe in July, when they drop from the stalk at the slightest touch, make an excellent preserve, and are collected by Indians, fishermen and eggers in great quantities. In Newfoundland I found them larger and better than in Labrador. Their ripeness is a sure intimation of the arrival of the Esquimaux Curlew (*Numenius borealis*), which comes in clouds from the north to feed upon them.

The Glaucous Kalmia.

Kalmia glauca, *Willd.*, Sp. Pl., vol. ii. p. 601. *Pursch*, Flor. Amer. Sept., vol. i. p. 296.—Decandria Monogynia, *Linn.*

A small shrubby plant, with brown bark, opposite, sessile, ovato-oblong leaves, which have the margins revolute and the under surface glaucous; and terminal bracteated corymbs of beautiful rose-coloured flowers.

Genus VII.—LINARIA, *Ray*. LINNET.

Bill short, conical, moderately stout, higher than broad at the base, compressed toward the end, acuminate; upper mandible with the dorsal line straight, the nasal sinus very short and broad, the ridge distinct and narrow, the sides convex, the edges ascending at first, afterwards direct, the tip very narrow, without notches; lower mandible with the angle short and semicircular, the dorsal line straight or very slightly concave, the sides convex, the tip acuminate. Nostrils basal, roundish, concealed by the feathers. Head of moderate size, roundish; neck short; body moderate. Feet of moderate length; tarsus short, compressed, with seven scutella; toes rather stout, the first large. Claws long, moderately arched, much compressed, very acute. Plumage soft and blended. Wings rather long, the first three quills nearly equal, the second generally longest, the first longer than the third. Tail rather long, deeply emarginate or forked, with the feathers pointed. Roof of upper mandible concave, with two ridges; tongue deeper than broad, concave above toward the point, which is acute; œsophagus enlarged about the middle; stomach roundish, muscular; intestine of moderate length, slender; cœca very small.

MEALY REDPOLL LINNET.

LINARIA BOREALIS, *Temm.*

PLATE CLXXVIII.—MALE.

Whilst in Newfoundland, I procured four specimens of this curious bird, all of which were shot while feeding on the berries of the *summer apple.* It was in the month of August, and I well remember the pleasure I felt when at the same moment several Indian boys approached and offered me their waterproof bark baskets filled with those delightful berries equally pleasing to my taste and that of the Mealy Redpoll. One of the birds appeared to me to be an adult, but to have already changed its spring livery for the plainer one exhibited in the Plate. The others were evidently younger, as none of them shewed the least appearance on the forehead, cheeks, breast or rump, of the red colour that existed on the same parts of what perhaps was their parent.

In their habits I could see no difference between them and the Common Redpoll; but their notes, although in some degree similar, as is usually the case in all birds of the same family, differed sufficiently to induce me to believe that this mealy-coloured bird is quite distinct from the species above mentioned, although very nearly allied to it. I wish it were in my power to describe this difference of modulation, which seems to me still vibrating in my ear; but I cannot, and therefore must be content with assuring you, that the notes of the two birds are as nearly the same, and yet as distinct, as those of the American Gold-finch and the European bird of the same name.

Removing from one spot to another with the peculiar activity and capriciousness of the Linnet family, they would fly from one portion to another of the wild natural meadow on which I watched them nearly an hour before I shot them, alight here and there, peck at the berries a few moments, and suddenly, as if affrighted, rise, perform various wide and circling flights, in deep undulations, and at once alighting repose for a short while.

Like Titmice, and often with downward inclined head, they fed, chattered to each other, and then resting for an instant plumed themselves. These occupations they would have continued much longer had not the trigger of my gun been touched at a favourable moment, on which I walked to the spot and picked up the little flock, all of them having been killed at one shot.

Mealy Redpoll Linnet.

Male

Drawn from Nature by J. J. Audubon F.R.S. F.L.S.

Lith.d Printed & Col.d by R. T. Bowen Phila.d

I and my party had procured a good number of Common Redpolls in the rugged country of Labrador, but not a single bird of this species; which yet removes during winter to our middle districts. A specimen in my possession was procured near Moorestown, in the State of New Jersey, by my valued friend EDWARD HARRIS, Esq., and I have seen several others that were obtained near Baltimore in Maryland.

That the Mealy Redpoll becomes a richly coloured bird at the approach of the breeding season I feel quite confident, and I will now venture to give you some idea of its appearance at that happy period of its life. Then, I would say, the cheeks and the whole under part of the body, excepting a large black patch on the throat, are of a rich carmine, as is the rump. The spots seen on the sides of the breast, and along the lower parts of the body, almost to the femorals, disappear, and the upper parts, or the shoulders and back, become almost of a uniform rich brown, as those parts are in the Common Linnet of Europe.

The present species is rather larger than the Common Redpoll. The colour of its bill even during winter differs in being of a rich yellow, and its legs, feet, and claws at that season are pure black, instead of reddish-brown.

On two occasions I have seen the Mealy Redpoll associated with the American Siskin, in the beginning of October, in the province of New Brunswick. They were then feeding on the seeds of neglected sun-flowers.

Accidental in New Jersey and New York. More common from Maine northward. Labrador and Fur Countries. Columbia river.

GROSBEC BOREAL, *Fringilla borealis*, Temm. Man. d'Orn., vol. iii. p. 264.
MEALY REDPOLL, *Fringilla borealis*, Aud. Orn. Biog., vol. v. p. 87.

Adult Male.

Bill short, strong, conical, much compressed toward the end, extremely acute; upper mandible with the dorsal line straight, the ridge narrow, the sides convex, the edges sharp and overlapping, without notch, the tip acuminate; lower mandible with the angle short and semicircular, the dorsal line straight, the ridge narrow, the sides convex, the edges sharp and inflected, the tip very acute. Nostrils basal, roundish, covered by stiffish reversed feathers.

Head of moderate size, roundish; neck short; body moderate. Feet of moderate length, rather slender; tarsus short, compressed, anteriorly covered with a few scutella, of which the upper are blended, posteriorly with two longitudinal plates meeting at a very acute angle; toes rather stout, the first

with its claw as long as the third with its claw; the lateral toes equal; claws large, moderately arched, much compressed, acute.

Plumage soft, blended. Wings rather long; the first three quills almost equal, but the second longest; the second, third, and fourth cut out on the outer web toward the end; the outer secondaries emarginate. Tail rather long, deeply emarginate or forked, the middle feathers being half an inch shorter than the outer.

Bill yellow, with the ridge of the upper mandible dusky; iris brown; feet and claws black. The upper part of the head crimson, the feathers of the cheeks, sides of the body and hind part of the rump pale carmine. A band edging the forehead, the loral space, and the throat, black. The upper parts are dusky, streaked with brownish-white, the margins of the feathers being of the latter colour, and the former gradually disappearing on the hind part of the back and rump, which are nearly white, tinged with rose-colour; the lower parts greyish-white, the sides streaked with dusky. The wings and tail are dusky, with greyish-white edges, and two transverse bands of the same on the tips of the first row of small coverts and the secondary coverts.

Length to end of tail $5\frac{1}{4}$ inches; extent of wings 9; bill along the ridge $\frac{5}{12}$; wing from flexure $3\frac{2}{12}$; tail $2\frac{5}{12}$; tarsus $\frac{7}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; third toe $\frac{4}{12}$, its claw $\frac{3\frac{1}{2}}{12}$.

The female, which is somewhat less, has the black of the forehead and throat tinged with brown, the crimson patch on the head of less extent, the sides and rump destitute of red.

LESSER REDPOLL LINNET.

Linaria Minor, *Ray.*

PLATE CLXXIX.—Male and Female.

When I was in Labrador, my young companions and my son one day (the 27th of July, 1833), procured eight individuals of this species, of different sexes and ages. Next morning I went to the place where they had been shot, and found a good number remaining. The first observation I made had reference to their notes, which, instead of resembling those of the Goldfinch, as alleged by an American writer, are very similar to those of the

Lesser Redpoll Linnet.

1. Male. 2. Female.

Drawn from Nature by J. J. Audubon F.R.S.E.L.S.

Lith.d Printed & Col.d by J. T. Bowen Phila.d

Siskin, and are frequently uttered both when the birds are alighted and while they are on wing. They were in small parties of seven or eight, apparently formed by the members of the same family, and although several of these groups were around me, they did not intermingle until fired at, when they all simultaneously rose on wing, mixed together, and after performing several short evolutions returned to the same bushes, separated into families, and resumed their occupations. When alighted they were quite unsuspecting, and so heedless as to allow a close approach, scarcely regarding my presence, but clinging to the branches, dexterously picking out the seeds of the alder-cones, and occasionally coming to the ground after some which had dropped.

Few birds exhibit a more affectionate disposition than the Little Redpoll, and it was pleasing to see several on a twig feeding each other by passing a seed from bill to bill, one individual sometimes receiving food from his two neighbours at the same time. Occasionally, however, they shewed considerable pugnacity, and one would drive off its companion, inflicting some smart blows upon it with its bill, and uttering a low querulous chatter.

In other portions of the same country, I saw flocks composed of twenty or more individuals flying loosely at a moderate height, in the undulatory manner of the American Goldfinch and Siskin, without, however, making the deep sweeps of the former; suddenly alighting, and at once beginning to search with great expertness between the stems and leaves, picking at the embryo buds while perched over them, like Jays and Titmice.

So hardy is this species, that, according to Dr. Richardson, it is a "permanent resident in the Fur Countries, where it may be seen in the coldest weather, on the banks of lakes and rivers, hopping among the reeds and carices, or clinging to their stalks. Although numerous throughout the year, even in the most northern districts, a partial migration takes place, as large flocks visit Pennsylvania for a month or two in severe winters." The migrations alluded to are of rare occurrence in that State, however, as well as in that of New York. I never saw one of these birds to the westward of the Alleghanies, and none were observed by Dr. Townsend or Mr. Nuttall on the Columbia river. They are abundant every cold winter in the northern parts of Massachusetts and Maine, as well as in all the British Provinces.

The food of this species consists of buds, seeds of various grasses, berries, and the small leaves of bushes and trees. I have represented a male and a female on a plant which grows abundantly in the localities in which I found it in Labrador.

The many young birds which I examined in the month of August, had the head entirely grey. The feathers of that part, and those on the breast and rump, were of the same colour nearly to the base, which is bluish-grey;

and I suspect that they do not acquire any redness until the approach of spring. The old birds were moulting at the period mentioned, and from their appearance I concluded that all their red feathers are reassumed each spring. The eggs, from four to six in number, measure five-eighths in length, rather more than half an inch in diameter, and are pale bluish-green, sparingly dotted with reddish-brown toward the larger end.

From Pennsylvania and New Jersey to Maine, in winter; inland, to Kentucky. Breeds in Maine, Nova Scotia, Newfoundland, Labrador, and the Fur Countries. Abundant. Migratory.

LESSER REDPOLL, *Fringilla linaria*, Wils. Amer. Orn., vol. iv. p. 42.
FRINGILLA LINARIA, Bonap. Syn., p. 112.
LINARIA MINOR, *Lesser Redpoll*, Swains. & Rich. F. Bor. Amer., vol. i. p. 267.
LESSER REDPOLL, Nutt. Man., vol. i. p. 512.
LESSER REDPOLL, *Fringilla linaria*, Aud. Orn. Biog., vol. iv. p. 533.

Adult Male in summer.

Bill short, strong, conical, compressed toward the end, extremely acute; upper mandible with the dorsal line straight, the ridge narrow, the sides convex, the edges sharp and overlapping, without notch, the tip acuminate; lower mandible with the angle short and semicircular, the dorsal line straight, the ridge broadish at the base, the sides convex, the edges sharp and inflected, the tip acute. Nostrils basal, roundish, covered by stiffish reversed feathers.

Head of moderate size, roundish; neck short; body moderate. Feet of moderate length, slender; tarsus compressed, anteriorly covered with a few scutella, of which the upper are blended, posteriorly with two longitudinal plates meeting at a very acute angle; toes slender, the first with its claw as long as the third with its claw; the lateral toes equal. Claws large, moderately arched, much compressed, acute.

Plumage soft, rather blended, with very little gloss, unless on the red parts. Wings of ordinary length, the first three quills almost equal, but the second longest. Tail rather long, forked.

Bill yellowish, the upper mandible dusky on the ridge; iris brown; feet blackish-brown. A band edging the forehead, the loral space, and the throat, brownish-black; the reversed feathers on the base of the bill yellowish; the crown of the head crimson; the hind part of the head, the neck, the fore part of the back, and the scapulars yellowish-brown, longitudinally streaked with blackish-brown, the feathers on the hind part of the back margined with whitish, and tipped with carmine; the wings and tail dusky, with yellowish-brown edges, and two transverse bands of the same on the tips of the first row of small coverts and the secondary coverts. The sides of the neck,

Pine Linnet.

1 Male. 2 Female

Black Larch.

Drawn from Nature by J J Audubon F R S F L S

Lith Printed & Col d by J T Bowen Phila d

its fore part, the breast, and flanks, rich carmine; the middle of the breast, the abdomen, and the lower tail-coverts white, tinged with rose-colour; the sides longitudinally streaked with dusky.

Length to end of tail 5; to end of wings 4; extent of wings $8\frac{3}{4}$; wing from flexure $3\frac{2}{12}$; tail $2\frac{1}{2}$; bill along the ridge $\frac{4\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{5\frac{1}{2}}{12}$; tarsus $\frac{7}{12}$; first toe $\frac{2\frac{3}{4}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{3}{12}$.

Adult Female in summer.

The female, which is somewhat less, has the black of the forehead and throat more brown, with less red on the head, and little or none on the rump, or on the lower parts, which are white, the breast and flanks longitudinally streaked with dusky.

PINE LINNET.

Linaria Pinus, *Wils.*

PLATE CLXXX.—Male and Female.

During the winter months, the Pine Finch is such a wanderer, that it ranges at irregular periods, from the coast line westward to the banks of the Ohio, and southward to the Carolinas. Now and then, during severe weather with occasional storms of snow, I have seen flocks of a hundred individuals or more, rambling in search of a place in which to alight and seek for nourishment. In December 1833, I shot several near Charleston in South Carolina, and on a previous winter procured five near Henderson in Kentucky. Their visits to those districts, however, are of short duration, the least increase of temperature seeming to recall them to their more northern haunts; and as soon as spring commences, they all disappear from the districts south of Maine and the adjacent countries.

In August and September 1832, while travelling in the British provinces, I and my companions frequently met with flocks of these birds, in company with the American Crossbill, feeding amid the branches of the tallest fir trees, as well as on the seeds of the thistles of that country, much in the manner of the American Goldfinch, and the European Siskin. When disturbed, they would rise high in the air in an irregular flight, emitting their peculiar call-note as they flew; but would always realight as soon as another

group of thistles was seen by them. When feeding, they often hung head downwards, like so many Titmice, and as often would balance themselves on the wing, as if afraid to alight on the sharp points of the plants, which after all they appeared greatly to prefer to all others.

While among the Magdeleine Islands, in the Gulf of St. Lawrence, I frequently observed groups of five or six of these birds arriving from afar, and in different directions. In some instances, these flocks alighted on the spars and rigging of our vessel, the Ripley, as if to rest, when they would plume themselves, issue their plaintive call-notes, as if to announce to others (unseen by us) that they had alighted, and in a few minutes would leave us, and direct their course toward the nearest shores, perhaps following in the wake of other flocks.

At the Harbour of Bras d'Or, on the coast of Labrador, in the end of July, we met with a great number of these birds. They were then accompanied by their young, and moved in flocks composed of a single family, or at most of two. They haunted low thickets of willows and elders in the vicinity of water, and were extremely fearless and gentle, allowing the members of my party to approach them very near, so that we procured as many of them as we desired. No difference was observable either in the males or the females as to plumage, compared with that which they have in the winter, only that the yellow of the wings was brighter and richer than it is at that season. The young were already fully fledged, had the whole head of a clean plain grey tint, and although exhibiting the different markings elsewhere seen on the old birds, they had those markings depicted in feeble tints. Not a nest could we find, although I have no doubt that the birds which we saw had been reared in the immediate neighbourhood.

In the State of Maine they are always abundant during winter. My young friend, Thomas Lincoln, informed me that at that season, they flock in company with Crossbills, the Pine Grosbeak, the White-winged Crossbill, and other species, are easily caught, and require no particular care in keeping.

This species sings while on the wing, as the Goldfinch is wont to do. Its notes are sweet, varied, clear and mellow, and although somewhat resembling those of the bird just mentioned, are yet perfectly distinct from them. Its flight, however, is almost the same as that of the Goldfinch. Like that bird, it glides through the air in graceful deep curves, emitting its common call-note at every effort which it makes to propel itself.

Those which I saw while in South Carolina, in company with my esteemed friend John Bachman, fed entirely on the seeds of the *sweet gum*, each bird hanging to a bur for awhile, and passing from one to another with great

celerity. They are fond of open grounds, and alight on detached trees, when these are high, but at most times they prefer thickets of bushes.

Wanders during winter to South Carolina, Louisiana, and Kentucky. Breeds north of the United States, in New Brunswick, Nova Scotia, and Labrador. Columbia river. Plentiful.

PINE FINCH, *Fringilla pinus*, Wils. Amer. Orn., vol. ii. p. 133.
FRINGILLA PINUS, Bonap. Syn., p. 111.
PINE FINCH, *Fringilla pinus*, Nutt. Man., vol. i. p. 511.
PINE FINCH, *Fringilla pinus*, Aud. Orn. Biog., vol. ii. p. 455; vol. v. p. 509.

Adult Male.

Bill rather short, conical, very acute; upper mandible a little broader than the lower, almost straight in its dorsal outline, rounded on the sides, as is the lower, which has the edges sharp and inflected; the gap-line almost straight, slightly deflected at the base. Nostrils basal, roundish, concealed by the feathers. Head of moderate size, the general form compact. Legs of moderate length, slender; tarsus compressed, covered anteriorly with a few longish scutella, sharp behind; toes scutellate above, free, the lateral ones nearly equal, the hind toe strong; claws arched, much compressed, very acute.

Plumage soft, blended, with very little gloss. Wings of ordinary length, the first quill longest, the second and third a little shorter; secondaries short, emarginate. Tail of ordinary length, forked, the lateral feathers straight, but spreading.

Bill light yellowish-brown, dusky at the tip. Iris brown. Feet purplish-brown. The general colour of the upper parts is yellowish-grey, streaked with dark brown; the wings and tail dusky, margined with greyish-white; the bases of the secondary quills, the tips of their coverts, and the margins of the rump feathers, cream-coloured. The lower parts are greyish-white, tinged with brown on the fore neck, and all streaked with dull brown.

Length $4\frac{9}{12}$ inches, extent of wings $8\frac{1}{2}$; bill along the ridge $\frac{5}{12}$, along the edge $\frac{7}{12}$; tarsus $\frac{6}{12}$.

Adult Female.

The female scarcely differs from the male in external appearance.

THE BLACK LARCH.

PINUS PENDULA, *Pursch*, Fl. Amer. Sept., vol. ii. p. 645. *Lambert*, Monogr., p. 55. pl. 36.—MONŒCIA POLYANDRIA, *Linn.*—CONIFERÆ, *Juss.*

Abundant in the Northern States, where it attains a great size. It resem-

bles the European Larch (*Pinus Larix*) in appearance, and in the quality of its wood. The leaves are deciduous and fasciculate, the cones small, oblong, their scales rounded with inflected margins. It is usually known by the names of *tamarack* or *hackmatack*.

Genus VIII.—CARDUELIS, *Cuv.* GOLDFINCH.

Bill short, or of moderate length, conical, very stout at the base, compressed toward the end, and tapering to a fine point; upper mandible a little broader, with the nasal sinus very broad, the dorsal outline very slightly convex, the ridge narrowed toward the end, the sides convex, the edges a little inflected and overlapping, the edges slightly ascending at the base, the notches obsolete, the tip very acute; lower mandible with the angle short and rounded, the dorsal line straight, the sides convex, the tip very acute. Nostrils basal, roundish, concealed by the feathers. Head roundish-ovate; neck short; body rather full. Legs rather short; tarsus short, compressed, slender, with seven scutella; toes moderate, the first large, the lateral nearly equal. Claws long, compressed, moderately curved, very acute. Plumage very soft and blended. Wings rather long, pointed, the first, second, and third quills about equal and longest. Tail rather short, deeply emarginate. Roof of upper mandible deeply concave; tongue grooved above, pointed; œsophagus dilated about the middle; stomach small, broadly elliptical, moderately muscular; intestine short; cœca very small.

American Goldfinch

1. Male 2. Female

Common Thistle

Drawn from Nature by J. J. Audubon FRSFLS

Lith.d Printed & Col.d by J. T. Bowen Philad.

AMERICAN GOLDFINCH.

CARDUELIS TRISTIS, *Linn.*

PLATE CLXXXI.—MALE AND FEMALE.

This species merely passes over the State of Louisiana in the beginning of January, and at that season is seen there for only a few days, alighting on the highest tops of trees near water-courses, in small groups of eight or ten, males and females together. They feed at that period on the opening buds of *maples,* and others that are equally tender and juicy. In the month of November they are again seen moving southwards, and for a few days only.

A few breed in Kentucky and the State of Ohio, but the Middle Districts are their principal places of resort during summer, although they extend their migrations to a high latitude. They arrive in the State of New York about the middle of April; and as they become very abundant in that State during the summer, I shall describe their habits as observed there.

The flight of the American Goldfinch is exactly similar to that of the European bird of the same name, being performed in deep curved lines, alternately rising and falling, after each propelling motion of the wings. It scarcely ever describes one of these curves without uttering two or three notes whilst ascending, such as its European relative uses on similar occasions. In this manner, its flight is prolonged to considerable distances, and it frequently moves in a circling direction before alighting. Their migration is performed during the day. They seldom alight on the ground, unless to procure water, in which they wash with great liveliness and pleasure, after which they pick up some particles of gravel or sand. So fond of each other's company are they, that a party of them passing on the wing will alter its course at the calling of a single one perched on a tree. This call is uttered with much emphasis: the bird prolongs its usual note, without much alteration, and as the party approaches, erects its body, and moves it to the right and left, as if turning on a pivot, apparently pleased at shewing the beauty of its plumage and the elegance of its manners. No sooner has the flock, previously on wing, alighted, than the whole party plume themselves, and then perform a little sweet concert. So much does the song of our Goldfinch resemble that of the European species, that whilst in France and England, I have frequently thought, and with pleasure thought, that they were the notes of our own bird which I heard. In America again, the song

of the Goldfinch recalled to my remembrance its transatlantic kinsman, and brought with it too a grateful feeling for the many acts of hospitality and kindness which I have experienced in the "old country."

The nest also is perfectly similar to that of the European bird, being externally composed of various lichens fastened together by saliva, and lined with the softest substances. It is small and extremely handsome, and is generally fixed on a branch of the Lombardy poplar, being sometimes secured to one side of a twig only. I have also found it in elder bushes, a few feet above the ground, as well as in other trees. The female deposits from four to six eggs, which are white, tinged with bluish, and marked at the larger end with reddish-brown spots. They raise only one brood in a season. The young follow the parents for a long time, are fed from the mouth, as Canaries are, and are gradually taught to manage this themselves. When it happens that the female is disturbed while on her nest, she glides off to a neighbouring tree, and calls for her mate, pivoting herself on her feet, as above described. The male approaches, passes and repasses on the wing at a respectful distance from the intruder, in deeper curves than usual, uttering its ordinary note, and when the unwelcome visitant has departed, flies with joy to his nest, accompanied by the female, who presently resumes her occupation.

The food of the American Goldfinch consists chiefly of seeds of the hemp, the sun-flower, the lettuce, and various species of thistle. Now and then, during winter, it eats the fruit of the elder.

In ascending along the shores of the Mohawk river, in the month of August, I have met more of these pretty birds in the course of a day's walk than anywhere else; and whenever a thistle was to be seen along either bank of the New York canal, it was ornamented with one or more Goldfinches. They tear up the down and withered petals of the ripening flowers with ease, leaning downwards upon them, eat off the seed, and allow the down to float in the air. The remarkable plumage of the male, as well as its song, are at this season very agreeable; and so familiar are these birds, that they suffer you to approach within a few yards, before they leave the plant on which they are seated. For a considerable space along the Genessee river, the shores of Lake Erie, Lake Ontario, and even Lake Superior, I have always seen many of them in the latter part of summer. They have then a decided preference for the vicinity of water.

It is an extremely hardy bird, and often remains the whole winter in the Middle Districts, although never in great numbers. When deprived of liberty, it will live to a great age in a room or cage. I have known two instances in which a bird of this species had been confined for upwards of ten years. They were procured in the market of New York when in

mature plumage, and had been caught in trap-cages. One of them having undergone the severe training, more frequently inflicted in Europe than America, and known in France by the name of *galérien*, would draw water for its drink from a glass, it having a little chain attached to a narrow belt of soft leather fastened round its body, and another equally light chain fastened to a little bucket, kept by its weight in the water, until the little fellow raised it up with its bill, placed a foot upon it, and pulled again at the chain until it reached the desired fluid and drank, when, on letting go, the bucket immediately fell into the glass below. In the same manner, it was obliged to draw towards its bill a little chariot filled with seeds; and in this distressing occupation was doomed to toil through a life of solitary grief, separated from its companions, wantoning on the wildflowers, and procuring their food in the manner in which nature had taught them. After being caught in trap-cages, they feed as if quite contented; but if it has been in spring that they have lost their liberty, and they have thus been deprived of the pleasures anticipated from the previous connexion of a mate, they linger for a few days and die. It is more difficult to procure a mule brood between our species and the Canary, than between the latter and the European Goldfinch, although I have known many instances in which the attempt was made with complete success.

The young males do not appear in full plumage until the following spring. The old ones lose their beauty in winter, and assume the duller tints of the female. In fact, at that season, young and old of both sexes resemble each other.

There is a trait of sagacity in this bird which is quite remarkable, and worthy of the notice of such naturalists as are fond of contrasting instinct with reason. When a Goldfinch alights on a twig imbued with bird-lime expressly for the purpose of securing it, it no sooner discovers the nature of the treacherous substance, than it throws itself backwards, with closed wings, and hangs in this position until the bird-lime has run out in the form of a slender thread considerably below the twig, when feeling a certain degree of security, it beats its wings and flies off, with a resolution, doubtless, never to alight in such a place again; as I have observed Goldfinches that had escaped from me in this manner, when about to alight on any twig, whether smeared with bird-lime or not, flutter over it, as if to assure themselves of its being safe for them to perch upon it.

This interesting species is found on the shores of the Columbia river. It is mentioned by Dr. Richardson as visiting the Fur Countries, where it arrives at a very late period, as it retires in September, after a stay of less than three months. The eggs described by that most zealous naturalist agree in every particular with some now before me, which I collected

myself. They measure a trifle more than five and a half eighths in length, by four and a half eighths in breadth, and are very obtuse at one end and sharp at the other. My friend Dr. BACHMAN informs me, that "although this bird is not uncommon in the maritime districts of South Carolina during winter, it has not been observed to breed nearer than one hundred miles from Charleston." Dr. T. M. BREWER states, that "it remains through the year at Boston, breeds in large numbers, and is seen during winter in great flocks, in dull plumage, constantly flitting about."

Abundant in the Middle and Western Districts during summer. Accidental in the Southern States during winter. Columbia river and Fur Countries. Abundant. Migratory.

AMERICAN GOLDFINCH, *Fringilla tristis*, Wils. Amer. Orn., vol. i. p. 20.
FRINGILLA TRISTIS, Bonap. Syn., p. 111.
CARDUELIS AMERICANA (Edwards), *American Goldfinch*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 268.
YELLOW-BIRD OF AMERICAN GOLDFINCH, Nutt. Man., vol. i. p. 507.
AMERICAN GOLDFINCH, *Fringilla tristis*, Aud. Orn. Biog., vol. i. p. 172; vol. v. p. 510.

Bill rather slender, second and third quills longest. Male rich lemon-yellow, fading behind into yellowish-white; upper part of head, wings, and tail black; smaller coverts yellow, quills margined, and secondary coverts tipped with yellowish-white; inner webs of tail-feathers in their terminal half white. Female brownish-olive above, without black on the head; fore neck and breast greyish-yellow, the rest of the lower parts greyish-white. Young like the female, as is the male in winter.

Male, $4\frac{1}{2}$, 8.

THE COMMON THISTLE.

CNICUS LANCEOLATUS, *Willd.*, Sp. Pl., vol. iii. p. 1666. *Pursch*, Flora Amer., vol. ii. p. 506. *Smith*, Engl. Bot., vol. iii. p. 388.—SYNGENESIA POLYGAMIA ÆQUALIS, *Linn.*—CINAROCEPHALÆ, *Juss.*

This well known species of *thistle*, common in the temperate and colder parts of both continents, it is unnecessary to describe.

Black headed Goldfinch

W. E.

Lithos Printed & Colr by J. T. Bowen Philad.

BLACK-HEADED GOLDFINCH.

CARDUELIS MAGELLANICUS, *Vieill.*

PLATE CLXXXII.—MALE.

While residing at Henderson, on the Ohio, I, one cold morning in December, observed five males of this species on the heads of some sunflowers in my garden, and, after watching them for a little time, shot two of them. The rest rose high in the air, and were soon out of sight. Considering the birds very nearly allied to our Common American Goldfinch, I was surprised to find the head black at that season. Their notes resembled those of the Pine Finch, *Linaria pinûs*, but in their manner of feeding, as well as in their flight, they precisely resembled the American Goldfinch, *Carduelis tristis*. All my subsequent endeavours to meet with this species failed, and I am unacquainted with the female.

Five seen in winter at Henderson in Kentucky, of which I procured two.

BLACK-HEADED SISKIN, *Fringilla magellanica*, Aud. Orn. Biog., vol. v. p. 46.

Adult Male.

Bill short, conical, compressed toward the end, very acute; upper mandible a little broader than the lower, with the dorsal outline slightly convex, the sides convex, the edges a little inflected and overlapping, the tip slightly declinate; the gap-line straight, but a little deflected at the base; lower mandible with the angle short and rounded, the dorsal line straight, the sides convex, the tip acute. Nostrils basal, roundish, concealed by the feathers.

Head of moderate size, roundish-ovate. Neck short. Body rather full. Legs of moderate length; tarsus short, compressed, slender, covered anteriorly with seven scutella, and thin-edged behind; toes slender, compressed, scutellate, the first large and stouter, the lateral nearly equal; claws long, compressed, moderately curved, very acute.

Plumage soft and blended. Wings rather long, pointed; the first and second quills equal, the third one-twelfth shorter, the other primaries rapidly graduated; the outer secondaries emarginate. Tail rather short, emarginate.

Male, $4\frac{3}{4}$, wing $2\frac{10}{12}$.

ARKANSAW GOLDFINCH.

+ Carduelis psaltria, *Say.*

PLATE CLXXXIII.—Male.

This pretty little species first added to our Fauna by Thomas Say, who procured it in the course of Colonel Long's expedition to the Rocky Mountains, visits the lower parts of Louisiana at irregular periods, although always during winter. I have procured individuals a few miles from Bayou Sara. They fly loosely together, alight after performing some evolutions, made as if to ascertain the absence of danger, and, as soon as they are on the trees or on the ground, proceed to search for food. The only notes I heard them utter, somewhat resembled those of *C. tristis*, the American Goldfinch. They are impatient birds, and seldom remain long in the same spot, but change to and fro in the same locality. No individuals of this species were observed by Nuttall or Townsend in the course of their journey to and across the Rocky Mountains. My figure is that of an old male drawn at Bayou Sara.

Eastern bases of Rocky Mountains, and Western Plains. Accidental in Lower Louisiana. Common. Migratory.

Arkansaw Siskin, *Fringilla psaltria*, Say, Long's Exped., vol. ii. p. 40.
Fringilla psaltria, Bonap. Syn., p. 111.
Arkansas Siskin, Nutt. Man., vol. i. p. 510.
Arkansaw Siskin, *Fringilla psaltria*, Aud. Orn. Biog., vol. v. p. 85.

Adult Male.

Bill short, conical, stout, compressed toward the end, the tip acute; upper mandible with the dorsal line somewhat convex, the ridge indistinct, the sides rounded, the edges sharp, declinate at the base, the tip narrow; lower mandible with the angle very short and semicircular, the dorsal line straight, the sides convex, the edges inflected, the tip acute. Nostrils basal, round, concealed by the feathers.

Head rather large, broadly ovate; neck short; body moderate. Feet of moderate size; tarsus rather short, compressed, with seven anterior scutella, and two plates behind meeting so as to form a very sharp edge; toes rather large, the lateral equal, the first stouter; claws rather long, moderately arched, much compressed, laterally grooved, very acute.

Arkansaw Goldfinch.

Male

Drawn from Nature by J. J. Audubon F.R.S. F.L.S. *Lith.d Printed & Col.d by J. T. Bowen Philad.*

Plumage very soft and blended; short stiffish feathers at the base of the bill. Wings rather long, little concave; the second, third, and fourth primaries cut out toward the end; the second longest, the first half a twelfth shorter, the third scarcely a quarter of a twelfth shorter than the second, and exceeding the fourth by a twelfth and a half, the next four and a quarter twelfths shorter; some of the inner primaries and most of the secondaries distinctly emarginate. Tail rather short, deeply emarginate, the feathers obliquely pointed and divaricate.

Bill flesh-coloured, the upper mandible dusky toward the end. Feet and claws reddish-brown. The upper part of the head is deep black; the hind neck, back, and scapulars yellowish-green, each feather greenish-brown in the centre; the rump greenish-yellow, the upper tail coverts dusky, margined with greenish-yellow, as are the smaller wing-coverts. The other coverts and quills are black; the secondary-coverts broadly tipped with pale yellow, which forms a conspicuous band across the wing; the quills are margined with yellowish-white, the inner more broadly; all the quills, the outer three, and the inner secondaries excepted, are white toward the base. The tail is brownish-black, the feathers narrowly edged with brownish-white, and all, excepting the two middle and the lateral, with a white space at the base, which runs out along the outer margin forming a conspicuous patch. All the lower parts are bright-yellow, but the cheeks and the sides of the neck are tinged with green, and the feathers of the chin are blackish in the centre.

Length to end of tail $4\frac{1}{2}$ inches; extent of wings 8; bill along the ridge $\frac{4\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{5\frac{3}{4}}{12}$; wing from flexure $2\frac{1}{12}$; tail 2; tarsus $\frac{7}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{3\frac{1}{2}}{12}$; middle toe $\frac{6\frac{1}{4}}{12}$, its claw $\frac{3}{12}$.

The female is similar to the male, but wants the black patch on the head, that part being green like the back.

YARRELL'S GOLDFINCH.

CARDUELIS YARRELLII, *Aud.*

PLATE CLXXXIV.—MALE AND FEMALE.

I am indebted to my friend WILLIAM SWAINSON, Esq., the well-known naturalist, for skins of a pair of this pretty little bird, from which I made the drawing of the Male and Female represented in the Plate. As the species is found in Upper California, it may be considered as forming part of our Fauna.

Upper California.

MEXICAN GOLDFINCH, *Fringilla Mexicana*, Aud. Orn. Biog., vol. v. p. 282.

Adult Male.

Bill shorter than the head, conical, compressed toward the end, very stout, with the tip acute; upper mandible with the dorsal line declinate and very slightly convex, the edge rather distinct, the sides rounded, the edges sharp, declinate at the base; lower mandible with the angle short and wide, the dorsal line almost straight, being very slightly concave, the sides convex, the edges inflected, the tip acute. Nostrils basal, round, concealed by the feathers.

Head large, broadly ovate; neck short. Feet rather short; tarsus short, compressed, with seven anterior scutella, and two lateral plates meeting behind so as to form a very sharp edge; toes rather large, the first stouter, the lateral nearly equal; claws rather long, moderately arched, much compressed, laterally grooved, very acute.

Plumage very soft and blended; short stiffish feathers at the base of the bill. Wings rather long, little concave; the second, third, and fourth primaries cut out toward the end; the second longest, the first half a twelfth shorter, the third scarcely a quarter of a twelfth shorter than the second, and exceeding the fourth by a twelfth; some of the secondaries slightly emarginate. Tail rather short, emarginate, the feathers obliquely and narrowly rounded.

Bill flesh-coloured, somewhat dusky above. Feet and claws yellowish-brown. The upper part of the head is deep black; the back and scapulars yellowish-green, the hind neck and rump greenish-yellow; the wings and tail brownish-black, the former when extended crossed by two bands, one

Yarrell's Goldfinch

1 Male. 2 Female.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Philad.

Stanley Goldfinch.

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.

greenish-yellow, tipping the first row of small coverts; the other bright yellow and broad, on the base of the primary and secondary quills; the tail also yellow in its basal half. The lower parts are bright yellow.

Length to end of tail $4\frac{2}{12}$ inches; bill along the ridge $\frac{4\frac{1}{2}}{12}$; wing from flexure $2\frac{6}{12}$; tail $1\frac{7\frac{1}{2}}{12}$; tarsus $\frac{6}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{3}{12}$; middle toe $\frac{4\frac{1}{2}}{12}$, claw $\frac{2}{12}$.

Female.

The female, which is smaller, has no black on the head, that part, with the hind neck, back, rump, scapulars and smaller wing-coverts being light yellowish-green, tinged with grey; the wings and tail wood-brown; the coverts tipped with dull yellowish-green; the bases of the primary quills white; the quills edged with greyish-white; the base of the tail, the two middle feathers excepted, white on the inner webs to within half an inch of the end; the lower parts are dull greenish-yellow.

Length to end of tail 4 inches; bill along the ridge $\frac{4}{12}$; wing from flexure $2\frac{1}{2}$; tail $1\frac{3}{4}$; tarsus $\frac{6}{12}$.

In the brief specific character of this species given by Mr. Swainson, the bird is said to be "glossy black, beneath yellow; base of the quills and lateral tail-feathers white." The first and last of these characters, however, do not agree with the male presented by himself, which has only the upper part of the head, and part of the wings and tail black, the back being yellowish-green. This species is much smaller than the Arkansaw Siskin, and is very similar in its markings, but is of a much brighter yellow.

STANLEY GOLDFINCH.

Carduelis Stanleyi, *Aud.*

PLATE CLXXXV.—Female.

Bill thick; second and third quills equal, first little shorter. Male with the upper part of the head black, the back and scapulars yellowish-green, faintly streaked with dusky, the rump inclining to greenish-yellow; the wings and tail black; the former, when extended, crossed by two bands, one greenish-yellow, tipping the first row of small coverts, the other bright yellow, and broad at the base of the primary and secondary quills; tail also

yellow in its basal third, except on the middle feather; lower parts greenish-yellow, fading into white on the abdomen; feathers on the throat black at the base; lower tail-coverts yellow, tipped with white, and having a central dusky streak. Female dull yellowish-green above, faintly streaked with dusky, paler beneath.

In this species, which I have named in honour of the illustrious Earl of Derby, the bill is so thick and short, as to approach in form to that of the European Greenfinch.

Male, $4\frac{9}{12}$ inches long; wing from flexure $2\frac{10}{10}$; found in Upper California.

Genus IX.—FRINGILLA, *Linn.* FINCH.

Bill short, stout, conical, somewhat compressed, pointed; upper mandible of the same breadth as the lower, with its dorsal line straight, the ridge indistinct, the sides rounded, the edges ascending at the base, the notches obsolete, the tip scarcely deflected; lower mandible with the angle very short and rounded, the dorsal line straight, the sides convex, the edges inflected, the tip acute. Nostrils basal, roundish, concealed by the feathers. Head rather large, ovate; neck short; body compact. Legs of moderate length; tarsus rather short, compressed, with seven scutella; toes moderate; hind toe stout, lateral equal. Claws rather long, arched, compressed, acute. Plumage rather compact, but blended. Wings of moderate length, with the second, third, and fourth quills longest. Tail of moderate length, slightly emarginate. Roof of upper mandible moderately concave, with three longitudinal ridges; tongue compressed, channelled above, dilated about the middle; stomach roundish, muscular; intestine rather short; cœca small.

THE FOX-COLOURED FINCH.

FRINGILLA ILIACA, *Merrem.*

PLATE CLXXXVI.—MALE AND FEMALE.

Although the Fox-coloured Sparrow visits us regularly at the approach of winter, it merely remains during the few months of the year which are too severe in the more northern parts of our continent, where it resides at all other periods. It wanders, however, as far southward as the lower parts of Louisiana, is also met with in Kentucky, and in the countries bordering on the Ohio, Missouri, and Mississippi, and visits the Floridas, Georgia, the Carolinas, and in short every State south of Massachusetts. In the latter State, and in that of Maine, few individuals are seen after its passage through these districts, late in October.

In the northern parts of America, where it breeds, it replaces the Towhe Bunting, so abundant in our middle States, where it delights us with its song. To that species the Fox-coloured Sparrow comes next in size, while it greatly surpasses it in its musical powers.

While in the United States, it lives retired, and separates itself from most other species. Little flocks, consisting of a family or two, take possession of some low well-covered thicket, by the side of some clear streamlet, where they spend the winter unmolested, searching for food among the fallen and withered leaves, or among the roots and dead branches of trees. Should a warm morning dawn on their retreat, the male birds directly ascend to the middle branches of the brambles, and in a soft under tone cheer the females with their melodies. At all other times they remain comparatively silent, merely emitting a note to call each other, or to assure their little family that all is safe around them. Towards spring a kind of bustle takes place in their camp: the males, already warmed with affection and love, renew their attentions to their mates; new connections are formed by the young; their song becomes much improved; and the passer by may here and there see a pair moving slowly and cautiously towards the land whence they had emigrated some months before.

Follow these birds wherever you will, you invariably find them not in deep woods, but along the fences, and amid patches of briars and tangled underwood, which at all times seem so pleasing to them. They traverse the

whole of the Union by day, resting here and there awhile, to watch the gradual improvement of the season.

They enter the British Provinces full of joy, and lavish of song. Many are well pleased to remain there, but the greater number pursue their course to revisit the Magdeleine Islands, Newfoundland, and the country of Labrador. There you find them in every pleasant dell, where no sooner have they arrived than each searches for a safe retreat in which to place its nest. This is in due time replenished with eggs; and, while the female sits on them with care and anxiety, her devoted lover chants the blessings they both enjoy.

The flight of this bird is low, rapid, and undulating. While passing over the Gulf of St. Lawrence, it flies swiftly, at a moderate height, without uttering any note. They appear to be able to travel to a considerable distance, without the necessity of alighting, and I have thought that they may accomplish the passage of the Gulf without resting on any of its islands. As soon as they alight, they betake themselves to the deepest thickets.

During the breeding season, their plumage has a richness which it does not exhibit in the winter months, while with us. Indeed some of the males at that time are so highly coloured as to be of a bright red rather than of a brown tint; and their appearance, as they pass from one bush to another, or skip from stone to stone, is extremely pleasing. I have attempted to represent this colouring in the Plate.

Would that I could describe the sweet song of this Finch; that I could convey to your mind the effect it produced on my feelings, when wandering on the desolate shores of Labrador!—that I could intelligibly tell you of the clear, full notes of its unaffected warble, as it sat perched on the branch of some stunted fir. There for hours together was continued the delightful serenade, which kept me lingering about the spot. The brilliancy and clearness of each note, as it flowed through the air, were so enchanting, the expression and emphasis of the song so powerful, that I never tired of listening. But, reader, I can furnish no description of the melody.

While in South Carolina, in January 1834, after I had returned from the country where this species breeds, I happened, one fair day, to meet with a groupe of these birds. They were singing in concert. Never shall I forget the impression which their notes made on me: I suddenly stopped and looked around; for a moment I imagined that I had been by magic transported to the wilds of Labrador; but how short was the duration of these feelings!—a Hawk sailed over the spot of their concealment, and in an instant all was silent as the tomb.

The nest of the Fox-coloured Sparrow, which is large for the size of the bird, is usually placed on the ground, among moss or tall grass, near the stem

Fox-coloured Finch.

Drawn from Nature by J. J. Audubon. F.R.S.F.L.S.

1. Male. 2. Female.

Lith.d Printed & Col.d by J. T. Bowen. Philad.a

of a creeping fir, the branches of which completely conceal it from view. Its exterior is loosely formed of dry grass and moss, with a carefully disposed inner layer of finer grasses, circularly arranged; and the lining consists of very delicate fibrous roots, together with some feathers from different species of water-fowl. In one instance I found it composed of the down of the Eider-duck. The period at which the eggs are laid, is from the middle of June to the 5th of July. They are proportionally large, four or five in number, rather sharp at the smaller end, of a dull greenish tint, sprinkled with irregular small blotches of brown. I think that the description given in the splendid work of my friends SWAINSON and RICHARDSON, of the eggs of this species, must have been taken from those of the White-crowned Bunting, as it agrees precisely with eggs which I have found in many nests of that bird.

When one approaches the nest, the female affects lameness, and employs all the usual arts to decoy him from it. They raise only one brood in the season. The young, before they depart for the United States, already resemble their parents, which have by this time lost much of the brilliancy of their colouring. They leave Labrador about the 1st of September, in small groups, formed each of a single family. When in that country, and in Newfoundland, I frequently observed them searching along the shores for minute shell-fish, on which they feed abundantly.

Many of these birds are frequently offered for sale in the markets of Charleston, they being easily caught in "figure-of-four traps!" Their price is usually ten or twelve cents each. I saw many in the aviaries of my friends Dr. SAMUEL WILSON and the Reverend JOHN BACHMAN, of that city. To the former I am indebted for the following particulars relative to this species, part of which I was myself witness to.

Dr. WILSON, who was almost in the daily habit of visiting my friend BACHMAN, with whom it was my good fortune to reside while at Charleston, was fond of talking about birds, many of which he knew more accurately than ordinary ornithologists are wont to do. "My dear Mr. AUDUBON," he said, "I have several beautiful Fox-coloured Sparrows in my aviary, but of late some of them have been killed, and I wish you would tell me by what other birds the murders can have been committed." I laid the charge first on the Blue Jays; but he replied that even they appeared as if greatly molested by some other species. A day elapsed, the Doctor returned, and astonished me not a little by informing me that the culprit was a Mocking-bird. I went to his house on the 8th of December; and, while standing on the piazza, we both saw the Mocking-bird alight on one of the Fox-coloured Sparrows, in the manner of a small Hawk, and peck at the poor bird with such force as to convince us that its death must soon ensue. The muscular

powers of the Finch, however, appeared almost too much for the master songster of our woods; it desisted for a moment, out of breath, and we could observe its pantings; but it did not fail to resume its hitherto unknown character of tyrant. A servant was despatched to the rescue, and peace was restored; but the Finch was almost reduced to its last gasp, and shortly after expired. This very Mocking-bird we strongly suspected of being the individual that had killed a Blue Jay of exceedingly meek disposition, a few weeks before. It was ultimately removed into a lonely cage, where it is yet passing its days, perhaps in unavailing penitence.

The Fox-coloured Finch is found abundantly on the Columbia river. It breeds in the woody districts of the Fur Countries, up to the 68th parallel. About Boston it is abundant during summer, generally skulking in the bushes and avoiding observation. It passes through Massachusetts on its way south in the first week in November, and returns about the 10th of April. It is very easily approached, and its note is extremely beautiful.

In this species the palate is moderately ascending, deeply concave, with two prominent lines, at the meeting of which anteriorly is a small soft projection. The upper mandible is moderately concave, with a prominent middle line and two lateral ridges. The width of the mouth is 5½ twelfths. The tongue is 4 twelfths long, compressed, channelled above, horny, rather obtuse, somewhat spoon-shaped at the point, as in the Pine Finch. Œsophagus 2½ inches long, its greatest width 4½ twelfths, being slightly dilated towards the lower part of the neck. The stomach is roundish, 7 twelfths long, 6 twelfths broad; its lateral muscles rather strong, the epithelium tough, longitudinally rugous. Intestine 9½ inches long, from 3 twelfths to 2 twelfths in width: cœca 3¼ twelfths long, ½ twelfth in width, 1 inch distant from the extremity. Trachea 1 inch 8 twelfths long, 1 twelfth in breadth; the rings 72, and 2 dimidiate, firm; bronchial rings about 15; the muscles as usual.

Male, 7½, 10½. Female, 7½.

Dispersed in winter throughout the Southern and Western Districts. Breeds from Nova Scotia to Labrador and the Fur Countries. Rather common.

Fox-coloured Sparrow, *Fringilla rufa*, Wils. Amer. Orn., vol. iii. p. 53.
Fringilla iliaca, Bonap. Syn., p. 112.
Fringilla (Zonotrichia) iliaca, Swains. & Rich. F. Bor. Amer., vol. ii. p. 257.
Ferruginous Finch, *Fringilla iliaca*, Nutt. Man., vol. i. p. 514.
Fox-coloured Sparrow, *Fringilla iliaca*, Aud. Orn. Biog., vol. ii. p. 58; vol. v. p. 512.

Adult Male in summer.

Bill short, robust, conical, acute; upper mandible broader than the lower, almost straight in its dorsal outline, as is the lower, both being rounded on

Townsend's Finch

Male

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen, Philad.a

the sides, and the lower with inflected acute edges; the gap-line nearly straight, a little deflected at the base, and not extending to beneath the eye. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large, neck shortish; body robust. Legs of moderate length, rather strong; tarsus shorter than the middle toe; covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe rather large.

Plumage compact above, soft and blended beneath; wings short, curved, rounded, the second, third and fourth quills longest, and nearly equal; the first and fifth equal; tail longish, even, or slightly rounded.

TOWNSEND'S FINCH.

Fringilla Townsendi.

PLATE CLXXXVII.—Female.

This species was discovered on the shores of the Columbia river, by Mr. Townsend, who sent me a perfect specimen, ticketed "Female, February 15th, 1836," together with the following notice. "I found this species numerous on the plains of the Colorado of the west, in the Rocky Mountains. It is a very active and rather shy bird, keeping constantly in the low bushes of wormwood, and on the ground, in the vicinity. It appears to be partially gregarious, six or eight being mostly seen together. Its voice is a sharp quick chirp, and occasionally a low weak warble." It bears a considerable resemblance to *Fringilla iliaca* of our Eastern Districts, but is darker, and wants the light-coloured bands with which the wings of that species are marked. Other differences will be found on comparing the description with that of the bird above mentioned, to which, however, it is so nearly allied that it evidently belongs to the same subordinate group.

Female, 7, 10½.

Colorado of the West. Rocky Mountains.

Townsend's Finch, *Fringilla Townsendi*, Aud. Orn. Biog., vol. v. p. 236.

Female.

Bill short, rather robust, conical, acute; upper mandible rather broader

than the lower, almost straight in its dorsal outline, as is the lower, both being rounded on the sides, the lower with inflected sharp edges, the upper with a slight prominence on the edges anterior to the nostrils; the gap-line nearly straight, a little deflected at the base. Nostrils basal, roundish, open, partially concealed by the feathers.

Head rather large, broadly ovate; neck shortish; body full. Legs of moderate length, rather strong, tarsus shorter than the middle toe and claw, covered anteriorly with seven long scutella; toes scutellate above, free, the lateral nearly equal, the hind toe stout, and with its claw nearly as long as the third. Claws very long, slightly arched, slender, compressed, laterally grooved, acute, that of the hind toe largest.

Plumage soft and blended, the feathers ovato-oblong. Wings very short, convex, rounded; the second, third, and fourth quills longest, and nearly equal, the first a quarter of an inch shorter than the second, and equal to the sixth; secondaries abruptly rounded. Tail longish, nearly even.

Bill dark brown above, the base of the lower mandible yellow, its tip bluish; iris brown; feet flesh-coloured. The general colour of the upper parts is a very deep olivaceous brown, in which there is apparent a slight tinge of red, which becomes more conspicuous on the rump and outer webs of the tail-feathers, and margins the wing-coverts and quills; there are no bands on the wings. The ground-colour of the lower parts is the same as of the upper, but the shafts of the cheek-feathers are whitish; there is a longitudinal band of white spots from the angle of the lower mandible; the throat, fore neck, middle of the breast, and hind part of the flanks are variegated with white, the greater part of each feather being of that colour, and the tip only dusky brown; the lower tail-coverts are reddish-brown in the centre, with broad yellowish-white edges, the tibial feathers dull reddish-brown, the lower surface of the wing greyish-brown.

Length to end of tail 7 inches; extent of wings $10\frac{1}{2}$; bill along the ridge $\frac{5}{12}$, along the edge of lower mandible $\frac{7}{12}$; wing from flexure $2\frac{11}{12}$; tail $2\frac{11}{12}$; tarsus $\frac{10\frac{1}{2}}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{6}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$.

The wing of this bird is much shorter than that of *Fringilla iliaca*, which measures $3\frac{6}{12}$ inches; its tarsi are longer, but more slender, and its claws are so much longer and more slender, as to suggest at first the idea of its being a *Plectrophanes*, from which however it differs in the form of the wings.

"Brown" "Finch"

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith. Printed & Col'd by J. T. Bowen Phila.

BROWN SONG-FINCH.

FRINGILLA CINEREA, *Gmel.*

PLATE CLXXXVIII.—MALE.

Of this bird I have received the following account from Mr. NUTTALL:—"This species, so much allied to *Fringilla iliaca* by its brown colour, inhabits the woody districts of the Columbia, very generally as far as the sea-coast, and continues as far south as Upper California. It is a somewhat familiar and agreeable songster, mounting some low bush, and singing, at intervals, for hours together, much in the manner of the Song Sparrow, but with a sweeter and more varied tone. We heard their cheerful notes throughout the summer; and every fine day in winter till the month of November, particularly in the morning, their song was still continued. The nest and eggs are scarcely distinguishable from those of the Song Sparrow, the former being chiefly formed of dry grass, and lined with finer blades of the same, or with deer hair. They keep much in low ground and alluvial situations, amidst rank weeds and brambles, where they are frequently to be seen hopping and searching after insects, like so many Wrens or Swamp Sparrows, which they so much resemble also in plumage. They are as usual very solicitous for the safety of their young or eggs, keeping up an incessant chirp, and are nearly the whole summer, like the Song Sparrow, engaged in the cares of breeding. We have found this species also very common in Upper California.

Mr. TOWNSEND speaks of it as follows:—"This species inhabits several hundred miles of the Platte country in great numbers, as well as the banks of the Columbia river. It affects generally the low bushes of wormwood (*Artemisia*), from the summit of which it pours forth a variety of pretty notes. It appears to be a very pugnacious species. Two of them, probably males, are often observed fighting in the air; the beaten party goes off crestfallen, and the conqueror repairs to the nearest bush, where he tunes his pipe to a lively and triumphant stave in honour of his victory. I again met with this bird, though not plentiful, in June 1825, on the waters of the Columbia river near the mouth of Lewis river. I never observed it in the vicinity of the lower settlements. The sexes are almost precisely alike in plumage.

Platte river, North California, and Columbia river. Common. Migratory.

FRINGILLA CINEREA, Gmel. Syst. Nat., vol. i. p. 922.
CINEREOUS FINCH, Arct. Zool., vol. ii. N. 260.
BROWN SONG SPARROW, *Fringilla cinerea*, Aud. Orn. Biog., vol. v. p. 22.

Adult Male.

Bill short, stout, conical, compressed toward the end; upper mandible with the dorsal line very slightly convex, at the base and toward the tip, the ridge narrow, and extending a short way on the forehead, where it tapers to a point, the sides rounded, the edges inflected, the tip pointed, the gap-line nearly straight, a little deflected at the base; lower mandible of the same breadth as the upper, with the angle very short and broad, the dorsal line ascending and straight, the back broad at the base, the sides rounded, the edges involute, the tip pointed.

Head of moderate size, ovate; neck short; body full. Feet of moderate length and rather stout; tarsus rather short, compressed, anteriorly covered with seven scutella, posteriorly with two longitudinal plates meeting so as to form a very sharp edge; toes moderate, the first strong, the lateral equal; claws rather long, slender, much compressed, laterally grooved, moderately arched, very acute.

Plumage soft and blended, the feathers ovate. There are no distinct bristles at the base of the upper mandible. Wings short, concave, broad, much rounded; the first quill four-twelfths and three-fourths shorter than the fourth, which is the longest, the rest very little graduated, the outer secondaries slightly emarginate, the inner not elongated. Tail rather long, slender, much rounded, the lateral feathers being five-twelfths of an inch shorter than the longest.

Bill dusky, the lower mandible reddish-brown toward the base. Feet and claws dusky reddish-brown. The general colour of the upper parts is dark olivaceous brown, all the feathers dusky in the centre; the wing-coverts, inner secondaries and tail-feathers more or less tinged with red on the margins. Over the eye is a dusky greyish line; on the cheek a whitish line, and beneath it a dusky brown band; the throat and fore part of the neck white, with longitudinal brown streaks, the middle of the breast brownish-white, the sides dark greyish-brown, as are the lower tail-coverts.

Length to end of tail 6 inches; extent of wings 8; bill along the ridge $\frac{5\frac{3}{4}}{12}$; wing from flexure $2\frac{7}{12}$; tail $2\frac{10}{12}$; tarsus $\frac{11}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{3\frac{1}{2}}{12}$.

The female is similar to the male.

Song Finch

1 Male 2 Female

Fringilla [illegible] Linn. [illegible] Lincolnii fremitosum.

Drawn from Nature by J. J. Audubon, F.R.S.E.

Lith.ᵃ Printed & Col.ᵈ by J. T. Bowen, Phila.ᵈ

THE SONG-FINCH.

FRINGILLA MELODIA, *Wils.*

PLATE CLXXXIX.—MALE AND FEMALE.

The Song Sparrow is one of the most abundant of its tribe in Louisiana, during winter. This abundance is easily accounted for by the circumstance that it rears three broods in the year:—six in the first, five in the second, and three in the third brood, making fourteen per annum from a single pair. Supposing a couple to live in health, and enjoy the comforts necessary for the bringing up of their young families, for a period of only ten years, which is a moderate estimate for birds of this class, you will readily conceive that a whole flock of Song Sparrows may in a very short time be produced by them.

Among the many wonders unveiled to us by the study of nature, there is one which, long known to me, is not the less a marvel at the present moment. I have never been able to conceive why a bird which produces more than one brood in a season, should abandon its first nest to construct a new one, as is the case with the present species; while other birds, such as the Osprey, and various species of Swallows, rear many broods in the first nest which they have made, which they return to after their long annual migrations, repair, and render fit for the habitation of the young brood to be produced. There is another fact which renders the question still more difficult to be solved. I have generally found the nests of this Sparrow cleaner and more perfect after the brood raised in them have made their departure, than the nests of the other species of birds mentioned above are on such occasions; a circumstance which would render it unnecessary for the Song Sparrow to repair its nest. You are aware of the cleanliness of birds with respect to their nests during the whole period occupied in rearing their young. You know that the parents remove the excrements to a distance from them, so long as these excrements are contained in a filmy kind of substance, of which the old bird lays hold with its bill for that express purpose, frequently carrying them off to a distance of forty or fifty yards, or even more. Well, the Song Sparrow is among the cleanest of the clean. I have often watched the young birds leaving the nest; and after their departure, have found it as well fitted for the reception of a fresh set of eggs as the new nest which the

bird constructs. I am unable to understand the reason why a new nest is formed. Can you, reader, solve the question?

I have at all times been very partial to the Song Sparrow; for although its attire is exceedingly plain, it is pleasing to hear it, in the Middle States, singing earlier in spring, and later in autumn, than almost any other bird. Its song is sweet, of considerable duration, and performed at all hours of the day. It nestles sometimes on trees, and sometimes on the ground. I have imagined that the old birds, finding by experience the insecurity of their ordinary practice of nestling on the ground, where the eggs are often devoured by Crows, betake themselves to the bushes to conceal their nests from their enemies. But whatever may be the reason, the fact certainly exists, and the nests of the Song Sparrow occur in both kinds of situation. The nest for the first brood is prepared, and the eggs laid, sometimes as early as the 15th of April. The young are out by the first week of May. The third brood is seen by the middle of September. The nest, when on the ground, is well sunk in the earth, and is placed at the roots of tall grasses. It is made of fine grass, and lined with hair, principally horse-hair. The number of eggs is from five to seven, usually from four to six, excepting those for the last brood, which I have seldom found to exceed three. They are of a very broad ovate form, light greenish-white, speckled with dark umber, the specks larger toward the greater end. The male assists in the process of incubation, during which one of the birds feeds the other in succession. At this time the male is often to be observed singing on the top of a neighbouring bush, low tree, or fence-rail.

The flight of the Song Sparrow is short, and much undulated, when the bird is high in the air, but swifter and more level when it is near the ground. They migrate by night, singly or in straggling troops. Some of them remain the whole winter in the Middle Districts, where they are not unfrequently heard to sing, if the weather prove at all pleasant. The greater part, however, seek the Southern States, where myriads of Sparrows of different kinds are everywhere to be seen in low swampy situations, such as they at all periods prefer. It is a fine plump bird, and becomes very fat and juicy. It is picked up in great numbers by the Hen-harriers, which visit us for the purpose of feeding on the different kinds of Sparrows that resort to these States in winter from the Middle Districts. In Louisiana, they are frequently seen to ascend to the tops of large trees, and there continue for some time singing their agreeable chant, after which they dive again into the low bushes, or amongst the rank weeds which grow wherever a stream is to be found. They feed on grass-seeds, some berries and insects, especially grasshoppers, and now and then pursue flies on the wing. On the ground their motions are lively. They continue running about with great nimbleness

and activity, and sometimes cross shallow waters leg-deep. To the eastward, they often frequent orchards and large gardens, but seldom approach houses.

My friend Dr. T. M. Brewer, of Boston, has sent me the following remarks:—"I think there is good reason for believing that two distinct species are confounded under the name of *Fringilla melodia*. I have long observed the striking differences exhibited by eggs supposed to belong to this bird, and within a few months Mr. Cabot has pointed out to me a uniform difference of plumage, which always accompanies this difference of the eggs. One of these supposed species has been painted by Wilson. It differs in having its breast more universally spotted, while that of the other is much less so, except in the centre, where a number of confluent spots form a distinct star. This last bird is the one painted by you, and is by far the most common. The former builds its nest in bushes or young trees at least two feet from the ground. The most common resort for this purpose is a young cedar tree, where the branches are very thick, where I have twice found an arched entrance leading to it, and a cover to the nest, made by weaving straw and hay among the thick foliage of the tree. The other always builds on the ground. I have found in the nest of the former six eggs, but never more than five in that of the latter. The egg of Wilson's bird is larger and less pointed at the small end, the ground-colour, so far as it can be seen, appears to be white, but the whole of the egg is so thickly spotted with blotches of a rusty brown as to appear almost wholly of that colour. The eggs of your bird are of a less size, the smallest end obtuse, the ground-colour of a distinct light green, and perceptible over the whole egg, not even excepting the larger end, where the spots of lilac-brown, with which the egg is spangled over, are the thickest. These differences are uniform. There is still another, which should not be overlooked. The former is always known to breed apart from the habitations of man, in old orchards and pastures; the other is often fouud to build its nest in our gardens, and not unfrequently under our windows. Such coincident differences cannot be merely casual, and therefore I do not see why birds differing in plumage, nest, and eggs, as well as in habits, should not be regarded as distinct species."

I have placed a pair of Song Sparrows on a twig of the *huckleberry bush* in blossom. This species sometimes grows to the height of six or seven feet, and produces a fine berry in great abundance. Huckleberries of every sort are picked by women and children, and sold in the eastern markets in great profusion. They are used for tarts, but in my opinion are better when eaten fresh.

Breeds from Texas to Nova Scotia. Not observed in Kentucky. Winter resident in the Southern States. Very abundant.

FRINGILLA MELODIA, Wils. Amer. Orn., vol. ii. p. 125.
FRINGILLA MELODIA, Bonap. Syn., p. 108.
COMMON SONG SPARROW, *Fringilla melodia*, Nutt. Man., vol. i. p. 486.
SONG SPARROW, *Fringilla melodia*, Aud. Orn. Biog., vol. i. p. 126; vol. v. p. 507.

Adult Male.

Bill short, robust, conical, a little bulging, straight, acute; upper mandible broader, slightly declinate at the tip; gap-line a little declinate at the base. Nostrils basal, roundish, concealed by the frontal feathers. Feet of moderate length; tarsus longer than the middle toe; toes free, the lateral ones nearly equal; claws compressed, arched, acute.

Plumage rather compact above, soft and blended beneath. Wings short, rounded, the third and fourth quills longest. Tail longish, even, the feathers narrow and acute.

Bill deep brown above, bluish beneath. Iris hazel. Feet and claws pale brown. Upper part of the head reddish-brown, mottled with dark brown, with a broad line of bluish-grey down the middle. Back grey, streaked with reddish-brown and dusky. Lower back bluish-grey; tail-coverts tinged with light brown. Sides of the head bluish-grey; a broad line of brown from the eye backwards, and another from the commissure of the mouth. Under parts white, tinged on the sides with grey, and posteriorly with reddish-brown, the neck and breast spotted with dark brown, and the lateral under tail-coverts streaked with the same. Wings dark brown, the quills margined externally with reddish-brown, the coverts margined and tipped with whitish. Tail-feathers uniformly dull brown.

Length 6 inches, extent of wings $8\frac{1}{2}$; bill along the ridge $\frac{1}{3}$, along the gap $\frac{1}{2}$; tarsus 1, middle toe $\frac{3}{4}$, hind toe $\frac{2}{3}$.

The female hardly differs in colour from the male.

THE HUCKLEBERRY OR BLUE-TANGLES.

VACCINIUM FRONDOSUM, *Willd.*, Sp. Pl., vol. ii. p. 352. *Pursch*, Flor. Amer., vol. i. p. 285. —DECANDRIA MONOGYNIA, *Linn.*—ERICÆ, *Juss.*

Leaves deciduous, ovato-oblong or lanceolate, entire, smooth, glaucous beneath, resinous; racemes lax, bracteate; pedicles long, filiform, bracteolate; corollas ovato-campanulate, with acute laciniæ and included anthers. The flower is white, the calyx green, the berry globular and of a bluish-black colour. It varies greatly in the form of the leaves, as well as in stature, sometimes attaining a height of six or seven feet.

Huckleberries form a portion of the food of many birds, as well as of

Morton's Finch.

Male

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Philad.

various quadrupeds. Of the former, I may mention in particular the Wild Turkey, several species of Grouse, the Wild Pigeon, the Turtle Dove, some Loxias, and several Thrushes. Among the latter, the Black Bear stands pre-eminent, although Racoons, Foxes, Oppossums, and others destroy great quantities.

MORTON'S FINCH.

FRINGILLA MORTONII.

PLATE CXC.

A single specimen of this pretty little bird, apparently an adult male, has been sent to me by Dr. TOWNSEND, who procured it in Upper California. Supposing it to be undescribed, I have named it after my excellent and much esteemed friend Dr. MORTON of Philadelphia, Corresponding Secretary of the Academy of Natural Sciences of that city.

North California.

MORTON'S FINCH, *Fringilla Mortoni*, Aud. Orn. Biog., vol. v. p. 312.

Adult Male.

Bill short, stout, conical, compressed toward the end; upper mandible with its dorsal outline declinate, almost straight, being slightly convex toward the end, the ridge indistinct, the sides rounded, the edges sharp and somewhat inflected, with a very faint notch close to the tip; lower mandible about the same depth and nearly as broad at the base, its angle very short and rounded, its dorsal line ascending, almost straight, being very slightly convex, the back and sides convex, the edges inflected, the tip acute. Gap-line considerably declinate at the base. Nostrils small, roundish, marginate, basal, in the fore part of the short nasal depression, and partially concealed by the feathers.

Head rather large, ovate; neck short. Feet of ordinary length, tarsus much compressed, with seven anterior scutella, and two plates behind meeting so as to form a very thin edge; toes rather stout, compressed, the first large, the second or inner scarcely shorter than the outer, which is united to

the fourth as far as the second joint; claws rather long, much compressed, laterally grooved, moderately arched, acute.

Plumage soft and blended. Wings of moderate length, the first quill two-twelfths of an inch shorter than the second, which is almost equal to the third, the latter being the longest, the fourth scarcely half a twelfth shorter, the rest slowly decreasing; secondaries long, truncate or abruptly rounded. Tail of moderate length, nearly even, the middle feathers one-twelfth, the lateral half a twelfth shorter than the rest.

Bill dusky, bluish toward the base. Feet and claws yellowish-brown. The upper part of the head is ash-grey, with a longitudinal band of black on each side from the bill to the occiput, externally of which is a greyish-white band; loral space, cheek-coverts, and auriculars dusky, the feathers under the eye tipped with white; the throat white, surrounded with a black band; a light chestnut-red band surrounds the neck, except for a short space in front; the fore part of the back and scapulars are light dull yellowish-red, streaked with brownish-black, the hind part, rump, and upper tail-coverts yellowish-grey; the smaller wing-coverts yellowish-grey, the first row brownish-black toward the end, with the tip white, the secondary coverts and inner secondary quills brownish-black, broadly margined with light yellowish-red, the former tipped with white, the rest of the quill dusky brown, edged with yellowish-red fading on the outer to whitish; the tail-feathers blackish-brown, narrowly edged with pale yellowish-grey, the lateral of a lighter tint. The lower parts are dull brownish-white, the sides light greyish-brown, the lower wing-coverts yellowish-white.

Length to end of tail $5\frac{1}{2}$ inches; bill along the ridge $\frac{4\frac{3}{4}}{12}$, along the edge of lower mandible $\frac{6}{12}$; wing from flexure $2\frac{11}{12}$; tail $2\frac{4}{12}$, tarsus $\frac{9\frac{1}{2}}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{7}{12}$, its claw $\frac{2\frac{3}{4}}{12}$.

In its colouring this bird is very similar to the White-crowned and White-chinned Finches, with which it also agrees in the form of its wings, but differs in having the tail much shorter, the bill less robust, the claws proportionally longer and less arched.

White-throated Finch

1 Male. 2 Female

Common Dogwood

Lith.d Printed & Col.d by J. T. Bowen. Philad.

THE WHITE-THROATED FINCH.

†Fringilla pennsylvanica, *Lath.*

PLATE CXCI.—Male and Female.

This pretty little bird is a visitor of Louisiana and all the southern districts, where it remains only a very short time. Its arrival in Louisiana may be stated to take place in the beginning of November, and its departure in the first days of March. In all the Middle States it remains longer. How it comes and how it departs are to me quite unknown. I can only say, that, all of a sudden, the edges of the fields bordering on creeks or swampy places, and overgrown with different species of vines, sumach bushes, briars, and the taller kinds of grasses, appear covered with these birds. They form groups, sometimes containing from thirty to fifty individuals, and live together in harmony. They are constantly moving up and down among these recesses, with frequent jerkings of the tail, and uttering a note common to the tribe. From the hedges and thickets they issue one by one in quick succession, and ramble to the distance of eight or ten yards, hopping and scratching, in quest of small seeds, and preserving the utmost silence. When the least noise is heard, or alarm given, and frequently, as I thought, without any alarm at all, they all fly back to their covert, pushing directly into the very thickest part of it. A moment elapses, when they become reassured, and ascending to the highest branches and twigs, open a little concert, which, although of short duration, is extremely sweet. There is much plaintive softness in their note, which I wish, kind reader, I could describe to you; but this is impossible, although it is yet ringing in my ear, as if I were in those very fields where I have so often listened to it with delight. No sooner is their music over than they return to the field, and thus continue alternately sallying forth and retreating during the greater part of the day. At the approach of night, they utter a sharper and shriller note, consisting of a single *twit*, repeated in smart succession by the whole group, and continuing until the first hooting of some owl frightens them into silence. Yet, often during fine nights, I have heard the little creatures emit here and there a twit, as if to assure each other that "all's well."

During the warmer days, they remove partially to the woods, but never out of reach of their favourite briar thickets, ascend the tops of hollies, or such other trees as are covered with tangled vines, and pick either a berry

or a winter grape. Their principal enemies in the day-time, are the little Sparrow Hawk, the Slate-coloured or Sharp-shinned Hawk, and above all, the Hen-harrier or Marsh Hawk. The latter passes over their little coteries with such light wings, and so unlooked for, that he seldom fails in securing one of them.

No sooner does spring return, when our woods are covered with white blossoms, in gay mimicry of the now melted snows, and the delighted eye is attracted by the beautiful flowers of the *dog-wood* tree, than the White-throated Sparrow bids farewell to the south, not to return till winter.

It is a plump bird, fattening almost to excess, whilst in Louisiana, and affords delicious eating, for which purpose many are killed with *blow-guns.* These instruments—should you not have seen them—are prepared by the Indians, who cut the straightest canes, perforating them by forcing a hickory rod through the internal partitions which intersect this species of bamboo, and render them quite smooth within by passing the rod repeatedly through. The cane is then kept perfectly straight, and is well dried, after which it is ready for use. Splints of wood, or more frequently of cane, are then worked into tiny arrows, quite sharp at one end, and at the other, instead of being feathered, covered with squirrel hair or other soft substances, in the manner of a bottle-brush, so as to fill the tube and receive the impulse imparted by a smart puff of breath, which is sufficient to propel such an arrow with force enough to kill a small bird at the distance of eight or ten paces. With these blow-guns or pipes, several species of birds are killed in large quantities; and the Indians sometimes procure even squirrels by means of them.

Dr. Richardson informs us that this species reaches the Saskatchewan in the middle of May, and spreads throughout the Fur Countries up to the 66th parallel. On the 14th of June, he found a female sitting on four eggs, at Cumberland House. The nest, which was placed under a fallen tree, was built of grass, lined with deer's-hair and a few feathers. Another found at Great Bear Lake was lined with the setæ of *bryum.* The eggs were very pale mountain-green, thickly marbled with reddish-brown. When the female was disturbed, she made her escape by running silently off, in a crouching manner, like a Lark. I met with this species in Labrador, in considerable numbers, but did not find its nest, although the young were seen late in July.

When kept in an aviary, this bird, in the latter part of spring or about May, sings at all hours of the night as joyously as when at liberty and breeding. It arrives from the north in South Carolina about the first of November, and departs in the end of March. In that State it is quite silent until the approach of night, when it chirps, as I have already described.

The *dog-wood*, of which I have represented a twig in early spring, is a small tree found nearly throughout the Union, but generally preferring such

lands as with us are called of second quality, although it occasionally makes its appearance in the richest alluvial deposits. Its height seldom exceeds twenty feet, or its diameter ten inches. It is scarcely ever straight to any extent, but the wood, being extremely hard and compact, is useful for turning, when well dried and free of wind-shakes, to which it is rather liable. Its berries are eaten by various species of birds, and especially by our different kinds of squirrels, all of which shew great partiality to them. Its flowers, although so interesting in early spring, are destitute of odour, and of short duration. The bark is used by the inhabitants in decoction as a remedy for intermittent fevers, and the berries are employed by the housewife for dyeing black.

Male, $6\frac{1}{2}$, 9. Female, $6\frac{1}{4}$, $8\frac{1}{2}$.

Winter resident from Louisiana to Maryland, and inland as far as Kentucky. Breeds from Maine to the Fur Countries. Abundant.

White-throated Sparrow, *Fringilla albicollis*, Wils. Amer. Orn., vol. iii. p. 51.
Fringilla Pennsylvanica, Bonap. Syn., p. 108.
Fringilla (Zonotrichia) Pennsylvanica, *White-throated Finch*, Swains. & Rich. F. Bor. Amer., vol. ii. p. 256.
White-throated Sparrow, *Fringilla Pennsylvanica*, Nutt. Man., vol. i. p. 481.
White-throated Sparrow, *Fringilla Pennsylvanica*, Aud. Orn. Biog., vol. i. p. 42; vol. v. p. 497.

Adult Male.

Bill short, robust, conical, acute; upper mandible broader than the lower, scarcely declinate at the tip, almost straight in its dorsal outline, as is the lower, both being rounded on the sides, and the lower with inflected, acute edges; the gap-line nearly straight, a little deflected at the base, and not extending to beneath the eye. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large. Neck shortish. Body robust. Legs of moderate length, slender; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe rather large.

Plumage compact above, soft and blended beneath. Wings short and curved, rounded, the third and fourth quills longest, the first much shorter, the secondaries long. Tail longish, forked, the lateral feathers curved outwards towards the tip.

Upper mandible dark brown, its edges and the lower mandible light blue. Iris hazel. Feet flesh-coloured, claws light brown. Upper part of the head black, with a narrow white stripe from the forehead to the upper part of the neck. A broader white stripe, anteriorly passing into bright orange, over

each eye, margined by a narrow black stripe extending from the eye down the neck. Upper part of the back, and the lesser wing-coverts, bright bay, variegated with black; lower back and tail-coverts brownish-grey. Quills and large coverts blackish, margined with bay, the latter, as well as the next series, tipped with white, forming two conspicuous bands on the wing. Tail dusky brown. Throat white; sides and fore-part of the neck and breast bluish-grey; the rest of the under parts greyish-white.

Length $6\frac{1}{2}$ inches, extent of wings 9; bill $\frac{5}{12}$ along the ridge, $\frac{7}{12}$ along the gap; tarsus $1\frac{1}{4}$, middle toe 1.

Adult Female.

In the female, the colours are similarly arranged, but much duller, the bright bay of the male being changed into reddish-brown, the black into dark brown, and the white into greyish-white. The white streak above the eye is narrower, shorter, and anteriorly less yellow, the greyish-blue of the breast paler, and the white spot on the throat less defined.

Length $6\frac{1}{4}$ inches, extent of wings $8\frac{1}{2}$; bill $\frac{1}{3}$ along the ridge, $\frac{1}{2}$ along the gap.

Dog-wood.

Cornus florida, *Willd.*, Sp. Plant., vol. i. p. 661. *Michaux*, Abr. Forest. de l'Amer. Sept. t. iii. p. 138, Pl. iii. *Pursch*, Flora Americ., p. 108.—Tetrandria Monogynia, *Linn.*—Caprifolia, *Juss.*

A beautiful small tree, generally about twenty feet in height, with very hard wood; dark grey bark, cracked into squarish compartments; ovate-elliptical, acuminate leaves, which are light green above, whitish beneath; large, obcordate involucral leaves; and bright-red oval berries.

White-crowned Finch.

1 Male 2 Female

Wild Summer Grape

Drawn from Nature by J J Audubon F R S F L S

Lith.d Printed & Col.d by J T Bowen Philad.a

THE WHITE-CROWNED FINCH.

Fringilla leucophrys, *Gmel.*

PLATE CXCII.—Male and Female.

It is to the wild regions of Labrador that you must go, kind reader, if you wish to form a personal acquaintance with the White-crowned Sparrow. There in every secluded glen opening upon the boisterous Gulf of St. Lawrence, while amazed you glance over the wilderness that extends around you, so dreary and desolate that the blood almost congeals in your veins, you meet with this interesting bird. Your body is sinking under the fatigue occasioned by your wading through beds of moss, as extraordinary for their depth, as for the brilliancy of their tints, and by the difficulties which you have encountered in forcing your way through the tangled creeping pines, so dwarfish and so stubborn, that you often find it easier to trample down their branches than to separate them so as to allow you a passage. In such a place, when you are far away from all that is dear to you, how cheering is it to hear the mellow notes of a bird, that seems as if it had been sent expressly for the purpose of relieving your mind from the heavy melancholy that bears it down! The sounds are so sweet, so refreshing, so soothing, so hope inspiring, that as they come upon the soul in all their gentleness and joy, the tears begin to flow from your eyes, the burden on your mind becomes lighter, your heart expands, and you exprience a pure delight, produced by the invitation thus made to offer your humblest and most sincere thanks to that all-wondrous Being, who has caused you to be there no doubt for the purpose of becoming better acquainted with the operations of his mighty power.

Thus it was with me, when, some time after I had been landed on the dreary coast of Labrador, I for the first time heard the song of the White-crowned Sparrow. I could not refrain from indulging in the thought that, notwithstanding the many difficulties attending my attempts—my mission I must call it—to study God's works in this wild region, I was highly favoured. At every step, new objects presented themselves, and whenever I rested, I enjoyed a delight never before experienced. Humbly and fervently did I pray for a continuation of those blessings, through which I now hoped to see my undertaking completed, and again to join my ever-dear family.

I first became acquainted with the White-crowned Sparrow at Henderson,

in the autumn of 1817. I then thought it the handsomest bird of its kind, and my opinion still is that none other known to me as a visiter or inhabitant of the United States, exceeds it in beauty. I procured five individuals, three of which were in full plumage and proved to be males. The sex of the other two could not be ascertained; but I have since become convinced that these birds lose the white stripes on the head in the winter season, when they might be supposed to be of a different species. During spring and summer the male and the female are of equal beauty, the former being only a little larger than the latter. The young which I procured in Labrador, shewed the white stripes on the head as they were fully fledged, and I think they retain those marks in autumn longer than the old birds, of which the feathers have become much worn at that season. In the winter of 1833, I procured at Charleston in South Carolina, one in its brown livery.

One day, while near American Harbour, in Labrador, I observed a pair of these birds frequently resorting to a small hammock of firs, where I concluded they must have had a nest. After searching in vain, I intimated my suspicion to my young friends, when we all crept through the tangled branches, and examined the place, but without success. Determined, however, to obtain our object, we returned with hatchets, cut down every tree to its roots, removed each from the spot, pulled up all the mosses between them, and completely cleared the place; yet no nest did we find. Our disappointment was the greater that we saw the male bird frequently flying about with food in its bill, no doubt intended for its mate. In a short while, the pair came near us, and both were shot. In the female we found an egg, which was pure white, but with the shell yet soft and thin. On the 6th of July, while my son was creeping among some low bushes, to get a shot at some Red-throated Divers, he accidentally started a female from her nest. It made much complaint. The nest was placed in the moss, near the foot of a low fir, and was formed externally of beautiful dry green moss, matted in bunches like the coarse hair of some quadruped, internally of very fine dry grass, arranged with great neatness, to the thickness of nearly half an inch, with a full lining of delicate fibrous roots of a rich transparent yellow. It was 5 inches in diameter externally, 2 in depth, $2\frac{1}{4}$ in diameter within, although rather oblong, and $1\frac{3}{4}$ deep. In one nest we found a single feather of the Willow Grouse. The eggs, five in number, average $\frac{7}{8}$ of an inch in length, are proportionally broad, of a light sea-green colour, mottled toward the larger end with brownish spots and blotches, a few spots of a lighter tint being dispersed over the whole. This description differs greatly from that of the nest and eggs of this species given by others, who, I apprehend, have mistaken for them those of the Fox-tailed Sparrow, or the *Anthus Spinoletta.* We found many nests, which were all placed on the ground, or among the

moss, and were all constructed alike. They deposit their eggs from the beginning to the end of June. In the beginning of August, I saw many young that were able to fly, and by the 12th of that month the birds had already commenced their southward migration. The young follow their parents until nearly full grown.

The food of this species, while in Labrador, consists of small coleopterous insects, grass-seeds, and a variety of berries, as well as some minute shell-fish, for which they frequently search the margins of ponds or the sea-shore. At the approach of autumn, they pursue insects on the wing, to a short distance, and doubtless secure some in that manner.

The song of the White-crowned Finch consists of six or seven notes, the first of which is loud, clear, and musical, although of a plaintive nature; the next broader, less firm, and seeming merely a second to the first; the rest form a cadence diminishing in power to the last note, which sounds as if the final effort of the musician. These notes are repeated at short intervals during the whole day, even on those dismal days produced by the thick fogs of the country where it breeds, and where this species is of all the most abundant. The White-throated Finch was also very plentiful, and we found it breeding in the same localities.

The flight of this interesting bird is usually low, swift, and greatly protracted. It is performed without any jerk of the tail. They migrate mostly by day—I say *mostly*, because while crossing a great arm of the sea, like the Gulf of St. Lawrence, they perhaps may not always be able to accomplish their transit in one day.

I have met with this bird in almost every portion of the United States during early spring and autumn, but always either single or in very small groups. I have shot some near New Orleans in April, at Cincinnati, and near New York in May. They reach the Magdeleine Islands, Newfoundland, and the coast of Labrador, about the first of June. Those which I have seen on their passage through the United States were perfectly silent, and usually frequented low bushes and grape-vines, the fruit of which they eagerly eat, but never entering the woods. In every instance I found them as gentle and unsuspicious as whilst at Labrador.

In the plate are to be seen two of these birds, drawn many years ago, one of them a male in full summer plumage, the other a female in the winter dress. I have no doubt that this species retires far south in Mexico, to spend the winter. It is nearly allied to the White-throated and Fox-tailed Sparrows, and in its winter plumage it may perhaps prove to be the *Fringilla ambigua* of my friend NUTTALL.

Male, 7½, 10½.

Breeds from Newfoundland and Labrador northward. Abundant. Migratory. Passes southward in autumn beyond the Texas.

White-crowned Bunting, *Emberiza leucophrys*, Wils. Amer. Orn., vol. iv. p. 49.
Fringilla leucophrys, Bonap. Syn. p. 479.
Fringilla (Zonotrichia) leucophrys, *White-crowned Finch*, Swains. and Rich., F. Bor. Amer., vol. ii. p. 255.
White-crowned Bunting, or Finch, Nutt. Man., vol. i. p. 479.
White-crowned Sparrow, *Fringilla leucophrys*, Aud. Orn. Biog., vol. ii. p. 88; vol. v. p. 515.

Adult Male.

Bill very short, robust, conical, acute; upper mandible scarcely broader than the lower, both almost straight in their outline, rounded on the sides, with the edges inflected and sharp; the gap-line very slightly deflected at the base, and not extending to beneath the eye. Nostrils basal, roundish, partially concealed by the feathers. Head rather large, neck short, body full. Legs of moderate length, rather strong; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe rather large.

Plumage soft and rather blended above, loose beneath. Wings short and curved, rounded, the third quill longest, the second and fourth almost as long. Tail rather long, nearly even, of twelve rounded feathers.

Bill reddish-orange, tipped with brown. Iris reddish-brown. Feet pale brown. The head is marked with three stripes of white, and four of deep black. Back and wing-coverts dark reddish-brown, with pale grey margins, the posterior part of the back and upper tail-coverts lighter brown. Quills and tail dark brown, margined with pale; the tip of the smaller coverts white, as are those of some of the primary coverts, which, with the secondary quills, have chestnut-brown edges. Throat and belly white; sides of the neck and the breast dull purplish-grey; the flanks and under tail-coverts pale brownish-grey.

Length $7\frac{1}{2}$ inches; extent of wings $10\frac{1}{2}$; bill along the ridge $\frac{4\frac{1}{2}}{12}$, along the edge $\frac{7}{12}$; tarsus $\frac{10}{12}$.

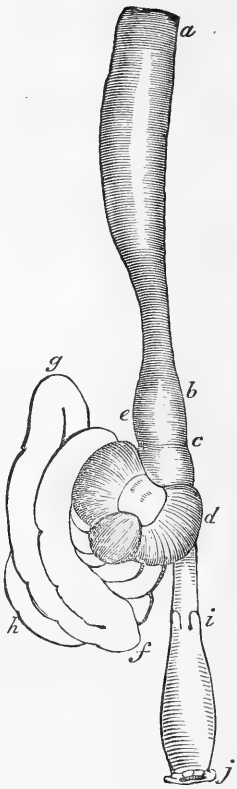
Adult Female.

In its summer dress, the female resembles the male at that season; but in winter the white lines on the head are less pure, the dark lines are reddish-brown, but the tints of the other parts are nearly similar, these circumstances being the same in the male.

Length $7\frac{1}{4}$ inches.

The lower mandible is broader than the upper, and deeply concave; the

palate ascending, with two longitudinal ridges, forming a soft protuberance at their junction anteriorly; the upper mandible beneath with three ridges and four grooves. Tongue 4 twelfths long, deeper than broad, with a median groove above, and tapering to an acute point Œsophagus, *a b c*, 2 inches 3 twelfths in length, its greatest width when dilated 5 twelfths. Proventriculus, *b c*, 3 twelfths in breadth. Stomach, *d e*, placed obliquely, 6 twelfths long, 7½ twelfths broad, its lateral muscles large and distinct, the lower muscle also prominent, but thin, the epithelium as usual, with strong longitudinal rugæ. Intestine, *e f g h i j*, 8 inches long, from 2 twelfths to 1½ twelfths in breadth; cœca, *i*, 1½ twelfths long, and ½ twelfth in breadth, 9 twelfths distant from the extremity, *j*. Trachea 1 inch 8 twelfths long, the rings 70 with 2 dimidiate, pretty firm and a little flattened. Bronchial half rings about 12. Muscles as usual, the inferior laryngeal moderately large.



The Summer Grape.

Vitis æstivalis, var. Sinuata, *Pursch*, Flor. Amer. Sept., vol. i. p. 169.

This variety has large cordate leaves, which are less deeply lobed, and with large marginal teeth. It occurs in all the barren lands of the Western Country, particularly in those of Kentucky, Tennessee, and Illinois. Although it seldom attains much strength of stem, it spreads broadly on the bushes, and forms beautiful festoons. The grapes are juicy and agreeable to the taste. They are fully ripe by the middle of August, and remain hanging until destroyed by the frost. When wild pigeons happen to be abundant where it grows, they speedily devour the fruit.

BLACK-AND-YELLOW-CROWNED FINCH.

✝ Fringilla atricapilla, *Gmel.*

PLATE CXCIII.—Male.

The only account which I have received of this handsome Finch, long since known to the ornithologist, is from Mr. Nuttall:—"We first observed the young of this species on the central table-land of the Rocky Mountains, in the prairies, and mostly running on the ground. We heard no note from them. We afterwards saw a few stragglers, in the early part of winter, in the thickets of the forests of the Columbia river, near Fort Vancouver, accompanying the *Fringilla leucophrys.* It is probable that they come there to pass the cold season. They are equally seen at this time, and until late in the spring, in the woods and thickets of Upper California.

Male, 8, wing $3\frac{5}{12}$.

Rocky Mountains and Columbia river. Rare. Migratory.

Emberiza atricapilla, Gmel. Syst. Nat., vol. i. p. 875.
Black-and-yellow-crowned Finch, *Emberiza atricapilla*, Aud. Orn. Biog. vol. v. p. 47.

Adult Male.

Bill short, stout, narrower than the head, conical, somewhat compressed toward the end, acute; upper mandible with its dorsal outline nearly straight, the ridge convex and obscure, the sides rounded, the edges somewhat inflected, with a very small notch at the end, the tip a little declinate; lower mandible with the angle short and rounded, the dorsal line slightly convex, the sides rounded, the edges involute, the point acute. The gap-line nearly straight, at the base a little declinate; the palate concave. Nostrils basal, roundish, open, partially concealed by the feathers.

Head rather large, ovate; neck short; body full. Legs of moderate length, rather stout; tarsus of moderate length, compressed, covered anteriorly with seven scutella; toes rather large, scutellate above, the first stronger, the lateral nearly equal, the third and fourth connected at the base. Claws rather long, moderately arched, slender, compressed, laterally grooved, acute.

Plumage full, soft, and blended. Wings of ordinary length; the first quill two and a half twelfths shorter than the second, which is longest, but scarcely exceeds the third, which in like manner is very slightly longer than

Black-and-yellow-crowned Finch.

Drawn from Nature by J J Audubon F.R.S.E.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.

the fourth, the other primaries moderately graduated; the outer secondaries slightly emarginate, the inner not elongated. Tail long, rounded.

Bill reddish-brown, dusky toward the point; feet flesh-coloured, claws dusky. The upper part of the head is black, with a longitudinal median band of yellow, changing behind to grey; upper parts yellowish-brown, tinged with grey, the feathers of the fore part of the back, scapulars, and wing-coverts with a central dusky spot; quills and larger coverts dark brown, bordered with reddish-brown, paler on the primaries; the tips of the first row of small coverts, and of the secondary coverts, white, forming two bands across the wing. Tail greyish-brown, the feathers edged with yellowish-grey. The sides of the head, throat, fore part and sides of the neck, sides of the body, and fore part of the breast, light grey, the sides tinged with yellow, the rest of the lower parts brownish-white.

Length to end of tail 8 inches; bill along the ridge $\frac{5\frac{3}{4}}{12}$; wing from flexure $3\frac{5}{12}$; tail $3\frac{5}{12}$; tarsus $\frac{11\frac{1}{2}}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{8}{12}$, its claw $\frac{3\frac{1}{6}}{12}$.

A young male, shot by Mr. Townsend, on the Rocky Mountains, on the 12th of July, 1834, has all the upper parts dull yellowish-grey, streaked with dusky; the wings and tail dusky brown, the quills edged with reddish-brown, the two bands on the coverts light reddish-brown; the lower parts whitish, streaked with dusky, the throat white, with a band of dusky spots on each side from the lower mandible.

Genus X.—PIPILO, *Vieill.* GROUND-FINCH.

Bill short, stout, narrower than the head, conical, somewhat compressed, acute; upper mandible with the dorsal line slightly convex, the ridge narrow and distinct, the sides convex, the edges somewhat inflected, ascending for more than a third, then direct, with a slight festoon; notches very slight, tip declinate, narrow; lower mandible with the angle very short and broad, the dorsal line slightly convex, the sides rounded, the edges involute, the point acute. Nostrils basal, roundish, partially concealed by the feathers. Tarsus of moderate length, compressed, with seven scutella; toes rather large, scutellate above, the first stronger, the lateral nearly equal. Claws rather long, moderately arched, slender, compressed, laterally grooved, acute.

Small bristles at the base of the upper mandible. Plumage full, soft, and blended. Wings of ordinary length, much rounded, the fourth quill longest; tail long, rounded. Roof of upper mandible rather flat, with a narrow median and two broad lateral flattened ridges; tongue compressed, convex above, with a median groove, horny at the end, and pointed; œsophagus slightly dilated about the middle; stomach a strong muscular gizzard; intestine short; cœca small.

ARCTIC GROUND-FINCH.

†Pipilo arcticus, *Swains.*

PLATE CXCIV.—Male and Female.

This handsome species was first described by Mr. Swainson in the Fauna Boreali-Americana. Dr. Richardson in the same work states, that it was observed only on the plains of the Saskatchewan, where he supposes it breeds, as one specimen was obtained late in July. It arrives there in the end of May, and frequents shady and moist clumps of wood, being generally seen on the ground. It feeds on grubs, and is solitary and retired. My friend Mr. Nuttall has furnished me with the following account of it:—

"We found this familiar bird entirely confined to the western side of the Rocky Mountains. Like the common Towee, it is seen to frequent the forests amidst bushes and thickets, where, flitting along or scratching up the dead leaves, it seems intent on gaining a humble subsistence. It is much more shy than the common kind, when observed flying off or skulking in the thickest places, where it is with difficulty followed. In a few minutes, however, the male, always accompanying his mate, creeps out, and at first calls in a low whisper of recognition, when, if not immediately answered, he renews his plaintive *par par* or *pay payay*, until joined by her; when, if the nest be invaded, he comes out more boldly, and reiterates his complaint, while there remains around him the least cause of alarm. When undisturbed during the period of incubation, he frequently mounts a low bush in the morning, and utters at short intervals, for an hour at a time, his monotonous and quaint warble, which is very similar to the notes of the Towee; but this latter note (*towee*) so continually repeated by our humble and familiar

Arctic Ground Finch.

1. Male. 2. Female

Drawn from Nature by J. J. Audubon F.R.S.E.L.S.

Lith.d Printed & Col.d by J. T. Bowen Phila.d

Ground Robin, is never heard in the western wilds, our present species uttering in its stead the common complaint, and almost mew, of the Cat-bird. On the 14th of June, I saw the nest of this species, situated in the shelter of a low undershrub, in a depression scratched out for its reception. It was made of a rather copious lining of clean wiry grass, with some dead leaves beneath, as a foundation. The eggs were four, nearly hatched, very closely resembling those of the Towee, thickly spotted over, but more so at the larger end, with very small, round, and numerous reddish chocolate spots. As usual, the pair shewed a great solicitude about their nest, the male in particular approaching boldly to scold and lament at the dangerous intrusion. This species extends into Upper California, and is occasionally seen there with the brown species of Swainson, *Pipilo fuscus*."

Mr. Townsend informs me, that it is called "Chlawa-th'l" by the Chinook Indians, and is abundant on the banks of the Columbia, where it is found mostly on the ground, or on bushes near the ground, rarely ascending trees. His description of the nest and eggs agrees precisely with that of Mr. Nuttall.

The eggs of this bird in my possession measure an inch and an eighth in length, and seven-eighths in breadth. They are broadly rounded at the larger end, and fall off rather abruptly at the other extremity. The spots and markings are vermilion, intermixed with larger spots of neutral tint, on a pure white ground.

Male, $8\frac{1}{2}$; wing, $3\frac{1}{2}$. Female, 8; wing, $3\frac{1}{4}$.

Columbia river, and northward to the Fur Countries. Abundant. Migratory.

Pyrgita (Pipilo) arctica, *Arctic Ground Finch*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 260.
Arctic Ground-Finch, Nutt. Man., vol. ii. p. 589.
Arctic Ground-Finch, *Fringilla arctica*, Aud. Orn. Biog., vol. v. p. 49.

Adult Male.

Bill short, robust, narrower than the head, conical, somewhat compressed toward the end, acute; upper mandible almost straight in its dorsal outline, being very slightly convex, the ridge narrow and well-marked, the sides convex, the edges somewhat inflected, the tip a little declinate; lower mandible with the angle short and broad, the dorsal line slightly convex, the sides rounded, the edges involute, the point acute. The nostrils basal, roundish, open, partially concealed by the feathers. The gap-line nearly straight, a little deflected at the base.

Head rather large, ovate; neck shortish; body robust. Legs of moderate length, rather stout; tarsus of moderate length, compressed, covered ante-

riorly with seven scutella; toes rather large, scutellate above, the first stronger, the lateral nearly equal, the third and fourth connected at the base. Claws rather long, moderately arched, slender, compressed, laterally grooved, acute.

Plumage full, soft, and blended. Wings of ordinary length, the fourth quill the longest, the third and fifth next and nearly equal, the second shorter than the sixth, the first seven and a half twelfths of an inch shorter than the fourth. Tail long, rounded, of twelve strong feathers.

Bill brownish-black. Iris red. Feet and claws reddish-brown. The general colour of the plumage is black, that colour extending over part of the breast, the sides and lower tail-coverts orange-red, the central part of the breast and abdomen white, the feathers of the tibiæ dusky, margined with whitish. An elongated patch on the outer web of all the scapulars; a small terminal spot of the same on the first row of small coverts and on the secondary coverts, and a large patch at the end of the inner web of the outer three tail-feathers on each side, white.

Length to end of tail $8\frac{1}{2}$ inches, bill along the ridge $\frac{7}{12}$, along the edge of lower mandible $\frac{8\frac{1}{2}}{12}$; wing from flexure $3\frac{1}{2}$; tail $4\frac{2}{12}$; tarsus $1\frac{1}{12}$; hind toe $\frac{5}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{9\frac{1}{2}}{12}$, its claw $\frac{3}{12}$.

Adult Female.

The female is smaller. The parts which are black in the male, are blackish-grey, which on the fore part and sides of the neck is tinged with reddish-brown. In other respects there is not much difference in the plumage.

Length to end of tail 8 inches; bill along the ridge $\frac{7}{12}$; wing from flexure $3\frac{1}{4}$; tail 4; tarsus 1; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{5\frac{1}{2}}{12}$; middle toe $\frac{8\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$.

The male above described was shot by Mr. Townsend on the Columbia river, on the 14th of May, 1835; the female on the 11th of October, 1834.

In form, size, and colour, this bird is most closely allied to the Towhe Finch, *Fringilla erythrophthalma* of Linnæus, from which, however, it is at once distinguishable by the spots of white on the scapulars and wing-coverts which are wanting in that species. The latter on the other hand has a patch of white on the basal part of the outer webs of the primaries, that part being black in the present species.

Towhe Ground Finch

1 Male 2 Female

Common Blackberry

Drawn from Nature by J J Audubon F R S F L S

Lith.d Printed & Col.d by J T Bowen Philad.

THE TOWHE GROUND-FINCH.

PIPILO ERYTHROPHTHALMUS, *Linn.*

PLATE CXCV.—MALE AND FEMALE.

The flight of the Towhe Bunting is short, low, and performed from one bush or spot to another, in a hurried manner, with repeated strong jerks of the tail, and such quick motions of the wings, that one may hear their sound, although the bird should happen to be out of sight. On the ground, where it is more usually to be seen, it hops lightly, without moving the tail more than the Common Sparrow of Europe. It is a diligent bird, spending its days in searching for food and gravel, amongst the dried leaves and in the earth, scratching with great assiduity, and every now and then uttering the notes *tow-hee*, from which it has obtained its name. At other times, it ascends to the top of a small tree, or its favourite low bushes and briars, on which it sings very sweetly a few continued mellow notes.

This species constructs a larger nest than birds of its size usually do, and scoops out a place for its foundation in the earth, sometimes in an open spot, more commonly at the foot of a small sapling or large bunch of tall grass. The nest is sunk into the ground, so as to be level with it at top, and is composed of dried leaves and the bark of vines, lined with grasses of fine texture, as well as fibrous roots. The female lays from four to six eggs, and rears two, sometimes three, broods each season. If disturbed while sitting, she moves off apparently in great agony, but with more celerity than most other birds, by which means she generally prevents her nest being discovered. Snakes, however, suck the eggs, as does the Crow. The young leave the nest long before they are able to fly, and follow the mother about on the ground for several days. Some of the nests of this species are so well concealed, that in order to discover them, one requires to stand quite still on the first appearance of the mother. I have myself several times had to regret not taking this precaution.

The favourite haunts of the Towhe Buntings are dry barren tracts, but not, as others have said, low and swampy grounds, at least during the season of incubation. In the Barrens of Kentucky they are found in the greatest abundance.

Their migrations are performed by day, from bush to bush, and they seem to be much at a loss when a large extent of forest is to be traversed by them.

They perform these journeys almost singly. The females set out before the males in autumn, and the males before the females in spring, the latter not appearing in the Middle Districts until the end of April, a fortnight after the males have arrived. Many of them pass the confines of the United States in their migrations southward and northward.

Although these birds are abundant in all parts of the Union, they never associate in flocks, but mingle during winter with several species of Sparrow. They generally rest on the ground at night, when many are caught by weasels and other small quadrupeds. None of them breed in Louisiana, nor indeed in the State of Mississippi, until they reach the open woods of the Choctaw Indian Nation.

I have represented the male and female moving through the twigs of the common briar, usually called the *black briar*. It is a plump bird, and becomes very fat in winter, in consequence of which it is named *Grasset* in Louisiana, where many are shot for the table by the French planters.

Male, 8½, 12.

Breeds from Texas along the Atlantic districts, as well as in the interior, northward to Labrador. Abundant. Migratory.

TOWHE BUNTING, *Emberiza erythrophthalma*, Wils. Amer. Orn., vol. ii. p. 35.
FRINGILLA ERYTHROPHTHALMA, Bonap. Syn., p. 112.
GROUND ROBIN OR TOWHE FINCH, *Fringilla erythrophthalma*, Nutt. Man., vol. i. p. 515.
TOWHE BUNTING, *Fringilla erythrophthalma*, Aud. Orn. Biog., vol. i. p. 150; vol. v. p. 511.

Adult Male.

Bill short, robust, narrower than the head, regularly conical, acute; upper mandible almost straight in its dorsal outline, as is the lower, both having inflected edges; the gap-line nearly straight, a little deflected at the base. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large, neck shortish, body robust. Legs of moderate length, rather robust; tarsus longer than the middle toe, covered anteriorly with a few longish scutella; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe long.

Plumage rather compact above, soft and blended beneath. Wings of ordinary length, the third and fourth quills longest, the first much shorter, the secondaries short. Tail long, rounded, the lateral feathers slightly curved outwards towards the tip.

Bill black. Iris bright red. Legs and claws pale yellowish-brown. Head, neck, and upper parts generally, deep black. A white band across the primaries, partly concealed by their coverts; outer edge of first quill white; margins of the last secondaries brownish-white. Lateral tail-feathers

white, excepting at the base, and a longitudinal streak towards the tip, on the outer web; the next two white on the inner web, towards the end. Breast white, abdomen pale red; sides and lateral parts of the breast brownish-red.

Length $8\frac{1}{2}$ inches, extent of wings 12; beak along the ridge $\frac{1}{2}$, along the gap $\frac{2}{3}$; tarsus $1\frac{1}{3}$, middle toe 1, hind toe $\frac{5}{6}$.

Adult Female.

The female is scarcely smaller, and differs from the male in having the parts which in him are of a deep black, reddish-brown, excepting the bill, which is almost entirely light blue, the ridge of the upper mandible only being dark brown.

Length $8\frac{1}{4}$ inches.

In the adult bird the iris is bright red, but in the young it is frequently brown, and sometimes yellowish-white. In some instances, one eye is brown and the other red.

In an adult male preserved in spirits, the palate is ascending and deeply concave; its two longitudinal ridges uniting in front, where there is a considerable soft prominence; the upper mandible beneath flat, with a median ridge and two lateral, broad and flattened ridges. The width of the mouth is $5\frac{3}{4}$ twelfths. Posterior aperture of the nares linear, and strongly papillate, as in all the species. Tongue $5\frac{1}{2}$ twelfths long, fleshy above, toward the end horny, convex, and with a median groove. Œsophagus 2 inches 4 twelfths long, its greatest width 3 twelfths. Stomach a strong muscular gizzard, 6 twelfths long, $10\frac{1}{2}$ twelfths broad; the epithelium dense and longitudinally rugous. Contents of stomach, seeds and husks of barley. Intestine $9\frac{1}{4}$ inches long, 2 twelfths in width; the cœca $4\frac{1}{2}$ twelfths long, $1\frac{1}{2}$ twelfths in breadth, $1\frac{1}{2}$ inches from the extremity; rectum very slightly dilated.

Trachea 1 inch $7\frac{1}{2}$ twelfths long, 1 twelfth in breadth; its rings 75, besides 2 dimidiate rings. Bronchi very slender, of 15 half rings. The muscles as in all the other species.

The Blackberry.

Rubus villosus, *Willd.*, Sp. Pl., vol. ii. p. 1085. *Pursch*, Fl. Amer., vol. i. p. 346.—Icosandria Polygnia, *Linn.*—Rosaceæ, *Juss.*

Pubescent, prickly, with angular twigs; the leaves ternate or quinate, with ovato-oblong, serrate, acuminate leaflets, downy on both sides; the calycine leaves short, acuminate; and a loose raceme of white flowers. The berry is black. This species grows abundantly in old fields and by fences.

Genus XI.—ERYTHROSPIZA, *Bonap.* PURPLE-FINCH.

Bill rather short, robust, bulging, conical, pointed; upper mandible a little broader, with the nasal sinus very short and broad, the dorsal line a little convex, the ridge indistinct, the sides rounded, the edges a little inflected, ascending at the base, afterwards direct, the notches faint, the tip slightly deflected, rather acute; lower mandible with the angle short and rounded, the dorsal line ascending, straight, the back and sides rounded, the edges involute, the tip acute. Nostrils roundish, partially concealed by the short reflexed bristly feathers. Head large, roundish-ovate; neck short, body moderate. Tarsus short, slender, compressed, with seven scutella; toes rather small, first stout, lateral nearly equal. Claws slender, much compressed, well arched, acute. Plumage soft and rather blended; feathers of the hind head somewhat elongated and pointed. Wings of moderate length, rather pointed, the outer four quills longest. Tail of moderate length, deeply emarginate. Upper mandible concave beneath, with two prominent lines, of which the lateral are much larger; tongue higher than broad, channelled above, the tip somewhat rounded and concave; œsophagus dilated about the middle; stomach roundish, muscular; intestine short; cœca very small.

THE PURPLE FINCH.

Erythrospiza purpurea, *Gmel.*

PLATE CXCVI.—Male and Female.

From the beginning of November until April, flocks of the Purple Finch, consisting of from six to twenty individuals, are seen throughout the whole of Louisiana and the adjoining States. They fly compactly, with an undulating motion, similar to that of the Common Greenfinch of Europe. They

Crested Purple Finch.

1 Males. 2 Female.

Red Larch Loxia Americana.

Lith.d Painted & Col.d by J. T. Bowen. Phila.d

alight all at once, and after a moment of rest, and as if frightened, all take to wing again, make a circuit of no great extent, and return to the tree from which they had thus started, or settle upon one near it. Immediately after this, every individual is seen making its way toward the extremities of the branches, husking the buds with great tact, and eating their internal portion. In doing this, they hang like so many Titmice, or stretch out their necks to reach the buds below. Although they are quite friendly among themselves during their flight, or while sitting without looking after food, yet, when they are feeding, the moment one goes near another, it is strenuously warned to keep off by certain unequivocal marks of displeasure, such as the erection of the feathers of the head and the opening of the mouth. Should this intimation be disregarded, the stronger or more daring of the two drives off the other to a different part of the tree. They feed in this manner principally in the morning, and afterwards retire to the interior of the woods. Towards sunset they reappear, fly about the skirts of the fields and along the woods, until, having made choice of a tree, they alight, and, as soon as each bird has chosen a situation, stand still, look about them, plume themselves, and make short sallies after flies and other insects, but without interfering with each other. They frequently utter a single rather mellow *clink*, and are seen occupied in this manner until near sunset, when they again fly off to the interior of the forest. I one night surprised a party of them roosting in a small holly tree, as I happened to be brushing by it. In their consternation they suddenly started all together, and in the same direction, when, not knowing what birds they were, I shot at them and brought down two.

It is remarkable that, at this season, males in full beauty of plumage are as numerous as during the summer months in far more northern parts, where they breed; and you may see different gradations of plumage, from the dingy greenish-brown of the female and young to the richest tints of the oldest and handsomest male; while along with these there are others which, by my habit of examining birds, I knew to be old, and which are of a yellowish-green, neither the colour of the young males, nor that of the females, but a mixture of all.

The song of the Purple Finch is sweet and continued, and I have enjoyed it much during the spring and summer months, in the mountainous parts of Pennsylvania, where it occasionally breeds, particularly about the Great Pine Forest, where, although I did not find any nests, I saw pairs of these birds flying about and feeding their young, which could not have been many days out, and were not fully fledged. The food which they carried to their young consisted of insects, small berries, and the juicy part of the cones of the spruce pine.

They frequently associate with the Common Cross-bills, feeding on the same trees, and like them are at times fond of alighting against the mud used for closing the log-houses. They are seldom seen on the ground, although their motions there are by no means embarrassed. They are considered as destructive birds by some farmers, who accuse them of committing great depredations on the blossoms of their fruit-trees. I never observed this in Louisiana, where they remain long after the peach and pear trees are in full bloom. I have eaten many of them, and consider their flesh equal to that of any other small bird, excepting the Rice Bunting.

This species was seen by Dr. Richardson on the banks of the Saskatchewan river only, where it feeds on willow-buds. It arrives there in May, and resides during the summer. The eggs have been procured in the State of Massachusetts by my friend Dr. T. M. Brewer. They measure seven-eighths and a quarter in length, four-eighths and a half in breadth, and are thus of an elongated form, rather pointed. Their ground-colour is a bright emerald-green, sparingly marked with dots and a few streaks of black, accumulated near the apex, and some large marks of dull purple here and there over the whole surface. The following note is from the same gentleman:—"The passage of the Purple Finch through this State on its way north, is so rapid, and the number of those that stop to breed here so small, that I can furnish nothing respecting its habits, except that there is good reason to believe the accusation which has been brought against it, of injuring the blossoms of fruit trees. Last year, the trees were in full bloom at the time this bird was migrating, and I saw them plainly clinging to the branches, and at work upon the blossoms; so that under some trees the ground was literally strewed with the result of their destructiveness, although they did not appear to feed on the blossoms. I have had the good fortune to meet with its nest and eggs this season. Mr. Cabot found another, and is probably the first naturalist who has done so. The nest which I found was built in a cedar tree, at the distance of five feet from the ground. The tree stood by itself in a small sandy pasture, which was sparingly covered with half-grown cedars. The nest itself was rudely constructed: it was composed externally of coarse grass and weeds, lined with fine roots of the same, and little care seemed to have been bestowed on its completion. The diameter of the exterior was 9 inches, the brim 3 inches, the depth 1 inch, the external depth 2 inches, giving it thus a shallow or flattish appearance. The eggs, four in number, were of a bright emerald-green."

I have found this species from Labrador to the Texas. Mr. Nuttall and Mr. Townsend met with it on the Columbia river, and all the way to St. Louis. In South Carolina, where it appears only during severe winters,

it feeds on the berries of the Virginian juniper, commonly called the red cedar; and when the berries fall to the ground, it alights to secure them. Dr. BACHMAN has kept it in aviaries, where it became very fat, silent, and only uttered its usual simple feeble note. After moulting, the males assumed the plumage of the females. The next spring a very slight appearance of red was seen, but they never recovered their original brilliancy, and it was difficult to distinguish the sexes. It breeds sparingly in the northern parts of the State of New York. In June 1837, I met with three pairs, within a few miles of Waterford, that evidently had nests in the neighbourhood.

Palate gently ascending; upper mandible considerably concave, with three prominent lines, of which the two lateral are much larger; mandibles nearly equal in breadth, the lower deeply concave. Width of mouth 5 twelfths. Tongue 5 twelfths long, sagittate and papillate at the base, much compressed, being higher than broad, channelled above, the channel becoming somewhat dilated toward the end, and approaching to that of the Pine Grosbeak and the Crossbills. Œsophagus 2 inches 2 twelfths in length, its greatest width 4 twelfths. Stomach $5\frac{1}{2}$ twelfths long, $4\frac{1}{2}$ twelfths broad; its lateral muscles of moderate size, the epithelium tough and longitudinally rugous. Contents of stomach, seeds of various sorts. Intestine $8\frac{3}{4}$ inches long, its width from $1\frac{1}{2}$ twelfths to $\frac{3}{4}$ twelfth; cœca $\frac{1}{2}$ twelfth long, $\frac{1}{4}$ twelfth broad, 9 twelfths distant from the extremity.

Trachea 1 inch $7\frac{1}{2}$ twelfths long, flattened, nearly 1 twelfth in breadth; the rings 66 and 2 additional; bronchial rings 12; muscles as usual in this family; as are the salivary glands.

Male, 6, 9.

During winter, from Texas to the Carolinas, and northward to Kentucky. In summer, from St. Louis to the Columbia, and in the Fur Countries. Abundant.

PURPLE FINCH, *Fringilla purpurea*, Wils. Amer. Orn., vol. i. p. 119.
PURPLE FINCH, Bonap. Syn., p. 114.
FRINGILLA PURPUREA WILSON, *Crested Purple Finch*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 264.
PURPLE FINCH, *Fringilla purpurea*, Aud. Orn. Biog., vol. i. p. 24; vol. v. p. 500.

Adult Male.

Bill shortish, robust, bulging, conical, acute; upper mandible with its dorsal outline a little convex, under mandible with its outline also slightly convex, both broadly convex transversely, the edges straight to near the base, where they are a little deflected. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large. Neck short and thick. Body full. Legs of moderate size; tarsus of the same length as the

middle toe, covered anteriorly with a longitudinal plate above and a few transverse scutella below, posteriorly with an acutely angular longitudinal plate; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe not much larger.

Plumage compact above, blended beneath, wings of moderate length, third and fourth primaries longest, second and first very little shorter. Tail forked. The lateral feathers curved outwards toward the tip.

Bill deep brown above, paler and tinged with blue beneath. Iris blackish-brown. Feet and claws brown. Head, neck, breast, back, and upper tail-coverts of a rich deep lake, approaching to crimson on the head and neck, and fading into rose-colour on the belly. Fore part of the back streaked with brown. Quills and larger coverts deep brown, margined externally and tipped with red. Tail feathers deep brown, similarly margined. A narrow band of cream-colour across the forehead, margining the base of the upper mandible.

Length 6 inches, extent of wings 9, beak along the ridge $\frac{5}{12}$, along the gap $\frac{7}{12}$, tarsus $\frac{2}{3}$.

Female.

The young bird so closely resembles the adult female, that the same description will answer for both. The general colour of the upper parts is brownish-olive, streaked with dark brown. There is a broadish white line over the eye, and another from the commissure of the gap backwards. The under parts are greyish-white, the sides streaked with brown. The quills and tail-feathers are dark brown, margined with olive.

The Red Larch.

Larix americana, *Pursch*, Fl. Amer., vol. ii. p. 645. *Mich.*, Arbr. Forest. de l'Amer. Sept., vol. iii. p. 137, pl. 4.—Monœcia polyandria, *Linn.*—Coniferæ, *Juss.*

This species of larch, which is distinguished by its short, deciduous, fasciculate leaves, and short ovate cones, occurs in the more northern parts of the United States, and in the mountainous regions of the middle states. It attains a height of sixty feet, and a diameter sometimes of two feet. The wood is highly esteemed on account of its excellent qualities.

Crimson-fronted Purple Finch.

Male

Drawn from Nature by J. J. Audubon F.R.S.F.L.S. Lith. Printed & Coloured by R. Havell.

CRIMSON-FRONTED PURPLE FINCH.

+ Erythrospiza frontalis, *Say.*

PLATE CXCVII.—Male.

This species was first described under the name of *Fringilla frontalis*, by Mr. Thomas Say, who discovered it in the course of Long's Expedition to the Rocky Mountains. It was afterwards figured and described in the continuation of Wilson's American Ornithology, by the Prince of Musignano, who then considered it as belonging to the genus *Pyrrhula*, but who has since placed it in a small group, to which he gave the generic appellation of *Erythrospiza*. It is very closely allied, not only in colour, but in size and form, to the Purple Finch, *Erythrospiza purpurea*, with which one might at first sight readily confound it, but from which it differs in having the bill somewhat more bulging, with convex outlines, and in several other characters, such as the more elongated and less emarginate tail. For the specimen from which the figure has been taken I am indebted to Mr. Gould of London. It is reported to be from California. I have not met with this species, and, in as far as I know, its habits have not been described.

Male, $6\frac{1}{4}$, wing, $3\frac{1}{2}$.

Bases of the Rocky Mountains. Rare. Migratory.

Fringilla frontalis, Say, Long's Exped., vol. ii. p. 40.
Crimson-necked Bullfinch, *Pyrrhula frontalis*, Bonap. Amer. Orn., vol. i. pl. 1.
Crimson-fronted Bullfinch, *Pyrrhula frontalis*, Nutt. Man., vol. i. p. 534.
Crimson-necked Finch, *Fringilla frontalis*, Aud. Orn. Biog., vol. v. p. 230.

Adult Male.

Bill shortish, robust, bulging, conical, pointed; upper mandible with the dorsal outline a little convex, the back and sides rounded, the edges direct, overlapping, slightly arched, with a faint sinus, and a little deflected at the base; lower mandible with the angle short and wide, the dorsal line ascending and very slightly convex, the back and sides convex, the edges sharp and inflected. Nostrils basal, roundish, open, partially concealed by the feathers.

Head rather large, broadly ovate; neck short; body full. Feet of moderate size; tarsus slender, compressed, covered anteriorly with seven large scutella, of which the upper are rather indistinct, laterally with two long

plates meeting so as to form a very sharp edge; toes scutellate above, free, the lateral nearly equal. Claws slender, arched, much compressed, acute.

Plumage soft and blended, the wing-coverts compact. Wings of moderate length, the third primary longest, the fourth scarcely shorter, the second less than one-twelfth shorter than the third, and exceeding the first by one-twelfth. Tail long, broad, emarginate and divaricate, the middle feathers only a twelfth and a half shorter than the longest, which is the third from the lateral, the latter being of the same length as the middle.

Bill brown above, paler beneath. Iris brown. Feet and claws light brown. Forehead and a band over the eye, proceeding down the neck, crimson; throat, fore part of breast and sides, with the rump, rich carmine, the latter paler. The upper parts greyish-brown, the head, hind neck, and fore part of the back slightly tinged with red; quills, coverts, and tail-feathers dusky and edged with pale brownish-grey, the first row of small coverts rather conspicuously tipped with a lighter tint of the same. Short bristly feathers at the base of the bill greyish-yellow; loral space and ear-coverts, light grey; the hind part of the breast, abdomen, and lower tail-coverts yellowish-white, streaked with dusky.

Length to end of tail $6\frac{1}{4}$ inches; bill along the ridge $\frac{4\frac{3}{4}}{12}$, along the edge of lower mandible $\frac{5\frac{1}{2}}{12}$; wing from flexure $3\frac{1}{2}$; tail $3\frac{1}{4}$; tarsus $\frac{8}{12}$; hind toe $\frac{3\frac{1}{2}}{12}$, its claw $\frac{2\frac{1}{2}}{12}$; middle toe $\frac{6\frac{1}{2}}{12}$, its claw $\frac{2}{12}$.

GREY-CROWNED PURPLE-FINCH.

ERYTHROSPIZA TEPHROCOTIS, *Swains.*

PLATE CXCVIII.—MALE.

This species, which in form and proportion is allied to *Erythrospiza purpurea* on the one hand, and to *E. cannabina* on the other, is of extremely rare occurrence, a single specimen only being mentioned as having been obtained by Dr. RICHARDSON on the Saskatchewan, in May 1827, from which my figure was taken.

Male, 6; wing, 4.

Saskatchewan river. Very rare. Migratory.

Grey-crowned Purple Finch.

Male.

Stokesia cyanea

Drawn by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Phila.d.

LINARIA (LEUCOSTICTE) TEPHROCOTIS, *Swainson's Grey-crowned Linnet*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 265.

GREY-CROWNED LINNET, *Fringilla tephrocotis*, Aud. Orn. Biog., vol. v. p. 232.

Adult Male.

Bill short, thick, conical, its upper and lower outlines straight, the ridge and sides convex, the edges inflected, the gap-line slightly arched, but at the base a little deflected. Nostrils basal, round, concealed by short bristly feathers.

Head rather large, broadly ovate; neck short; body moderate. Feet of moderate length; tarsus of the same length as the middle toe and claw, compressed, anteriorly scutellate, with two lateral plates meeting behind so as to form a sharp edge; hind toe stout, lateral toes nearly equal. Claws rather long, arched, compressed, acute, that of the hind toe largest.

Plumage soft and blended. Wings long, pointed; the second quill longest, the first slightly shorter, the rest rapidly graduated; secondaries rounded. Tail of moderate length, emarginate, the middle-feathers a quarter of an inch shorter than the longest.

Bill black; tarsi and claws dusky brown. The general colour of the plumage is dark umber-brown; the feathers margining the bill whitish; the upper part of the head ash-grey, spotted with black anteriorly; the first row of smaller wing-coverts, the feathers of the rump and the upper tail-coverts are broadly edged and tipped with rose-red, as are the feathers of the sides and the lower tail-coverts, of which however the tint is paler. The quills, larger coverts, and tail-feathers, are dusky brown; the primary and secondary coverts edged with dull red, the quills and tail-feathers with brownish-white.

Length to end of tail 6 inches; bill along the ridge $\frac{5\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{6\frac{1}{2}}{12}$; wing from flexure 4; tail $2\frac{7}{12}$; tarsus $\frac{8\frac{1}{2}}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{3}{12}$; middle toe $\frac{6}{12}$, its claw $\frac{2\frac{1}{2}}{12}$.

Genus XII.—CORYTHUS, *Cuv.* PINE-FINCH.

Bill short, robust, bulging at the base, conical, acute; upper mandible of the same breadth as the lower, with its dorsal line very convex, the nasal sinus semicircular, the sides convex, the edges sharp, overlapping, gently ascending at the base, then arched, with a slight festoon, the notches obsolete, the tip declinate, acute; lower mandible with the angle semicircular, the dorsal line slightly convex, the back rounded at the base, the sides convex, the edges somewhat inflected, the tip obtuse. Nostrils basal, round, concealed by bristly feathers. Head large, roundish-ovate; neck short; body moderately stout; feet short; tarsus short, compressed, with seven scutella; toes stout, the first proportionally large, the lateral nearly equal, the outer adherent at the base. Claws long, moderately arched, compressed, acute, that of the third toe longer than that of the first. Plumage soft, full, rather blended; two tufts of bristly feathers at the base of the upper mandible directed forwards. Wings of moderate length, pointed, the first, second, and third, nearly equal. Tail rather long, deeply emarginate. Roof of the mouth concave, with five prominent ridges; tongue deeper than broad, in its distal half oblong, concave, obtuse, and horny; œsophagus dilated about the middle; stomach large, muscular, with the lateral muscles distinct, and the epithelium rugous, intestine long, and rather slender; cœca very small; cloaca oblong.

Common Pine-finch.

1.—Male 2.—Female

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S. Lith.d, Printed & Col.d by J. T. Bowen Phil.

PINE GROSBEAK.

Corythus Enucleator, *Linn.*

PLATE CXCIX.—Male, Female, and Young.

In Wilson's time, this beautiful bird was rare in Pennsylvania; but since then it has occasionally been seen in considerable numbers, and in the winter of 1836, my young friend J. Trudeau, M. D., procured several in the vicinity of Philadelphia. That season also they were abundant in the States of New York and Massachusetts. Some have been procured near the mouth of the Big Guyandotte on the Ohio; and Mr. Nuttall has observed it on the lower parts of the Missouri. I have ascertained it to be a constant resident in the State of Maine, and have met with it on several islands in the Bay of Fundy, as well as in Newfoundland and Labrador. Dr. Richardson mentions it as having been observed by the Expedition in the 50th parallel, and as a constant resident at Hudson's Bay. It is indeed the hardiest bird of its tribe yet discovered in North America, where even the Rose-breasted Grosbeak, though found during summer in Newfoundland and Labrador, removes in autumn to countries farther south than the Texas, where as late as the middle of May I saw many in their richest plumage.

The Pine Grosbeak is a charming songster. Well do I remember how delighted I felt, while lying on the moss-clad rocks of Newfoundland, near St. George's Bay, I listened to its continuous lay, so late as the middle of August, particularly about sunset. I was reminded of the pleasure I had formerly enjoyed on the banks of the clear Mohawk, under nearly similar circumstances, when lending an attentive ear to the mellow notes of another Grosbeak. But, reader, at Newfoundland I was still farther removed from my beloved family; the scenery around was thrice wilder and more magnificent. The stupendous dark granite rocks, fronting the north, as if bidding defiance to the wintry tempests, brought a chillness to my heart, as I thought of the hardships endured by those intrepid travellers who, for the advancement of science, had braved the horrors of the polar winter. The glowing tints of the western sky, and the brightening stars twinkling over the waters of the great Gulf, rivetted me to the spot, and the longer I gazed, the more I wished to remain; but darkness was suddenly produced by the advance of a mass of damp fog, the bird ceased its song, and all around seemed transformed into chaos. Silently I groped my way to the beach, and soon reached the Ripley.

The young gentlemen of my party, accompanied by my son JOHN WOODHOUSE, and a Newfoundland Indian, had gone into the interior in search of Rein Deer, but returned the following afternoon, having found the flies and musquitoes intolerable. My son brought a number of Pine Grosbeaks, of different sexes, young and adult, but all the latter in moult, and patched with dark red, ash, black and white. It was curious to see how covered with sores the legs of the old birds of both sexes were. These sores or excrescences are, I believe, produced by the resinous matter of the fir-trees on which they obtain their food. Some specimens had the hinder part of the tarsi more than double the usual size, the excrescences could not be removed by the hand, and I was surprised that the birds had not found means of ridding themselves of such an inconvenience. One of the figures in my plate represents the form of these sores.

I was assured that during mild winters, the Pine Grosbeak is found in the forests of Newfoundland in considerable numbers, and that some remain during the most severe cold. A lady who had resided there many years, and who was fond of birds, assured me that she had kept several males in cages; that they soon became familiar, would sing during the night, and fed on all sorts of fruits and berries during the summer, and on seeds of various kinds in winter; that they were fond of bathing, but liable to cramps; and that they died of sores produced around their eyes and the base of the upper mandible. I have observed the same to happen to the Cardinal and Rose-breasted Grosbeaks.

The flight of this bird is undulating and smooth, performed in a direct line when it is migrating, at a considerable height above the forests, and in groups of from five to ten individuals. They alight frequently during the day, on such trees as are opening their buds or blossoms. At such times they are extremely gentle, and easily approached, are extremely fond of bathing, and whether on the ground or on branches, move by short leaps. I have been much surprised to see, on my having fired, those that were untouched, fly directly towards me, until within a few feet, and then slide off and alight on the lower branches of the nearest tree, where, standing as erect as little Hawks, they gazed upon me as if I were an object quite new, and of whose nature they were ignorant. They are easily caught under snow-shoes put up with a figure of four, around the wood-cutters' camps, in the State of Maine, and are said to afford good eating. Their food consists of the buds and seeds of almost all sorts of trees. Occasionally also they seize a passing insect. I once knew one of these sweet songsters, which, in the evening, as soon as the lamp was lighted in the room where its cage was hung, would instantly tune its voice anew.

My kind friend THOMAS M'CULLOCH of Pictou in Nova Scotia, has sent

me the following notice, which I trust will prove as interesting to you as it has been to me. Last winter the snow was exceedingly deep, and the storms so frequent and violent that many birds must have perished in consequence of the scarcity of food. The Pine Grosbeaks being driven from the woods, collected about the barns in great numbers, and even in the streets of Pictou they frequently alighted in search of food. A pair of these birds which had been recently taken were brought me by a friend, but they were in such a poor emaciated condition, that I almost despaired of being able to preserve them alive. Being anxious, however, to note for you the changes of their plumage, I determined to make the attempt; but notwithstanding all my care, they died a few days after they came into my possession. Shortly after, I received a male in splendid plumage, but so emaciated that he seemed little else than a mass of feathers. By more cautious feeding, however, he soon regained his flesh, and became so tame as to eat from my hand without the least appearance of fear. To reconcile him gradually to confinement, he was permitted to fly about my bedroom, and upon rising in the morning, the first thing I did was to give him a small quantity of seed. But three mornings in succession I happened to lie rather later than usual, and each morning I was aroused by the bird fluttering upon my shoulder, and calling for his usual allowance. The third morning, I allowed him to flutter about me some time before shewing any symptom of being awake, but he no sooner observed that his object was effected than he retired to the window and waited patiently until I arose. As the spring approached, he used to whistle occasionally in the morning, and his notes, like those of his relative the Rose-breasted Grosbeak, were exceedingly rich and full. About the time, however, when the species began to remove to the north, his former familiarity entirely disappeared. During the day he never rested a moment, but continued to run from one side of the window to the other, seeking a way of escape, and frequently during the night, when the moonlight would fall upon the window, I was awakened by him dashing against the glass. The desire of liberty seemed at last to absorb every other feeling, and during four days I could not detect the least diminution in the quantity of his food, while at the same time he filled the house with a piteous wailing cry, which no person could hear without feeling for the poor captive. Unable to resist his appeals, I gave him his release; but when this was attained he seemed very careless of availing himself of it. Having perched upon the top of a tree in front of the house, he arranged his feathers, and looked about him for a short time. He then alighted by the door, and I was at last obliged to drive him away, lest some accident should befall him.

"These birds are subject to a curious disease, which I have never seen in any other. Irregularly shaped whitish masses are formed upon the legs and

feet. To the eye these lumps appear not unlike pieces of lime; but when broken, the interior presents a congeries of minute cells, as regularly and beautifully formed as those of a honey-comb. Sometimes, though rarely, I have seen the whole of the legs and feet covered with this substance, and when the crust was broken, the bone was bare, and the sinews seemed almost altogether to have lost the power of moving the feet. An acquaintance of mine kept one of these birds during the summer months. It became quite tame, but at last it lost the power of its legs and died. By this person I was informed that his Grosbeak usually sang during a thunder-storm, or when rain was falling on the house."

While in the State of Maine, I observed that these birds, when travelling, fly in silence, and at a considerable height above the trees. They alight on the topmost branches, so that it is difficult to obtain them, unless one has a remarkably good gun. But, on waiting a few minutes, you see the flock, usually composed of seven or eight individuals, descend from branch to branch, and betake themselves to the ground, where they pick up gravel, hop towards the nearest pool or streamlet, and bathe by dipping their heads and scattering the water over them, until they are quite wet; after which they fly to the branches of low bushes, shake themselves with so much vigour as to produce a smart rustling sound, and arrange their plumage. They then search for food among the boughs of the taller trees.

Male, 8½, 14. Female, 8¼, 13½.

From Pennsylvania and New Jersey, in winter, eastward to Newfoundland. Breeds from Maine northward. Common. Migratory.

Pine Grosbeak, *Loxia Enucleator*, Wils. Amer. Orn., vol. i. p. 80.
Pyrrhula Enucleator, Bonap. Syn., p. 119.
Pyrrhula (Corythus) Enucleator, *Pine Bullfinch*, Swains. and Rich. F. Bor. Amer. vol. ii. p. 262.
Pine Grosbeak or Bullfinch, Nutt. Man., vol. i. p. 535.
Pine Grosbeak, *Pyrrhula Enucleator*, Aud. Orn. Biog., vol. iv. p. 414.

Adult Male.

Bill short, robust, bulging at the base, conical, acute; upper mandible with its dorsal outline convex, the sides convex, the edges sharp and overlapping; lower mandible with the angle short and very broad, the dorsal line ascending and slightly convex, the sides rounded, the edges inflected; the acute decurved tip of the upper mandible extending considerably beyond that of the lower; the gap-line deflected at the base.

Head rather large, ovate, flattened above; neck short; body full. Legs short, of moderate strength; tarsus short, compressed, with six anterior scutella, and two plates behind, forming a thin edge; toes short, the first

proportionally stout, the third much longer than the two lateral, which are about equal; their scutella large, their lower surface with large pads covered with prominent papillæ. Claws rather long, arched, much compressed, laterally grooved, and acute.

Plumage soft, full, rather blended, the feathers oblong. At the base of the upper mandible are strong bristly feathers directed forwards. The wings of moderate length; the primaries rounded, the second and third longest, and with the fourth and fifth having their outer webs slightly cut out. Tail rather long, emarginate, of twelve strong, broad, obliquely rounded feathers.

Bill reddish-brown. Iris hazel. Feet blackish-brown, claws black. The general colour of the plumage is bright carmine, tinged with vermilion; the feathers of the fore part of the back and the scapulars greyish-brown in the centre; the bristly feathers at the base of the bill blackish-brown; the middle of the breast, abdomen, and lower tail-coverts, light grey, the latter with a central dusky streak. Wings blackish-brown; the primaries and their coverts narrowly edged with reddish-white, the secondaries more broadly with white; the secondary coverts and first row of small coverts tipped with reddish-white, the smaller coverts edged with red.

Length to end of tail $8\frac{1}{2}$ inches, to end of wings $6\frac{1}{4}$, to end of claws $6\frac{3}{4}$; extent of wings 14; wing from flexure $4\frac{3}{4}$; tail 4; bill along the ridge $\frac{7\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{7}{12}$; tarsus $\frac{9\frac{1}{2}}{12}$; first toe $\frac{4\frac{1}{6}}{12}$, its claw $\frac{5}{12}$; middle toe $\frac{8}{12}$, its claw $\frac{5}{12}$.

Female.

The female is scarcely inferior to the male in size. The bill is dusky, the feet as in the male. The upper part of the head and hind neck are yellowish-brown, each feather with a central dusky streak; the rump brownish-yellow; the rest of the upper parts light brownish-grey. Wings and tail as in the male, the white edgings and the tips tinged with grey; the cheeks and throat greyish-white or yellowish; the fore part and sides of the neck, the breast, sides, and abdomen ash-grey, as are the lower tail-coverts.

Length to end of tail $8\frac{1}{4}$ inches, to end of wings $6\frac{1}{4}$, to end of claws $6\frac{3}{4}$; extent of wings $13\frac{1}{2}$; wing from flexure $4\frac{1}{2}$; tail $3\frac{10}{12}$; tarsus $\frac{9\frac{1}{2}}{12}$; middle toe and claw $1\frac{1}{12}$.

Young fully fledged.

The young, when in full plumage, resemble the female, but are more tinged with brown.

An adult male from Boston examined. The roof of the mouth is moderately concave, its anterior horny part with five prominent ridges; the lower mandible deeply concave. Tongue $4\frac{1}{2}$ twelfths long, firm, deflected at the middle, deeper than broad, papillate at the base, with a median groove; for the distal half of its length, it is cased with a firm horny substance, and is

then of an oblong shape, when viewed from above, deeply concave, with two flattened prominences at the base, the point rounded and thin, the back or lower surface convex. This remarkable structure of the tongue appears to be intended for the purpose of enabling the bird, when it has insinuated its bill between the scales of a strobilus, to lay hold of the seed by pressing it against the roof of the mandible. In the Crossbills, the tongue is nearly of the same form, but more slender, and these birds feed in the same manner, in so far as regards the prehension of the food. In the present species, the tongue is much strengthened by the peculiar form of the basi-hyoid bone, to which there is appended as it were above a thin longitudinal crest, giving it great firmness in the perpendicular movements of the organ. The œsophagus *a b c d*, Fig. 1, is two inches 11 twelfths long, dilated on the middle of the neck so as to form a kind of elongated dimidiate crop, 4 twelfths of an inch in diameter, projecting to the right side, and with the trachea passing along that side of the vertebræ. The proventriculus *c*, is 8 twelfths long, somewhat bulbiform, with numerous oblong glandules, its greatest diameter 4½ twelfths. A very curious peculiarity of the stomach *e*, is, that in place of

Fig. 1.

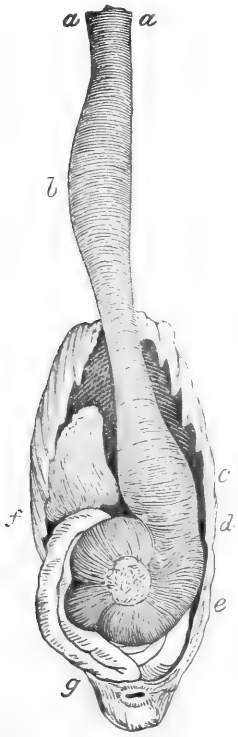
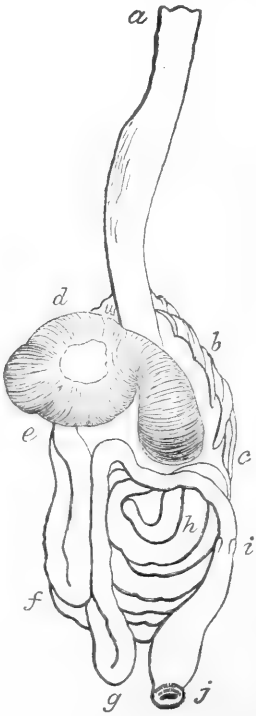


Fig. 2.



having its axis continuous with that of the œsophagus or proventriculus, it bends to the right nearly at a right angle. It is a very powerful gizzard, $8\frac{1}{2}$ twelfths long, 8 twelfths broad, with its lateral muscles $\frac{1}{4}$ inch thick, the lower very distinct, the epithelium longitudinally rugous, of a light reddish colour. The duodenum, *f*, *g*, first curves backward to the length of $1\frac{1}{4}$ inches, then folds in the usual manner, passing behind the right lobe of the liver; the intestine then passes upwards and to the left, curves along the left side, crosses to the right, forms about ten circumvolutions, and above the stomach terminates in the rectum, which is 11 twelfths long. The cœca are $1\frac{1}{4}$ twelfths in length and $\frac{1}{4}$ twelfth in diameter. The entire length of the intestine from the pylorus to the anus is $31\frac{1}{2}$ inches (in another male 31); its greatest breadth in the duodenum $2\frac{1}{2}$ twelfths, gradually contracting to $1\frac{1}{4}$ twelfths. Fig. 2, represents the convoluted appearance of the intestine. The œsophagus *a b c;* the gizzard *d*, turned forwards; the duodenum, *e f;* the rest of the intestine, *g h;* the cœca, *i;* the rectum, *i j*, which is much dilated at the end.

The trachea is 2 inches 2 twelfths long, of uniform diameter, $1\frac{1}{2}$ twelfths broad, with about 60 rings; its muscles like those of all the other species of the Passerinæ or Fringillidæ.

In a female, the œsophagus is 2 inches 10 twelfths long; the intestine 31 inches long.

In all these individuals and several others, the stomach contained a great quantity of particles of white quartz, with remains of seeds; and in the œsophagus of one was an oat seed entire.

Although this bird is in its habits very similar to the Crossbills, and feeds on the same sort of food, it differs from them in the form and extent of its crop, in having the gizzard much larger, and the intestines more than double the length, in proportion to the size of the bird.

Genus XIII.—LOXIA, *Linn.* CROSSBILL.

Bill rather long, stout at the base, where it is much higher than broad, extremely compressed toward the end, the mandibles towards their extremity deflected to opposite sides, so as to cross each other; upper mandible with the dorsal line convex and deflected, the sides slightly convex, the edges sharp, and towards the end united, the tip excessively compressed and decurved; lower mandible with its angle semicircular, the dorsal line ascending and convex, the edges sharp, inflected, and approximated at the tip, which is extremely acute. Nostrils small, basal, round, covered by the short bristly feathers. Head large, broadly ovate; neck short; body compact. Feet rather short and strong; tarsus short, compressed, with seven scutella; toes of moderate size, the first strong, the lateral nearly equal. Claws long, arched, very slender, much compressed, tapering to a fine point; that of the middle toe nearly as long as that of the first. Plumage soft, full, and blended. Two tufts of bristly feathers at the base of the upper mandible directed forwards. Wings of moderate length, pointed, the outer three primaries longest, the first generally exceeding the rest. Tail short, distinctly emarginate. Roof of the mouth concave, with three ridges, of which the median is much smaller; tongue deeper than broad, at the end oblong, obtuse, concave above, and horny; œsophagus dilated into a very large crop; stomach roundish, muscular, with the epithelium rugous; intestine of moderate length; cœca very small.

THE COMMON CROSSBILL.

Loxia curvirostra, *Linn.*

PLATE CC.—Male, Female, and Young.

This species I have found more abundant in Maine, and in the British provinces of New Brunswick and Nova Scotia, than any where else. Although I have met with it as early as the month of August in the Great Pine Forest of Pennsylvania, I have never seen its nest. Many persons in

Common Crossbill.

1 Males. 2 Females

Drawn from Nature by J J Audubon F.R.S.F.L.S.

Lith.d Printed & Co. [illegible]

the State of Maine assured me that they had found it on pine trees in the middle of winter, and while the earth was deeply covered with snow. The people employed in cutting pine timber at that season, when it is easier to remove the logs to the rivers, in which they are subsequently floated when the ice melts, have very frequently told me, that on felling a tree they have caught the young Crossbills, which had been jerked out of their nest. Several of my acquaintances in that district promised to send me nests, eggs, and young; but as yet, I am sorry to say, none of them have reached me. While at Labrador I was much disappointed at not finding a single bird of this species, although the White-winged Crossbill was tolerably abundant there; and in Newfoundland matters were precisely the same.

The Crossbill lives in flocks, composed apparently of several families, and is an extremely gentle and social bird. They are easily approached, caught in traps, or even killed with a stick. So unsuspicious are they with respect to man, that they not unfrequently come up to the very door of the woodman's cabin, and pick the mud with which he has plastered the spaces between the logs of which it is composed. When the huts are raised on blocks, to prevent dampness, they are often seen under them, picking up the earth for want of better food, while the weather is at its coldest.

Their food consists principally of the seeds contained in the cones of different species of the pine and fir. In the pine forests of Pennsylvania I saw them feeding on those of the white pine, the hemlock, and the spruce, as well as on various kinds of fruits. Wherever an apple-tree bore fruit, the Crossbills were sure to be on it, cutting the apples to pieces in order to get at the seeds, in the manner of our Parakeet of the south. Nothing can exceed the dexterity with which they extricate the seeds from the cones with their bill, the point of the upper mandible of which they employ as a hook, placing it at the base of the seed, and drawing it up with a sudden jerk of the head. They frequently stand on one foot only, and employ the other in conveying the food to their bill, in the manner of parrots. They are fond of all saline matter.

The flight of this species is undulating, firm, tolerably swift, and capable of being protracted over a large space. While travelling they pass in the air in straggling flocks, and keep up a constant noise, each individual now and then emitting a clear note or call. They move with ease on the ground, alight sidewise on the walls of houses and on trees, on the twigs of which they climb with the aid of their bill. When caged they soon become tame, and are fed without any difficulty.

I have presented you with a flock of these Crossbills, composed of individuals of different ages, engaged in their usual occupations, on a branch of their favourite tree, the hemlock pine.

Much has been said and repeated respecting the colours of this species as connected with the differences of sex and age. Accustomed as I am to judge of every thing relating to ornithology on the spot where I can procure specimens, and examine them with all necessary care, I have not failed to employ this method in the present case, and I now give it as my opinion that, although learned naturalists may contradict what I am about to state, it will eventually be acknowledged to be correct. I have shot as many specimens of this Crossbill as I could desire, and on opening perhaps more than sixty, which I should suppose enough to know their sexes, in early spring, summer, autumn and winter, I found the young of the year in July invariably similar to the females which had evidently laid eggs that season, excepting that they were smaller, and had their tints duller. The males, which had either been paired or not that season, but which, however, were older than the first (a fact easily ascertained by the inspection of their stronger bills, legs and claws, and their stronger, harder and tougher flesh,) shewed a considerable quantity of red mixed with yellow on the rump, head and breast. Others having equal appearances of age were of a dull olive-yellow, and proved to be females. In such specimens as had the bill very much worn on its edges, and the legs and feet diseased from the adhesion of the resinous matter of the fir trees, on which they spend most of their time, and roost on them at night, were of a bright brick-red in certain lights, changing alternately to carmine or vermilion, on the whole upper parts of the body. Females bearing the same appearances of old age, were as I have represented them in my plate.

The following note respecting this bird is from my friend Dr. T. M. Brewer. "Among a number of eggs which I obtained from Coventry, Vermont, there was one of the Common Crossbill, a description of which, it never having been before procured by any naturalist, to my knowledge, and consequently never having been described, will, I doubt not, be acceptable. It measures thirteen-sixteenths of an inch in length, by three-eighths in breadth. At the larger end it is broadly rounded, and the smaller end forms a complete and abrupt cone. The ground-colour is a greenish-white, pretty thickly covered, more especially at the large end, with very brown spots. Crossbills appeared in large flocks, in the winter of 1832, in the pine woods near Fresh Pond, and with them two or three White-winged Crossbills. They were very noisy, rarely quiet for many moments at a time. Before this winter I have been told that the White-wing was the most common, though never very abundant.

Male, 7, 10.

From Maryland eastward and northward, to lat. 52. Breeds in Pennsyl-

vania, New York, and the north-eastern States to Nova Scotia. Common. Migratory.

American Crossbill, *Curvirostra americana*, Wils. Amer. Orn., vol. iv. p. 44.
Loxia curvirostra, Bonap. Syn., p. 117.
Common Crossbill, Nutt. Man., vol. i. p. 583.
Common Crossbill, *Loxia curvirostra*, Aud. Orn. Biog., vol. ii. p. 559; vol. v. p. 511.

Adult Male.

Bill of ordinary length, strong, convex above and beneath; mandibles crossing each other and compressed towards the tips, which are incurvate and acute. Nostrils small, basal, rounded, covered by the small incumbent feathers of the forehead. The general form is compact and robust, the head and neck large. Feet rather short, strong; tarsus short, compressed, anteriorly scutellate, sharp behind; toes separated, the two lateral nearly equal, and considerably shorter than the middle one; claws compressed, very acute, curved, the hind one largest.

The plumage is blended, but rather firm. Wings of ordinary length, curved, acute, the first and second primaries longest. Tail short, small, emarginate.

Bill brown, horn-colour on the edges, and darker at the tip. Iris hazel. Feet dusky. The general colour of the plumage is a dull light red, inclining to vermilion, darker on the wings. Quills and tail-feathers brownish-black; the red colour is paler on the lower parts, and on the belly passes into whitish.

Length 7 inches, extent of wings 10; bill along the ridge $\frac{8}{12}$; tarsus $\frac{7}{12}$.

Young Male after the first moult.

At this age the colours of the male are paler and duller, but are similarly distributed. There is an admixture of yellow tints on the back, and more especially on the rump.

Young Male fully fledged.

In its second plumage the young male is of a dull green colour, mixed with brown above, greyish-yellow, tinged with green beneath, the sides of the head over the eyes greenish-yellow, and the rump and upper tail-coverts of the same colour.

Adult Female.

The upper parts are greyish-brown, tinged with green, the rump dull greyish-yellow; the sides of the head and neck of the same colour as the back; the under parts pale greyish-yellow, brighter on the fore part of the breast.

Young Female fully fledged.

The young female resembles the old one, but has less yellow on the rump and under parts.

I have carefully compared skins of the American bird with others of that found in Scotland, but have not succeeded in detecting any differences sufficient to indicate a specific distinction.

The Hemlock Spruce.

Pinus canadensis, *Mich.*, Arbor. Forest., vol. i. p. 137, pl. 13. *Pursch*, Fl. Amer. Sept., vol. ii. p. 640.—Monœcia Monadelphia, *Linn.*—Coniferæ, *Juss.*

The *hemlock* or *Canadian spruce* is characterized by its solitary, flat, somewhat distichous leaves, and very small ovate terminal cones. It is one of the most majestic and beautiful trees of the forests of the Middle States, where it grows abundantly in certain parts, such as the Great Pine Forest, the Pocano Mountains, &c., extending from Carolina to the extremity of Maine. The wood is not considered equal to that of the true pines, and unless kept dry very soon decays, but the bark is excellent for tanning. The height sometimes reaches a hundred feet, and the diameter near the base is often six feet or more.

WHITE-WINGED CROSSBILL.

Loxia Leucoptera, *Gmel.*

PLATE CCI.—Male, Female, and Young.

I found this species quite common on the islands near the entrance of the Bay of Fundy, which I visited early in May 1833. They were then journeying northwards, although many pass the whole year in the northern parts of the State of Maine, and the British provinces of New Brunswick and Nova Scotia, where, however, they seem to have been overlooked, or confounded with our Common American Crossbill. Those which I met with on the islands mentioned above were observed on their margins, some having alighted on the bare rocks, and all those which were alarmed

White-winged Crossbill.

1. Males 2. Females.

Drawn from Nature by J. J. Audubon, F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen - Phila.d

immediately took to wing, rose to a moderate height, and flew directly eastward. On my passage across the Gulf of St. Lawrence to Labrador, in the same month, about a dozen White-winged Crossbills, and as many Mealy Redpolls, one day alighted on the top-yards of the Ripley; but before we could bring our guns from below, they all left us, and flew ahead of the vessel, as if intent on pointing out to us the place to which we were bound. On the 30th of June, a beautiful male was shot, on a bunch of grass growing out of the fissure of a rock, on a small island a few miles from the coast of Labrador; and on the 23d of July, my young friend Dr. George Shattuck, procured a fine adult female on the Murre Islands, whilst she was feeding among the scanty herbage.

Within the limits of the United States, I have obtained some during winter along the hilly shores of the Schuylkill river in Pennsylvania; also in New Jersey, and in one instance in Maryland, a few miles from Baltimore, beyond which southward I have never met with this species, nor have I heard of any having been seen there. According to Mr. Townsend, who resided about four years on the Columbia river, none are met with in that region. As it appears that individuals accidentally visit Europe, I am led to think that the true summer haunts of this species are as yet not better known than those of the Bohemian Chatterer and Common Crossbill. The latter has been shot in winter by my son John Woodhouse, within a few miles of Charleston in South Carolina, where several were seen, and the specimen he procured there is now in the collection of my friend the Reverend John Bachman.

The southward migration of this Crossbill, as well as of the other, is extremely irregular. Being evidently hardy birds, they appear to prefer northern to temperate climates, and to shift their station only during the most severe cold. The comparatively small number that spend the year in Maine and the British Provinces adjoining, may be forced to do so by wounds or other accidents, as in general I have found them moving toward the north as soon as the chill blasts of winter were tempered by the warmer rays of the vernal sun.

The habits of the White-winged Crossbill are in general similar to those of our common species. Its flight is well sustained and undulated; it is easily approached, is fond of saline substances, uses its bill and feet in the manner of Parrots, and procures its food from the cones of pines. Its song is at times mellow and agreeable, and in captivity it becomes gentle and familiar.

Mr. Hutchins says that this species reaches Hudson's Bay in the month of March, and breeds in May, forming a nest of grass, mud, and feathers, about midway up pine trees, and laying five white eggs, marked with yel-

lowish spots. The young are abroad in the end of June, and the species remains in that country until the latter part of November. Dr. RICHARDSON states that it "inhabits the dense white spruce forests of the Fur Countries, feeding principally on the seeds of cones. It ranges through the whole breadth of the continent, and probably up to the sixty-eighth parallel, where the woods terminate, though it was not observed by us higher than the sixty-second. It is mostly seen on the upper branches of the trees, and, when wounded, clings so fast, that it will remain suspended after death. In September it collects in small flocks, which fly from tree to tree, making a chattering noise; and in the depth of winter it retires from the coast to the thick woods of the interior."

Male, $6\frac{1}{2}$, $10\frac{5}{8}$. Female, $6\frac{1}{4}$, 10.

During winter, as far south as Maryland. Not uncommon in New Jersey and Pennsylvania, where a few breed. Common in Maine, Nova Scotia, Labrador, and the Fur Countries. Migratory.

WHITE-WINGED CROSSBILL, *Loxia leucoptera*, Wils. Amer. Orn., vol. iv. p. 48.
LOXIA LEUCOPTERA, Bonap. Syn., p. 117.
WHITE-WINGED CROSSBILL, *Loxia leucoptera*, Bonap. Amer. Orn., vol. ii. p.
LOXIA LEUCOPTERA, *White-winged Crossbill*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 263.
WHITE-WINGED CROSSBILL, *Loxia leucoptera*, Nutt. Man., vol. i. p. 540.
WHITE-WINGED CROSSBILL, *Loxia leucoptera*, Aud. Orn. Biog., vol. iv. p. 467.

Adult Male.

Bill rather long, stout at the base, where it is higher than broad, extremely compressed toward the end, the mandibles towards their extremity deflected to opposite sides, so as to cross each other. Upper mandible with the dorsal line convex and deflected, the sides slightly convex, the edges sharp, and towards the end united, as in *Rhynchops nigra*, the tip excessively compressed, decurved, and extending far beyond that of the other. Lower mandible with its angle very short and broad, the dorsal outline ascending and convex, the edges sharp, inflected, and approximated at the tip, which is extremely acute. Nostrils small, basal, round, covered by short bristly feathers.

Head large, broadly ovate; eyes small; neck short; body compact. Feet rather short, strong; tarsus short, compressed, with seven anterior scutella, and two posterior plates meeting so as to form a thin edge; toes of moderate size, the outer united at the base, the first strong, the lateral toes nearly equal, the third much longer; the pads and papillæ of the soles very large. Claws long, arched, very slender, much compressed, tapering to a fine point.

Plumage blended. Wings of ordinary length, pointed, the outer three primaries longest (in one specimen the first longest, in three the second); secondaries slightly emarginate. Tail of moderate length, deeply emarginate, the feathers curved outwards at the point.

Bill dusky, tinged with greyish-blue, especially on the edges. Iris hazel. Feet dark reddish-brown. The general colour of the plumage is rich carmine, inclining to crimson; the feathers on the fore part and middle of the back dusky, excepting the tips; the scapulars, wings, upper tail-coverts, and tail black; two broad bands of white on the wing, the anterior formed by the first row of small coverts and several of those adjoining, the other by the secondary coverts, of which the basal half only is black; the inner secondaries are tipped with white, as are the tail-coverts, and the quills and tail-feathers are very slightly margined with whitish. Bristly feathers at the base of the bill yellowish-white; sides brownish, and streaked with dusky, axillar feathers whitish; lower tail-coverts brownish-black, broadly margined with reddish-white.

Length to end of tail $6\frac{1}{2}$ inches, to end of wings $5\frac{1}{4}$, to end of claws 5; extent of wings $10\frac{5}{8}$; bill along the ridge $\frac{8\frac{3}{4}}{12}$, along the edge of lower mandible $\frac{7}{12}$; wing from flexure $3\frac{7}{12}$; tail $2\frac{7}{12}$; tarsus $\frac{7\frac{1}{2}}{12}$; hind toe $\frac{3\frac{1}{8}}{12}$, its claw $\frac{5}{12}$; middle toe $\frac{5}{12}$, its claw $\frac{5}{12}$.

Female.

The female has the upper parts dusky, the feathers margined with greyish-yellow, the rump wax-yellow; the lower parts are yellowish-grey, streaked with dusky, the fore part of the breast wax-yellow; the wings and tail are as in the male, but paler, and with the white bands on the former of less breadth. Bill and feet darker than those of the male.

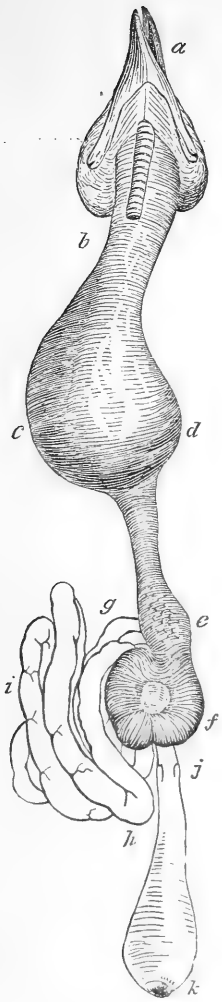
Length to end of tail $6\frac{1}{4}$ inches, to end of wings 5, to end of claws $5\frac{1}{4}$; extent of wings 10.

Young.

The young resemble the female, but the lower parts are dull yellowish-grey, spotted and streaked with dark brown.

After the first moult the male still resembles the female, but is more yellow. At the next moult it acquires the red colour, which becomes richer and purer the older the bird.

In this species there are three longitudinal ridges on the roof of the mouth, and the palate is bent in the same manner as in Buntings. The tongue is of the same general form as that of the Pine Grosbeak, $3\frac{1}{2}$ twelfths long, compressed and slender at the base, with the basihyoid bone of a similar form, concave above, dilated and rounded at the end, so as to resemble a scoop or spoon. The œsophagus, *b c d e*, is 2 inches and 8 twelfths long, when



dilated forms a crop of vast size, *c d*, which lies chiefly on the right side of the neck, but also passes behind so as to appear on the left side. This form occurs equally in the Common Crossbill, and seems to be peculiar to this genus. The greatest breadth of the crop is 10 twelfths. On entering the thorax, the œsophagus contracts to 2 twelfths. The proventriculus, *e*, is bulbiform, with a diameter of 3 twelfths. The stomach, *f*, is a strong gizzard of rather small size, somewhat bent in the same manner as that of the Pine Grosbeak, $4\frac{3}{4}$ twelfths long, 6 twelfths broad; its muscles distinct; the cuticular lining very firm but thin, longitudinally rugous, and of a light red colour. The intestine, *g h i j k*, is $10\frac{1}{2}$ inches long, its greatest diameter 2 twelfths, its least $1\frac{1}{2}$ twelfths. The rectum, *j k*, is 1 inch 2 twelfths long, including the cloaca. The cœca, *j*, are $1\frac{1}{4}$ twelfths long, and $\frac{1}{4}$ twelfth broad.

The trachea is 1 inch 9 twelfths long, $1\frac{1}{2}$ twelfths broad at the upper part, gradually diminishing to 1 twelfth; its rings firm, and about 75 in number. The inferior laryngeal muscles are large. The bronchi are formed of about 15 half-rings.

The twigs represented in the plate are those of a species of *alder* common in Newfoundland.

Genus XIV.—CORYDALINA, *Aud.* LARK-FINCH.

Bill of the same form as in the Guiraca, but smaller, and approaching to that of Dolichonyx, being short, robust, conical, a little compressed; upper mandible a little narrower, with the dorsal line very slightly convex, the ridge indistinct, the nasal sinus very broad and short, the sides convex, the edges ascending for a third of their length, then direct, the notches almost obsolete, the tip narrow; lower mandible with the angle short and very

Pruirie Lark-Finch.

1 Male 2 Female.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen. Philad.

broad, the dorsal line ascending and slightly convex, the back broad, the sides rounded, the edges inflected, the tip pointed. Nostrils basal, roundish. Head large, ovate; neck short; body full. Feet of moderate length, stout; tarsus of ordinary length, compressed, with seven scutella; toes rather large, the first stouter, the lateral equal, the third very long. Claws rather long, arched, much compressed, laterally grooved, tapering to a very acute point. Plumage soft and blended. Bristles at the base of upper mandible feeble. Wings of moderate length, the outer three quills nearly equal, the second longest, the fourth slightly shorter than the third; outer secondaries broadly rounded and emarginate; inner tapering to a rounded point, one of them, when the wing is closed, little shorter than the outer primaries. Tail of moderate length, a little rounded. Name from Κορυδαλος, a lark.

PRAIRIE LARK-FINCH.

CORYDALINA BICOLOR, *Towns.*

PLATE CCII.—MALE AND FEMALE.

This species, of which there are in my possession several specimens, presented to me by my friend Mr. NUTTALL, was discovered by that zealous naturalist and his companion Mr. TOWNSEND on the plains of the Platte, and briefly characterized in the Journal of the Academy of Natural Sciences of Philadelphia. From its general appearance, and especially from what is known of its habits, I consider it closely allied to the Rice Bunting, *Dolichonyx oryzivora;* I have adopted the appellation given by its discoverers, the latter of whom has favoured me with the following notice respecting it.

"The Prairie Finch inhabits a portion of the Platte country, in large flocks. It is strictly gregarious, and feeds upon the ground, along which it runs like the Grass Finch, *Fringilla graminea*, to which it is somewhat allied. As the large flocks, consisting of from sixty to a hundred individuals, were started from the ground by our caravan in passing, the piebald appearance of the males and females promiscuously intermingled, presented a curious, but by no means unpleasing, effect. While the flock is engaged in feeding, the males are frequently observed to rise suddenly to a considerable

height in the air, and poising themselves over their companions, with their wings in constant and rapid motion, they become nearly stationary. In this situation they pour forth a number of very lively and sweetly modulated notes, and at the expiration of about a minute descend to the ground, and course about as before. I never observed this bird to the west of the Black Hills."

Mr. NUTTALL's notice respecting it is as follows:—"On the 24th of May, soon after crossing the north branch of the Platte, we met with this very interesting species of *Fringilla*. The males associated in flocks with the Cow-birds, uttering a most delightful song. Towards evening in particular, we sometimes saw them in all directions around us on the hilly grounds, rising to a little height, hovering and flapping their wings, at the same time singing something like *weet, weet, wt, wt, wt,* notes betwixt the hurried warble of the Bob-o-link, and the melody of the Sky Lark. It is in short one of the sweetest songsters of the prairie, is tame and unsuspicious, the whole employment of the little band being an ardent emulation of song."

FRINGILLA BICOLOR, *Prairie Finch*, Towns., Jour. Acad. Nat. Sc. Phil., vol. vii. p. 189.
PRAIRIE FINCH, *Fringilla bicolor*, Aud. Orn. Biog., vol. v. p. 19.

Adult Male.

Bill short, robust, conical, compressed; upper mandible a little narrower, with the dorsal line very slightly convex, the ridge slightly prolonged on the forehead, the sides convex and bulging, the edges direct, the gap-line nearly straight, deflected at the base, the tip sharp and a little exceeding that of the lower mandible; the angle of the latter short and very broad, the dorsal line ascending and slightly convex, the back broad, the sides rounded, the edges inflected, the tip pointed. Nostrils basal, oval, in a very short deep depression, nearly concealed by the feathers.

Head rather large; neck short; body full. Feet of ordinary length, rather strong; tarsus of moderate length, compressed, anteriorly covered with seven scutella, behind with two plates meeting so as to form a very thin edge; toes of moderate size, the hind toe stouter, the lateral equal. Claws rather long, arched, much compressed, laterally grooved, tapering to a very acute point.

Plumage soft and blended, the feathers ovate and rounded. There are distinct but small bristles at the base of the upper mandible. Wings of moderate length; the outer three quills nearly equal, the second being longest, the fourth slightly shorter than the third; outer secondaries broadly rounded and emarginate; inner tapering to a rounded point, one of them, when the wing is closed, little shorter than the outer primaries. Tail of

moderate length, a little rounded, the lateral feathers shorter than the longest by two and a half twelfths.

The bill is light blue, the upper mandible somewhat dusky along the ridge; the feet and claws reddish-brown. The general colour of the plumage is greyish-black, the rump blackish-grey. The quills are blackish-brown, the inner secondaries black. There is a large patch of white on the wing including some of the smaller coverts, the tips of the first row, and the secondary coverts; the primaries and outer secondaries are narrowly, the inner secondaries broadly margined with white, with which most of them are also tipped. The middle tail-feathers are black, the rest brownish-black, all narrowly edged with white, and having a narrow speck of the same at the end of the inner web. Some of the feathers on the abdomen and the lower tail-coverts are also tipped with white.

Length to end of tail 7 inches; bill along the ridge $\frac{7\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{7}{12}$; wing from flexure $3\frac{5}{12}$; tail $2\frac{8}{12}$; tarsus $\frac{11\frac{1}{2}}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{8}{12}$, its claw $\frac{3}{12}$.

Adult Female.

The female, which is smaller than the male, differs greatly in colour. The bill is dusky above, pale beneath; the feet as in the male. The upper parts are greyish-brown, streaked with dusky brown, the lower white, with oblong spots of brownish-black, the abdomen nearly pure, the sides tinged with reddish-brown. The quills are dark brown, edged and tipped with reddish-white, and the patch on the wing is of the same tint. The tail feathers are also dark brown, the outer externally edged, and all tipped with white on the inner web.

Length to end of tail $6\frac{1}{2}$ inches; bill along the ridge $\frac{5\frac{1}{2}}{12}$; wing from flexure $3\frac{1}{2}$; tail $2\frac{5}{12}$; tarsus $\frac{11}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{4}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{3\frac{1}{2}}{12}$.

Genus XV.—PITYLUS, *Cuvier*. CARDINAL GROSBEAK.

Bill rather short, very robust, much higher than broad, tapering to a point; upper mandible considerably smaller than the lower, with the dorsal line convex, the ridge indistinct, the nasal sinus very wide, the sides convex, the edges ascending rapidly for a third of their length, then direct, with a slight festoon, slightly inflected, the notches faint, the tip a little deflected and narrow; lower mandible with the angle semicircular, the dorsal line straight, the sides at the base inflected, toward the end convex, the edges involute, the tip acute. Nostrils basal, round, concealed by the feathers. Plumage soft and blended, feathers of the head elongated and erectile; distinct bristles at the base of the upper mandible. Wings of moderate length, much rounded, the fourth and fifth quills longest, the first and eighth about equal. Tail long, rounded. Tarsus short, compressed, with seven scutella; toes moderate, hind toe stout, broad beneath, outer toe slightly longer than inner, and adherent at the base. Claws moderate, arched, compressed, acute. Upper mandible concave beneath, with three longitudinal ridges; tongue as high as broad, convex above, tapering to a point. Œsophagus nearly uniform, stomach pretty large, roundish, its lateral muscles strong.

THE CARDINAL GROSBEAK.

Pitylus cardinalis, *Linn.*

PLATE CCIII.—Male and Female.

In richness of plumage, elegance of motion, and strength of song, this species surpasses all its kindred in the United States. It is known by the names of Red-bird, Virginia Nightingale, Cardinal-bird, and that at the head of the present article. It is very abundant in all our Southern States, as well as in the peninsula of the Floridas. In the western country a great

Common Cardinal Grosbeak.

1. Male. 2. Female.

Wild Almond Prunus caroliniana

Drawn from Nature by J. J. Audubon F.R.S.E.L.S.

Lith.d Printed & Col.d by J. T. Bowen Phil.

number are found as far up on the Ohio as the city of Cincinnati, and they extend to considerable distances into Indiana, Illinois and Missouri. They are found in the maritime districts of Pennsylvania and New Jersey, where they breed, and where a few remain the whole year; some are also seen in the State of New York, and now and then a straggler proceeds into Massachusetts; but farther eastward this species has never been observed.

This fine songster relishes the interior of the forest, and the heart of the deepest cane-brakes or retired swamps, as well as the neighbourhood of cities. It is constantly found in our fields, orchards and gardens; nay, it often enters the very streets of our southern towns and villages to breed; and it is rare that one goes into a planter's yard without observing the Red-bird skipping about the trees or on the turf beneath them. Go where it may, it is always welcome, and every where a favourite, so rich is its song, and so brilliant its plumage.

The Cardinal-bird breeds in the Floridas. In the beginning of March I found them already paired in that country, and on the 8th of February near General Hernandez's. In the neighbourhood of Charleston, as well as in Louisiana, they are nearly a month later, and much the same lapse of time takes place again before they form a nest in the State of New Jersey or in that of Kentucky.

The nest is placed, apparently without much consideration, in some low briar, bush, or tree, often near the fence, the middle of a field, or the interior of a thicket, not far from a cooling stream, to which they are fond of resorting, for the purpose of drinking and bathing. Sometimes you find it placed close to the planter's house or in his garden, a few yards from that of the Mocking-bird or the Thrasher. It is composed of dry leaves and twigs, together with a large proportion of dry grass and slips of grape-vines, and is finished within with bent-grass, wrought in a circular form. The eggs are from four to six, of a dull white colour, marked all over with touches of olive-brown.

In the Southern Districts they now and then raise three broods in the season, but in the Middle States seldom more than one. The young on leaving the nest, frequently follow their parents on the ground for several days, after which they disperse and seek for food apart. During the pairing season, the males are so pugnacious, that although they breed near birds of other species, they never allow one of their own to nestle in their vicinity. One male may be seen following another from bush to bush, emitting a shrill note of anger, and diving towards the fugitive antagonist whenever an opportunity offers, until the latter has escaped quite beyond his jurisdiction, when the conqueror, elated, returns to his grounds, ascends his favourite tree, and pours out his song in full exultation.

Those which migrate to the eastward begin to move about the commencement of March, usually in the company of the Towhe Bunting and other Sparrows, hopping and passing from bush to bush during the whole day, announcing to the traveller and husbandman the approach of a more genial season, and resting at night in the secluded swamps. The males precede the females about ten days.

Towards autumn they frequently ascend to the tops of tall trees in search of grapes and berries, being as fond of succulent or pulpy fruits as they are of the seeds of corn and grasses. On the least appearance of danger they at once glide into the interior of the nearest thickets. During the summer heats they frequently resort to sandy roads to dust themselves, carelessly suffering people to approach them until within a few yards, when they only remove to the nearest bushes, until the intruders pass.

They are easily raised when taken from the nest, and breed when kept in aviaries. My friend Dr. Samuel Wilson of Charleston, has had them breeding with him, having placed straw-baskets for the purpose, in which the female deposited her eggs, without improving the nest any more than by placing in it a few grass-blades, perhaps pilfered from some of her neighbours. The purity of its colouring is soon lost when it is kept in confinement, where it is gentle, easily fed on corn or hemp-seed, and it sings when placed in a cage for several months in the year.

During winter the Cardinal Grosbeak frequently shews itself in the farm-yard, among Turtle-Doves, Jays, Mocking-birds, and various species of Sparrows, picking up its food from the store daily supplied to the poultry. It now and then seeks refuge at night in the lee of some haystack, or throws itself with many other birds among the thickest branches of the nearest evergreen tree.

The flight of this species is strong and rapid, although seldom continued to any great distance. It is performed by glidings and jerks of the tail. When the bird is alighted it also frequently juts its tail with grace. Like all birds of the genus it hops, but does not walk.

Its song is at first loud and clear, resembling the finest sounds produced by the flageolet, and gradually descends into more marked and continued cadences, until it dies away in the air around. During the love-season the song is emitted with increased emphasis by this proud musician, who, as if aware of his powers, swells his throat, spreads his rosy tail, droops his wings, and leans alternately to the right and left, as if on the eve of expiring with delight at the delicious sounds of his own voice. Again and again are those melodies repeated, the bird resting only at intervals to breathe. They may be heard from long before the sun gilds the eastern horizon, to the period when the blazing orb pours down its noonday floods of heat and

light, driving the birds to the coverts to seek repose for awhile. Nature again invigorated, the musician recommences his song, when, as if he had never strained his throat before, he makes the whole neighbourhood resound, nor ceases until the shades of evening close around him. Day after day the song of the Red-bird beguiles the weariness of his mate as she assiduously warms her eggs; and at times she also assists with the modesty of her gentler sex. Few individuals of our own race refuse their homage of admiration to the sweet songster. How pleasing is it, when, by a clouded sky, the woods are rendered so dark, that were it not for an occasional glimpse of clearer light falling between the trees, you might imagine night at hand, while you are yet far distant from your home—how pleasing to have your ear suddenly saluted by the well known notes of this favourite bird, assuring you of peace around, and of the full hour that still remains for you to pursue your walk in security! How often have I enjoyed this pleasure, and how often, in due humbleness of hope, do I trust that I may enjoy it again!

This species is very abundant in Texas, where, as in our Southern States, it is a constant resident. Mr. Townsend has observed it on the waters of the Upper Missouri. According to Dr. T. M. Brewer, it is but a chance visitor in Massachusetts during summer, indeed so rare, that he never knew certainly but of one pair which bred in the Botanical Garden, Cambridge, about six years ago, and departed in the fall, with their young. The eggs measure one inch and half an eighth in length, five-eighths and a third in breadth, and are thus elongated, although the smaller end is well rounded.

Male, 8½, 11½.

Breeds abundantly from Texas to New York. Very rare in Massachusetts. Valleys of the Mississippi and Missouri, Kentucky and Ohio. Resident from Maryland southward.

Cardinal Grosbeak, *Loxia cardinalis*, Wils. Amer. Orn., vol. ii. p. 38.
Fringilla cardinalis, Bonap. Syn., p. 113.
Cardinal Grosbeak or Red-bird, *Fringilla cardinalis*, Nutt. Man., vol. i. p. 519.
Cardinal Grosbeak, *Fringilla cardinalis*, Aud. Orn. Biog., vol. ii. p. 336; vol. v. p. 514.

Adult Male.

Bill short, very robust, conical, acute, deeper than broad at the base; upper mandible with its dorsal outline a little convex, the sides rounded, the edges sharp and inflected, the tip slightly declinate; lower mandible broader than the upper, with its dorsal line straight, the back broad, the sides rounded, the edges inflected; the gap-line deflected at the base. Nostrils basal, roundish, concealed by the feathers. Head large, neck short, body robust. Legs of moderate length, rather strong; tarsus compressed, anteriorly covered with a few scutella, posteriorly sharp; toes scutellate above,

free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe considerably larger.

Plumage soft and blended, slightly glossed. Wings of moderate length, broad, much rounded, the fourth quill longest; primaries rather broad, rounded, from the second to the sixth slightly cut out on the outer web, secondaries rather narrow and rounded. Tail long, straight, rounded. Feathers of the crown long, pointed, and erectile.

Bill of a tint approaching to coral-red. Iris dark hazel. Feet pale umber. The whole upper parts of a deep dusky-red, excepting the head, which is vermilion. The anterior part of the forehead, the lores, and the upper anterior part of the neck, black. The under parts are vermilion, which is brightest anteriorly. Inner webs of the quills light brown, their shafts and those of the tail-feathers blackish-brown.

Length $8\frac{1}{4}$ inches, extent of wings $11\frac{1}{2}$; bill along the back $\frac{7}{12}$, along the edge $\frac{3}{4}$; tarsus $\frac{11}{12}$.

Adult Female.

The female has a crest as well as the male, which it resembles in the texture of its plumage, but the tail is proportionally shorter. The general colour of the upper parts is dull greyish-brown, slightly tinged with olive; the longer crest-feathers are streaked with dull red, the wings, coverts, and outer edges of the quills, are of the same tint; the edge of the wings and the lower coverts are pale vermilion, and the inner edges of the quills are of the same tint, but paler. The parts surrounding the base of the bill, which are black in the male, are blackish-grey, and the lower parts in general are pale greyish-brown.

Length $7\frac{1}{2}$ inches.

In a male preserved in spirits, the palate ascends very abruptly, and has two very elevated soft ridges, at the junction of which anteriorly is a prominent soft space, on the lower mandible beneath are three longitudinal ridges with four grooves, of which the two lateral are much wider. The tongue is $4\frac{1}{2}$ twelfths long, emarginate and papillate at the base, convex and fleshy above, as high as broad, horny beneath, tapering to a point. The width of the mouth is 6 twelfths. The lower mandible is broader than the upper, exceedingly strong, and very deeply concave. The œosphagus is 2 inches 5 twelfths in length, 3 twelfths in width. The stomach pretty large, roundish, $7\frac{1}{2}$ twelfths long, 7 twelfths broad; its lateral muscles strong, the tendons large, the epithelium very dense, longitudinally rugous, brownish-red. The stomach is filled with seeds, which have all been husked. Intestine $10\frac{1}{4}$ inches long, its width from 3 twelfths to 2 twelfths. Cœca 3 twelfths long, $\frac{1}{2}$ twelfth broad, 1 inch distant from the extremity. Cloaca ovate, 4 twelfths in width.

Trachea 1 inch 10 twelfths long, from $1\frac{1}{4}$ twelfths to $\frac{1}{2}$ twelfth in breadth; its rings 52; the muscles as in the other species. Bronchial half rings about 12.

The Wild Almond.

Prunus caroliniana, *Willd.*, Sp. Pl., vol. ii. p. 987. *Pursch*, Fl. Amer. Sept., vol. i. p. 330.—Icosandria Monogynia, *Linn.*—Rosaceæ, *Juss.*

Flowers in racemes; leaves evergreen, oblong-lanceolate, mucronate, serrate, without glands at the base. The *wild almond* is altogether a southern tree. Its height now and then is as much as twenty-five feet, the stem in that case being a foot or more in diameter. The usual rounded form of its top, and the persistence of its foliage, together with its white flowers, and dark coloured fruits, render it a very agreeable object. Many are planted around the plantation grounds or the gardens of our southern cities, on account of their beautiful appearance. The fruits are greedily devoured by many species of birds, but are unpalatable to man. I have not observed it to the east of Virginia, nor farther west than the town of Memphis on the Mississippi. The wood is seldom applied to any useful purpose.

Genus XVI.—COCCOBORUS, *Swains.* SONG-GROSBEAK.

Bill rather short, extremely robust, almost as broad as the head, and somewhat compressed, tapering to a point; upper mandible considerably smaller than the lower, with the dorsal line convex, the ridge indistinct, the nasal sinus very wide, the sides convex, the edges ascending for a third of their length, then direct, with a slight festoon, and inflected, the notches faint, the tip a little deflected, and narrow; lower mandible with the angle short and semicircular, the dorsal line straight, the sides at the base inflected, toward the end convex, the edges involute, the tip acute. Nostrils basal, round. Plumage somewhat compact, blended; distinct bristles at the base of the upper mandible. Wings of moderate length, pointed, the outer three quills nearly equal, the second longest. Tail of moderate length, slightly emargi-

nate. Tarsus short, compressed, with seven scutella; toes moderate, hind toe stout, broad beneath, outer toe slightly longer than inner, and adherent at the base. Claws moderate, arched, compressed, acute. Upper mandible concave beneath, with three longitudinal ridges; tongue as high as broad, convex above, tapering to a point; œsophagus rather wide, dilated about the middle; stomach rather small, roundish, compressed, with its muscles distinct and of moderate thickness, the epithelium longitudinally rugous; intestine short, and of moderate width; cœca very small.

THE BLUE GROSBEAK.

COCCOBORUS CŒRULEUS, *Linn.*

PLATE CCIV.—MALE, FEMALE, AND YOUNG.

While the Cardinal Grosbeak enlivens the neighbourhood of our southern cities and villages, and frequents the lawn of the planter's habitation, the present species, shy and bashful, retires to the borders of the almost stagnant waters used as reservoirs for the purpose of irrigating the rice plantations. There, where the alligator, basking sluggishly on the miry pool, bellows forth its fearful cries, or in silence watches the timid deer, as it approaches to immerse its body in order to free it from the attacks of myriads of tormenting insects; where the watchful Heron stands erect, silent, and ready to strike its slippery prey, or leisurely and gracefully steps along the muddy margins; where baneful miasmata fill the sultry air, now imbued with a virus almost sufficient to prostrate all other beings save those whose nature enables them to remain in those damps;—there you meet with the Cœrulean Grosbeak, timidly skipping from bush to bush, or over and amid the luxuriant rice, watchful even of the movements of the slave employed in cultivating the fertile soil. If the place is silent, and the weather calm, this cautious bird gradually ascends some high tree, from the top of which it pours forth its melting melodies, the female sitting the while on her eggs in her grassy nest, in some low sheltered bush hard by. Her mate now and then relieves her from her task, provides her with food while she sits, and again lulls her to repose by his song. One brood and again another are hatched, reared, and led forth to find for themselves the food so abundantly

Blue Song Grosbeak.

1. Male. 2. Female. 3. Young.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad.

spread around them. Humbly and inconspicuously clad as the young birds are, most of them escape the talon of the watchful Hawk, or the fire of the mischief-loving gunner. The parents soon join them, and no sooner is their favourite rice gathered, than the whole fly off, and gradually wend their way to warmer climes.

Although this sweet songster spends the spring and summer in our Southern States, it must be considered as a rather scarce bird there. It seldom enters deep woods, but prefers such low grounds as I have described above, or the large and level abandoned fields covered with rank grasses and patches of low bushes. It arrives in the lower parts of Louisiana about the middle of March, the males appearing eight or ten days before the females, in small parties of five or six, when their common call-note, a single chuck, is frequently uttered to attract the females. They proceed through Alabama, Georgia, and the Carolinas, in all which districts they breed. Beyond this, however, few are to be met with. I never observed this species on the Mississippi farther up than the neighbourhood of Natchez; nor is it ever seen in Kentucky, or in any other part of the western country. Along the Atlantic coast it is rarely found beyond the State of New Jersey.

It is remarkable that, although this bird seldom places its nest more than a few feet from the ground, it is fond of ascending to the tops of the tallest detached trees, to sing, during the spring and summer, rarely performing that pleasant duty among the low bushes which it usually inhabits.

One or two pairs of these birds generally take possession of a field, for the purpose of breeding, making choice of one little frequented by other birds. There, in the most secluded part, the Blue Grosbeak builds its nest, placing it in the upright fork of some small slender bush, or attaching it to the tall blades of a tuft of rank grass. It is composed of fine dried grasses, which are more carefully arranged towards the interior, and is lined with a few delicate fibrous roots, dried moss, or horse-hair. There are seldom more than four eggs, but two broods are raised in the season. When the first broods leave their parents, the young birds assemble in small flocks composed of a few families, and resort mostly to the rice fields, feeding on the grain when yet in its milky state, and until it is gathered. The parents join them with their second brood, and shortly after, or about the first days of September, they all depart southward.

In the summer of 1829, I accidentally met with a nest of these birds in the State of New Jersey, a few miles only from Philadelphia. I was attracted towards it by the cries of the birds, both of which were perched on a tall hickory tree, standing on a piece of barren ground, near a swamp, well known on account of the visits it receives during the Woodcock season. I looked for the nest for some time in vain. The parents left the tree, flew

about as if much alarmed and distressed, and at last alighted on the ground not far from me. Following them gradually, I saw them go up to one of their young, and on reaching the place, saw the nest in a low bush of the dogwood. In it were two young ones dead, and one alive, covered with large insects. Presently I heard the chirp of a fourth, which I found within a few yards of the place. Concluding that the insects were the cause of all the distress I saw, I destroyed them, and replaced the young birds in the nest, where I left them. Visiting them repeatedly afterwards, I saw them grow apace, until at length they flew off, when I cut the twig, and drew it with the nest, as you now see it in the Plate.

My friend Bachman has favoured me with the following remarks, which I have pleasure in recommending to you. "Being desirous of procuring and raising the young of this bird, I made considerable exertions to find a nest. Having found four in the course of one spring, I observed that two of them had been robbed of their eggs before incubation commenced. The young of the third were destroyed by a snake, which I found in the act, and shot from the bush. Those of the fourth escaped until nearly fledged, when going towards them one morning to carry them away, and being within twenty steps of them, I heard them chirping loudly, as if anxious to be fed, when I saw a black snake a few yards before me, with its head raised high above ground, as if listening to their cries. It went in a straight line to the bush, as if following the sound, and before I came up to the place, it had swallowed one, and was trying to escape with another in its mouth. I carried the two remaining home, raised them with great ease, and kept them in an aviary for two years. They proved to be females. On taking them out of the nest, I had with me a trap cage, in which I tried to catch the old ones. They were both very shy, suspicious, and so cautious that the female alone was inclined to enter it, and was secured. When left with her young, she noticed them not, and although I kept her for several years, she never attempted to build a nest. A full-plumaged male purchased in the market, and put in the aviary, mated on the following spring with one of the young females, took possession of the nest of a Cardinal Grosbeak, which they drove off, carefully repaired it, rendered it neat and comfortable, and laid two eggs, which unfortunately were destroyed by the rats. In the aviary these birds are generally silent, and during rain appeared delighted. They clung to the bars, driving all other birds away, as if determined to enjoy the whole pleasure themselves."

The food of this species consists principally of different sorts of seeds. They are fond of those of rice and grass of all kinds during spring and summer. Towards autumn, they now and then throw themselves into the

fields of Guinea corn, the seeds of which they easily break with their strong bills. I never saw them eat fruits or berries.

The song of the Blue Grosbeak is prolonged or rapidly renewed, and resembles that of the Rice-bird (*Dolichonyx oryzivora*), but it seldom sings after the breeding season. Its flight is prolonged, undulating, and rapid, resembling that of the Rose-breasted species. They hop on the ground, where they pick up gravel to mix with their food, and frequently bathe. They are confined to the maritime districts, seldom going more than forty or fifty miles inland.

Individuals are now and then exposed for sale in the markets of the southern cities, where, on account of the difficulty experienced in catching them, they sell for about a dollar the pair.

The young, which has heretofore been represented as the female, does not attain its full plumage until the third year, and in the mean time varies but little from the one represented in the plate. In the course of the second autumn, it shews spots of blue irregularly placed on its back, and the following spring acquires its full beauty. The male and female represented in the same plate are both adult, and in their perfect spring plumage. They retain their colours unimpaired during winter, while in confinement, which is therefore probably the case in the countries to which they resort at that season.

The Blue Grosbeak extends to the Rocky Mountains, on which it has been procured by Mr. Townsend. I found it abundant and breeding in the Texas. In confinement it suffers greatly during the moult. One which is now in my possession in Edinburgh, and which was raised from the nest, obtained its full summer plumage in the month of September, but was about two weeks nearly naked. The feathers of the wings and tail fell gradually off whilst those of the other parts were growing, and in about a fortnight more, when the bird was about one year old, it became of a beautiful blue. This bird frequently sang in the night, and before dawn. It was extremely tame, going out and returning to its cage, generally perched on the head-dress of my wife, or on the heads of other members of the family, alighted on the table, and fed on almost any thing given to it. It is curious that if a gold or silver coin was thrown on the table, while he was near, he went to it, took it up in his bill, and tossed it about apparently with pleasure. After bathing he invariably went to the fire, and perched on the fender, to dry himself. Two or three other birds were put into the cage with him, but were instantly attacked. He now and then held his food in his claws like a Hawk.

Male, $7\frac{1}{2}$, 11.

From Texas to New Jersey, and up the Mississippi to Memphis. Rocky Mountains. Rather rare. Migratory.

BLUE GROSBEAK, *Loxia cœrulea*, Wils. Amer. Orn., vol. iii. p. 78.
FRINGILLA CŒRULEA, Bonap. Syn., p. 114.
BLUE GROSBEAK, *Fringilla cœrulea*, Nutt. Man., vol. i. p. 529.
BLUE GROSBEAK, *Fringilla cœrulea*, Aud. Orn. Biog., vol. ii. p. 140; vol. v. p. 508.

Adult Male.

Bill rather short, robust, bulging a little at the base, conical, acute; upper mandible with its dorsal outline very slightly convex, as is the lower, both rounded on the sides, the edges acute and straight to near the base, where they are a little deflected. Nostrils basal, roundish, open, partially concealed by the feathers. Head rather large, neck short, body robust. Legs of moderate size; tarsus of the same length as the middle toe, covered anteriorly with a few scutella, the upper long, posteriorly sharp edged; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute.

Plumage soft, rather compact above, blended beneath. Wings of moderate length, third and fourth primaries longest. Tail rather long, emarginate.

Bill pale greyish-blue beneath and on the edges of the upper mandible, the rest of which is dusky. Iris brown. Feet dusky. The general colour of the plumage is deep purplish-blue. Lore, chin, and a line round the base of the mandibles, black. Quills and larger coverts brownish-black, the primaries edged with blue, the secondary quills, secondary coverts and first row of smaller coverts light reddish-brown. Tail feathers brownish-black, edged with blue, as are the under tail coverts.

Length $7\frac{1}{2}$ inches, extent of wings 11; bill along the ridge $\frac{7}{12}$, along the edge $\frac{10}{12}$; tarsus 1.

Adult Female.

Bill as in the male, but paler. Feet brown. Head and hind part of the back, as in the male; the back, sides of the neck, and fore part of the breast greyish-brown, tinged with dull blue. The rest of the under parts yellowish-grey. The wings are nearly as in the male, but lighter, and the black at the base of the bill is wanting. The dimensions are somewhat less than those of the male.

Young bird fully fledged.

Bill yellowish-grey, dusky above. Feet brown. The general colour is light greenish-brown, the upper part of the head, the back, smaller wing coverts and upper tail coverts tinged with dusky. The wings and tail are as in the female.

Rose breasted Long-Grosbeak.

1. Males 2. Female. 3 Young Male.

Ground Hemlock. Taxus canadensis.

Drawn from Nature by J J Audubon FRSE FLS

Lith.d Printed & Col.d by J. T. Bowen Phil.

THE DOG WOOD.

CORNUS FLORIDA, *Willd.*, Sp. Pl., vol. i. p. 661. *Pursch*, Flor. Amer., vol. i. p. 108.—TETRANDRIA MONOGYNIA, *Linn.*—CAPRIFOLIA, *Juss.*

THE ROSE-BREASTED GROSBEAK.

COCCOBORUS LUDOVICIANUS, *Linn.*

PLATE CCV.—MALE, FEMALE, AND YOUNG.

One year, in the month of August, I was trudging along the shores of the Mohawk river, when night overtook me. Being little acquainted with that part of the country, I resolved to camp where I was; the evening was calm and beautiful, the sky sparkled with stars, which were reflected by the smooth waters, and the deep shade of the rocks and trees of the opposite shore fell on the bosom of the stream, while gently from afar came on the ear the muttering sound of the cataract. My little fire was soon lighted under a rock, and, spreading out my scanty stock of provisions, I reclined on my grassy couch. As I looked around on the fading features of the beautiful landscape, my heart turned towards my distant home, where my friends were doubtless wishing me, as I wished them, a happy night and peaceful slumbers. Then were heard the barkings of the watch-dog, and I tapped my faithful companion to prevent his answering them. The thoughts of my worldly mission then came over my mind, and having thanked the Creator of all for his never-failing mercy, I closed my eyes, and was passing away into the world of dreaming existence, when suddenly there burst on my soul the serenade of the Rose-breasted bird, so rich, so mellow, so loud in the stillness of the night, that sleep fled from my eyelids. Never did I enjoy music more: it thrilled through my heart, and surrounded me with an atmosphere of bliss. One might easily have imagined that even the Owl, charmed by such delightful music, remained reverently silent. Long after the sounds ceased did I enjoy them, and when all had again become still, I stretched out my wearied limbs, and gave myself up to the luxury of repose. In the morning I awoke vigorous as ever, and prepared to continue my journey.

I have frequently observed this beautiful species, early in the month of March, in the lower parts of Louisiana, making its way eastward; and when residing at Henderson in Kentucky, and in Cincinnati in Ohio, I have noticed the same circumstance. At this early period, it passes at a considerable height in the air, and now and then alights on the tops of the tallest trees of the forest, as if to rest awhile. While on wing it utters a clear note, but when perched it remains silent, in an upright and rather stiff attitude. It is then easily approached. I have followed it in its migrations into Pennsylvania, New York, and other Eastern States, through the British provinces of New Brunswick and Nova Scotia, as far as Newfoundland, where many breed, but I saw none in Labrador. It is never seen in the maritime parts of Georgia, or those of the Carolinas, but some have been procured in the mountainous portions of those States. I have found them rather plentiful in the early part of May, along the steep banks of the Schuykill river, twenty or thirty miles from Philadelphia, and observed, that at that season they fed mostly on the buds of the trees, their tender blossoms, and upon insects, which they catch on wing, making short sallies for the purpose. I saw several in the Great Pine Forest of Pennsylvania; but they were more abundant in New York, especially along the banks of the beautiful river called the Mohawk. They are equally abundant along the shores of Lakes Ontario and Erie, although I believe that the greater number go as far as New Brunswick to breed. While on an excursion to the islands at the entrance of the Bay of Fundy, in the beginning of May, my son shot several which were in full song. These islands are about thirty miles distant from the main land.

The most western place in which I found the nest of this species was within a few miles of Cincinnati on the Ohio. It was placed in the upright forks of a low bush, and differed so much in its composition from those which I have seen in the Eastern States, that it greatly resembled the nest of the Blue Grosbeak already described. The young, three in number, were ready to fly. The parents fed them on the soft grains of wheat which they procured in a neighbouring field, and often searched for insects in the crannies of the bark of trees, on which they alighted sidewise, in the manner of Sparrows. This was in the end of July. Generally, however, the nest of the Rose-breasted Grosbeak is placed on the top branches of an alder bush, near water, and usually on the borders of meadows or alluvial grounds. It is composed of the dried twigs of trees, mixed with a few leaves and the bark of vines, and is lined with fibrous roots and horse-hair. The eggs are seldom more than four, and I believe only one brood is raised in the season. Both sexes incubate. I have found the nest and eggs, on the 20th of May, on the borders of Cayuga Lake in the State of New York.

The flight of the Rose-breasted Grosbeak is strong, even, and as graceful as it is sustained. When travelling southward, at the approach of autumn, or about the 1st of September, it passes high over the forest trees, in the manner of the King-bird and the Robin, alighting toward sunset on a tall tree, from which it in a few minutes dives into some close thicket, where it remains during the night. The birds travel singly at this season, as well as during spring.

I am indebted to my friend JOHN BACHMAN, for the following information respecting this interesting Grosbeak: "One spring, I shot at a beautiful male bird of this species, in the State of New York. It was wounded in one foot only, and although I could not perceive any other injury afterwards, it fell from the tree to the ground, and before it recovered itself I secured it. Not having a cage at hand, I let it fly in the room which I had made my study. Before an hour had elapsed, it appeared as if disposed to eat; it refused corn and wheat, but fed heartily on bread dipped in milk. The next day it was nearly quite gentle, and began to examine the foot injured by the shot, which was much swollen and quite black. It began to bite off its foot at the wounded part, and soon succeeded in cutting it quite across. It healed in a few days, and the bird used the mutilated leg almost as well as the other, perching and resting upon it. It required indeed some care to observe that the patient had been injured. I procured a cage for it, to which it immediately became reconciled. It ate all kinds of food, but preferred Indian corn meal and hempseed. It appeared fonder of insects than birds of that genus are supposed to be, and ate grasshoppers and crickets with peculiar relish. It would at times sit for hours watching the flies, as these passed about it, and snatched at and often secured such wasps as now and then approached the pieces of fruit thrown into the cage. Very often, of fine moonshiny nights, it would tune its pipe, and sing sweetly, but not loudly, remaining quietly perched and in the same position. Whilst singing during the day, it was in the habit of opening its wings, and gently raising them, somewhat in the manner of the Mocking-bird. I found it very difficult to preserve this bird during winter, and was obliged for that purpose to place it in a room heated by a stove to summer temperature. It was a lively and very gentle companion of my study for nearly three years; it died of cold the third winter. It frequently escaped from the cage, but never exhibited the least desire to leave me, for it invariably returned to some portion of the house at the approach of night. Its song continued about six weeks during summer, and about two in the autumn; at all other periods it simply uttered a faint chuck, and seemed to possess many of the ordinary habits of the Blue Grosbeak."

The food of this beautiful bird consists of seeds of the cereal plants, of

grasses, and those of different kinds of berries, along with insects. The young are three years in obtaining their full dress, and undergo their changes very slowly.

Although common about the mouths of the Mississippi in spring, when on its way northward, this species is never seen in South Carolina. When proceeding to the Texas in April, 1837, I found it so abundant wherever we landed that hundreds might have been procured. Both sexes were in perfect plumage. Mr. Townsend observed it on the Missouri; and Dr. T. M. Brewer informs me that he shot a fine male at Fresh Pond, near Boston, in the summer of 1832, and knew of two or three females killed afterwards.

In an adult male from Texas, the palate is deeply concave in the middle, with two prominent longitudinal ridges, forming a large projection at their meeting anteriorly; it ascends obliquely, is gradually narrowed, and beyond the nostrils becomes horizontal, the upper mandible beneath being concave, with three strong longitudinal ridges and four grooves; the lower mandible is very deeply concave. The posterior aperture of the nares is 3 twelfths long, oblongo-linear, margined with papillæ. The width of the mouth is 6 twelfths. The tongue is $5\frac{3}{4}$ twelfths long, emarginate and papillate at the base, convex and fleshy above, as high as broad, horny beneath, and tapering to a point. Œsophagus 3 inches 2 twelfths long, nearly uniformly 3 twelfths wide. Stomach small, roundish, compressed, $\frac{1}{2}$ inch long, and of the same breadth; its muscles distinct and of moderate thickness, the tendons large, the epithelium thin, tough, longitudinally rugous, and of a reddish-brown colour. The contents of the stomach small seeds and particles of quartz. Intestine $9\frac{1}{2}$ inches long, its width from 2 twelfths to $1\frac{1}{2}$ twelfths; cœca $1\frac{1}{2}$ twelfths long, $\frac{1}{2}$ twelfth in breadth, 1 inch distant from the extremity.

Trachea 2 inches 1 twelfth long, from 1 twelfth to $\frac{1}{2}$ twelfth in breadth; the rings about 70, firm, considerably flattened. Bronchi of about 15 rings. Muscles as usual in this family; the inferior laryngeal large. There are very slender elongated salivary glands, extending to beyond the articulation of the jaw.

Male, $7\frac{3}{4}$, 13.

Passes from Texas northward and eastward in great numbers. Breeds on the Missouri, in the Middle States, Newfoundland, and Labrador. Rather common. Migratory.

Rose-breasted Grosbeak, *Loxia rosea*, Wils. Amer. Orn., vol. ii. p. 135.
Fringilla ludoviciana, Bonap. Syn., p. 113.
Coccothraustes ludoviciana, *Rose-breasted Grosbeak*, F. Bor. Amer., vol. i. p. 271.
Rose-breasted Grosbeak, *Fringilla ludoviciana*, Nutt. Man., vol. i. p. 527.
Rose-breasted Grosbeak, *Fringilla ludoviciana*, Aud. Orn. Biog., vol. ii. p. 166; vol. v. p. 513.

Adult Male.

Bill short, robust, bulging at the base, conical, acute; upper mandible with its dorsal outline a little convex, the sides rounded, the edges sharp; lower mandible with its dorsal outline also a little convex, the sides rounded, the edges inflected; the gap-line is deflected at the base, then straight to the end. Nostrils basal, roundish, open, partly concealed by the feathers. Head rather large, neck short, general form robust. Legs of moderate length, rather strong; tarsus anteriorly covered with a few scutella, the upper long, posteriorly sharp; toes scutellate above, free, the lateral ones nearly equal; claws slender, arched, compressed, acute, that of the hind toe not much larger.

Plumage soft and blended, but firm and elastic. Wings of moderate length, broad, the second, third, and fourth quills longest, the secondaries rounded. Tail longish, slightly emarginate, of twelve rounded feathers.

Bill white. Iris hazel. Feet greyish-blue. The head all round, including the upper part of the neck, the hind neck, the back, wings, and tail, glossy black; the first row of coverts, the tips of the secondary coverts, the basal half of the primary quills, and the inner webs towards the end of the three lateral tail-feathers, white, as is the rump, that part, however, being spotted with black. Lower neck and middle of the breast of a bright carmine tint; lower wing coverts white, tinged with carmine.

Length $7\frac{3}{4}$ inches, extent of wings 13; bill along the back $\frac{7\frac{1}{2}}{12}$, along the edge $\frac{9}{12}$; tarsus $\frac{11}{12}$.

Adult Female.

The female differs greatly from the male in external appearance. The bill brown above, paler beneath; iris hazel; feet as in the male. The general colour of the plumage above is olivaceous-brown, spotted with brownish-black, the central part of each feather being of the latter colour. On the head is a central longitudinal band of pale yellowish-grey, spotted with dark brown, then on each side a dark brown band, and above the eye a white one; a brown band from the bill to the eye and beyond it, and under this a whitish band. There are two white bands on the wings as in the male, but narrower and duller. The quills and tail are brown. The lower parts light brownish-yellow, fading behind into white; the fore neck, breast, and sides marked with small longitudinal spots or streaks of dark-brown. The lower wing-coverts very slightly tinged with rose-colour.

Young Male in autumn.

After the first moult, the young male resembles the female, but already shews the rosy tints both on the breast and on the under wing-coverts.

Young in first plumage.

In this state also the young resemble the female.

The Ground Hemlock.

Taxus canadensis, *Willd.*, Sp. Pl., vol. iv. p. 856. *Pursch*, Flor. Amer. Sept., vol. ii. p. 647.—Diœcia Monadelphia.—Coniferæ, *Juss.*

The *ground hemlock*, or *Canadian yew*, is abundant on the declivities of the mountains from Maryland to Maine. It is a low tree, or rather bush, often almost prostrate, and frequently hanging from the rocks. The leaves are linear, distichous, revolute at the margin. The berries, which are oblong or globular, and of a pale red colour, are eatable.

BLACK-HEADED GROSBEAK.

Coccoborus melanocephalus, *Swains.*

PLATE CCVI.—Male and Female.

The following account of this Grosbeak affords another proof of the ardent zeal of my excellent friend Thomas Nuttall, who, though more especially engaged with botany on his recent journey to the Columbia, has not neglected opportunities of noting many interesting facts relative to birds.

"On the central table-land of the Rocky Mountains, and on the upper branches of the Colorado of the west, we first heard the powerful song of this most delightful Finch. From thence, in the thick groves of all the streams on our western course to the borders of the Columbia, and throughout the dense forests of that river nearly to the sea, we were frequently cheered amidst the wildest desolation by the inimitable voice of this melodious bird. Jealous of all intrusion on his lonely and wild haunts, it was seldom that we had the opportunity of witnessing this almost fairy musician, which gave a charm to the saddest gloom, and made the very woods as it were re-echo to his untiring song. With the modesty of superior merit, and almost with the solicitude of the Nightingale, our favourite Finch seeks the darkest thicket of the deepest forest. The moment his eye rests on the intruding observer he flits off in haste, calls to his mate, and plunging into the thicket sits in silence till he is satisfied of the restoration of solitude, when he again cautiously mounts the twig and pours out afresh the oft-told

R.E

Black-headed Song-Grosbeak.

1. Males 2. Female.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S

Lith.d Printed & Col.d by J. T. Bowen. Philad.

but never-tiring tale of his affection and devotion to the joys of nature. His song, which greatly resembles that of the Red-breasted Grosbeak, is heard at early dawn, and at intervals nearly to the close of night. It is a loud, varied, high-toned and melodious fife, which rises and falls in the sweetest cadence; but always, like the song of the Nightingale, leaves a sensation of pleasing sadness on the ear, which fascinates more powerfully than the most cheering hilarity. In fact, the closing note of our bird is often so querulous as to appear like the shrill cry of appealing distress; it sinks at last so faintly, yet still so charmingly on the sense. When seen, which is only by accident, he sits conspicuously on some lofty bough, below the summit of the tree, and raising his head, and swelling his throat with a rising motion, almost amounting to a flutter, he appears truly rapt in ecstacy, and seems to enjoy his own powers of melody as much as the listener. Even the cruel naturalist, ever eager to add another trophy to his favourite science, feels arrested by his appeal, and connives at his escape from the clutch of the collector.

"About the month of July, in the Rocky Mountains, I observed the female feeding her fledged young, and they also spent the summer in the thickest branches, but with the nest and eggs I am unacquainted. The song, as I have heard it, in the forests of Columbia, seems to be like the syllables, *'tait, weet, teet, weowit, teet weowit, teet weeowit, verr*, and sometimes terminating *weet, weet, weet*, every note a loud tender trill of the utmost sweetness, delivered in his own "wood-notes wild," mocking nothing, but still exulting in his powers, which, while exerted, seem to silence every songster around. The Robin seems almost his pupil in song and similarity of expression, but falls short, and after our Orpheus, seems at best but a faltering scholar."

Male, $8\frac{1}{2}$, wing, $4\frac{1}{4}$.

Central table-land of Rocky Mountains. Common. Migratory.

BLACK-HEADED GROSBEAK, *Fringilla melanocephala*, Aud. Orn. Biog., vol. iv. p. 519.
GUIRACA MELANOCEPHALA, *Swainson.*

Adult Male.

Bill rather short, very robust, bulging at the base, conical, acute; upper mandible with its dorsal outline a little convex, the sides rounded, the edges sharp, ascending from the base to beyond the nostrils, then deflected with a slight median festoon, and an obscure notch close to the tip; lower mandible with the angle short and very broad, the dorsal line straight, the back very broad at the base, the sides high and convex, the edges inflected, the tip acute. Nostrils basal, roundish, partly concealed by the feathers.

Head large, roundish-ovate; neck short; body rather full. Legs of mode-

rate length, rather strong; tarsus anteriorly covered with seven scutella, posteriorly with two plates forming a sharp edge; toes rather large, the first stout, the lateral nearly equal, the middle toe much longer. Claws rather long, arched, much compressed, acute.

Plumage soft and blended. Wings of moderate length, broad. The first quill two-twelfths shorter than the second, which is longest, but scarcely exceeds the third, the fourth longer than the first; secondaries slightly emarginate. Tail rather long, nearly even.

Bill with the upper mandible dusky, the lower white. Iris hazel. Feet and claws wood-brown. Head, cheeks, and a small portion of the throat black; the upper parts brownish-black; the feathers on the lower part of the hind neck all round, a streak over each eye, another along the middle of the hind head, the greater part of the rump, and the lower parts generally, yellowish-red or brownish-orange; the edges of some of the feathers on the back, a broad band formed by the first row of small coverts, a narrow band formed by the tips of the secondary coverts, a band on the base of the primaries, the outer web of the first excepted, the margins of three of the primaries toward the end, and a spot on the outer web of most of the secondaries at the end; a large patch on the inner web of all the tail-feathers, excepting the two middle, and largest on the outer, pure white; the middle of the breast and abdomen, with the axillaries and lower wing-coverts, yellow.

Length to end of tail $8\frac{1}{2}$ inches; wing from flexure $4\frac{1}{4}$; tail $3\frac{8}{12}$; bill along the ridge $\frac{9}{12}$, along the edge of lower mandible $\frac{10}{12}$; tarsus $\frac{11}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{5}{12}$; middle toe $\frac{8}{12}$, its claw $\frac{3\frac{1}{2}}{12}$.

Adult Female.

The female is much less beautiful. The bill is of a lighter brown above, brownish-white beneath, with the edges and tip of the lower mandible light brown; the feet and claws wood-brown. The upper parts are wood-brown, the head darker, with three longitudinal bands of brownish-white; a band of reddish-white across the hind neck, the feathers of the back margined with whitish; the wings marked as in the male, but with brownish-white; the tail without white spots. The lower parts are of a much paler tint than those of the male; the axillars and lower wing-coverts yellow.

Length to end of tail $8\frac{1}{4}$ inches; bill along the ridge $\frac{9}{12}$; tarsus $\frac{11}{12}$; middle toe and claw $1\frac{3}{12}$.

Evening Grosbeak.

1 Male. 2. Female. 3 Young Male

Drawn from Nature by J. J. Audubon. F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen-Philad.

Genus XVII.—COCCOTHRAUSTES, *Briss.* GROSBEAK.

Bill of moderate length, extremely robust, almost as broad as the head, not compressed, conical, pointed; upper mandible rather broader than the lower, with the dorsal line slightly convex, the ridge indistinct, the nasal sinus extremely wide and short, the sides rounded, the edges simply arched and a little inflected, the notches almost obsolete, the tip a little deflected; lower mandible with the angle extremely short and wide, forming the fourth of a circle, the dorsal line straight, the sides at the base and in their whole length convex, the edges involute, the tip acute; nostrils basal, round. Plumage blended. Wings of moderate length, pointed, the outer three quills nearly equal, the second longest. Tail of moderate length, emarginate. Tarsus short, compressed, with seven scutella; toes moderate, hind toe stout, broad beneath; outer toe a little longer than the inner, and adherent at the base. Claws moderate, or rather stout, arched, compressed, acute. Upper mandible concave beneath, with three prominent lines.

EVENING GROSBEAK.

Coccothraustes vespertina, *Cooper.*

PLATE CCVII.—Male, Young Male, and Female.

This fine species of Grosbeak was first introduced to the notice of ornithologists by Mr. William Cooper, who published an account of it in the Annals of the Lyceum of New York. Mr. Schoolcraft observed a few individuals, in the beginning of April, 1823, near the Sault Sainte Marie in Michigan, from which the species was traced to the Rocky Mountains. Dr. Richardson mentions it as a common inhabitant of the maple groves on the Saskatchewan plains, whence "its native appellation of Sugar-bird." The

female remained utterly unknown until it was obtained by Mr. TOWNSEND, who found this Grosbeak abundant about the Columbia river, and procured a great number of specimens, several of which are in my possession. The following note from him contains all the information respecting its habits that I can lay before you.

"Columbia river, May 27, 1836.—The Evening Grosbeak, *Fringilla vespertina*, is very numerous in the pine-woods at this time. You can scarcely enter a grove of pines at any hour in the day without seeing numbers of them. They are very unsuspicious and tame, and I have, in consequence, been enabled to procure a fine suite of specimens. The accounts that have been published respecting them by the only two authors to whom I have access, Mr. NUTTALL and Prince BONAPARTE, are, I think, in many respects incorrect. In the first place, it is stated that they are retiring and silent during the day, and sing only on the approach of evening. Here they are remarkably noisy during the whole of the day, from sunrise to sunset. They then retire quietly to their roosts in the summits of the tall pines, and are not aroused until daylight streaks the east, when they come forth to feed as before. Thus I have observed them *here*, but will not say but that at other seasons, and in other situations, their habits may be different. They are now, however, very near the season of breeding, as the organs of the specimens I have examined sufficiently indicate. They appear fond of going in large bodies, and it is rare to see one alone in a tree. They feed upon the seeds of the pine and other trees, alighting upon large limbs, and proceeding by a succession of hops to the very extremities of the branches. They eat, as well as seeds, a considerable quantity of the larvæ of the large black ant, and it is probable that it is to procure this food that they are not uncommonly seen in the tops of the low oaks which here skirt the forests. Their ordinary voice, when they are engaged in procuring food, consists of a single rather screaming note, which from its tone I at first supposed to be one of alarm, but soon discovered my error. At other times, particularly about mid-day, the male sometimes selects a lofty pine branch, and there attempts a song; but it is a miserable failure, and he seems conscious of it, for he frequently pauses and looks discontented, then remains silent sometimes for some minutes, and tries it again, but with no better success. The note is a single warbling call, exceedingly like the early part of the Robin's song, but not so sweet, and checked as though the performer were out of breath. The song, if it may be so called, is to me a most wearisome one: I am constantly listening to hear the stave continued, and am as constantly disappointed. Another error of the books is this,—they both state that the female is similar to the male in plumage. Now, this is entirely a mistake: she is so very different in colour and markings, that were it not for

the size and colour of the bill, and its peculiar physiognomy, one might be induced to suppose it another species. The specimens in possession of Mr. LEADBEATER of London, and from which Prince BONAPARTE drew up his descriptions, must have been all males."

Male, 8, wing $4\frac{3}{4}$. Female, $7\frac{1}{2}$, wing $4\frac{1}{4}$.

Michigan. Columbia river. Saskatchewan. Common. Migratory.

FRINGILLA VESPERTINA, Cooper, Ann. Lyc. New York, vol. i. p. 220.
EVENING GROSBEAK, *Fringilla vespertina*, Bonap. Syn., p. 113.
EVENING GROSBEAK, *Fringilla vespertina*, Bonap. Amer. Orn., vol. ii. pl. 14.
COCCOTHRAUSTES VESPERTINA, *Evening Grosbeak*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 269.
EVENING GROSBEAK, Nutt. Man., vol. i. p. 594.
COCCOTHRAUSTES BONAPARTII, Lesson, Young Male.
EVENING GROSBEAK, *Fringilla vespertina*, Aud. Orn. Biog., vol. iv. p. 515; vol. v. p. 235.

Adult Male.

Bill of moderate length, extremely thick, conical, pointed; upper mandible with the dorsal line very slightly convex, the sides rounded, the edges sharp, overlapping, with a slight sinus close to the acute tip; lower mandible with the angle very short and broad, the dorsal line straight, or very slightly concave, the back very broad, the sides rounded, the edges inflected, the tip acute. Nasal sinus extremely short and broad; nostrils round, basal, concealed by short reflected bristly feathers.

Head large, roundish-ovate; neck short; body moderately full. Feet short, of moderate strength; tarsus short, compressed, with seven anterior scutella, and two plates behind forming a sharp edge; hind toe large, outer toe somewhat longer than inner; claws rather large, moderately arched, much compressed, acute.

Plumage full, soft, blended, the feathers oblong. Wings rather long, broad, abruptly pointed; the outer three primaries almost equal, the first longest; outer secondaries emarginate. Tail of moderate length, rather narrow, emarginate, of twelve rather narrow feathers.

Bill yellow; iris hazel; feet flesh-colour, claws brown. The upper part of the head and the occiput are brownish-black, bounded anteriorly by a broadish band of bright yellow across the forehead, and laterally by a streak of the same, passing over the eye; the stiff feathers over the nostrils black, as is the loral space. The cheeks, hind neck, and throat, are dark yellowish-olive, and that colour gradually brightens until, on the outer edges of the scapulars, the rump, the axillars and inner lower wing-coverts, the abdomen and lower tail-coverts, it becomes pure yellow. The smaller wing-coverts, alula, primary coverts, three outer secondaries, outer web of the next, and

the bases of the inner secondaries, black; as is the tail; six of the inner secondaries, inner web of the next, and inner margin of the rest, as well as their coverts white, the basal part excepted.

Length to end of tail 8 inches; wing from flexure $4\frac{3}{4}$; tail 3; bill along the ridge $\frac{10}{12}$, along the edge of lower mandible $\frac{11}{12}$; tarsus $\frac{9\frac{1}{2}}{12}$; hind toe $\frac{5}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; middle toe $\frac{8}{12}$, its claw $\frac{3\frac{3}{4}}{12}$.

Adult Female.

The adult female, which is here figured and described from a specimen obtained from Mr. Townsend, and marked "Black Hills, Female, June 3, 1824," wants the yellow band on the forehead, the streak of the same colour over the eye, the black line along the basal margin of the upper mandible, and the large patch of white on the wings. The bill and feet are as in the male, but paler. The upper part of the head is dark brownish-olive; the cheeks lighter; the hind neck, back, and scapulars light brownish-grey, with a slight olivaceous tint, shaded into brownish-yellow on the rump. The wings are black; a portion of the edge of the wing, the tips and part of the margins of the secondary coverts, a concealed band on the basal part of the primaries, the outer three excepted, and the edges of all the quills toward the end, white, which is broader on the secondaries, and forms a band on them. Tail-coverts black, tipped with a triangular spot of white; tail-feathers also black, with a white spot on the inner web at the tip, eight-twelfths long on the outermost feather, gradually diminishing towards the central feathers, which are slightly tipped. Throat greyish-white, margined on either side by a longitudinal band of black, from the base of the lower mandible, and ten-twelfths in length; the lower parts yellowish-grey; abdomen and lower tail-coverts white, axillars and some of the lower wing-coverts yellow.

Length to end of tail $7\frac{1}{2}$ inches; wing from flexure $4\frac{1}{4}$; tail $2\frac{10}{12}$; bill along the ridge $\frac{9\frac{1}{2}}{12}$.

Young Male.

The young male bears a considerable resemblance to the female, differing chiefly in wanting the black bands on the throat, and in having the upper parts much lighter, and the lower more yellow. Bill yellow; iris hazel; feet flesh-colour, claws dusky. Head and cheeks light greyish-brown, the rest of the upper parts of a paler tint, slightly tinged with yellow on the margins. The wings and tail are black, as in the female, and similarly spotted with white, but tinged with yellow. The lower parts are yellowish-grey, the sides of the neck and the axillars pale yellow, the abdomen and lower tail-coverts white.

The young male has been described as the adult female by Mr. Swainson in the Fauna Boreali-Americana, and has been made a distinct species by

M. Lesson, under the name of *Coccothraustes Bonapartii.* The Prince of Musignano, it is observed, has erred in stating that "no difference of any consequence is observable between the sexes; though it might be said that the female is a little less in size, and rather duller in plumage."

Genus XVIII.—PYRANGA, *Vieill.* SUMMER RED-BIRD.

Bill of moderate length, robust, tapering, compressed toward the end, acute; upper mandible with its dorsal line declinate and considerably convex, the ridge rather narrow, nasal sinus very short and wide, the sides convex, the edges sharp, slightly arched, with a festoon about the middle, the notches distinct, the tip very slender, declinate; lower mandible strong, with the angle short and rounded, the dorsal line straight, the sides convex, the edges direct, the tip acute. Nostrils basal, round. Head ovate; neck short; body compact. Tarsus short, with seven scutella; toes rather small, the first moderate, the outer slightly longer than the inner, and adherent at the base. Claws moderate, well arched, much compressed, laterally grooved, acute, those of the first and third toes equal. Plumage soft and blended; distinct bristles at the base of upper mandible. Wings rather long, with the second and third quills longest, the first little shorter. Tail of moderate length, emarginate. Upper mandible concave, with three longitudinal ridges; tongue somewhat triangular, convex above, with the point thin-edged and lacerated; œsophagus dilated about the middle; stomach broadly elliptical, small, its lateral muscles rather small; epithelium thin, longitudinally rugous; intestine short; cœca extremely small. Inferior laryngeal muscles four on each side, but very small.

THE SUMMER RED-BIRD.

+PYRANGA ÆSTIVA, *Gmel.*

PLATE CCVIII.—ADULT MALE, YOUNG MALE, AND FEMALE.

This beautiful species is of solitary habits, preferring at all times the interior of the forests, but not the densest parts of them. I have observed that woods interspersed with what are called *scrubby* hickories or stunted oaks, are favourite resorts of the Summer Red-birds.

Their residence in the United States scarcely exceeds four months. None remain in any of the more southern parts of our districts. Indeed, by the middle of September, it would be difficult to see a single pair in the forests of Louisiana. So very tender do they seem to be in regard to cold, or even temperate weather, that they seldom go farther north than Boston, or the shores of Lake Erie, but prefer the sandy woodlands all along the eastern shores, as far as Massachusetts.

Their flight is performed in a gliding manner when passing through the woods, generally amidst the top branches of trees. Whilst migrating, they rise high above the trees, and pursue their journeys only during the day, diving towards dusk into the thickest parts of the foliage of tall trees, from which their usual unmusical but well-known notes of *chicky-chucky-chuck* are heard, after the light of day has disappeared. This species feeds principally on insects, and especially coleoptera, some of which are often of larger size than a bird of the dimensions of the Summer Red-bird might be supposed capable of swallowing. It seldom alights on the ground, but prefers pursuing insects on the wing, which it frequently does from the dried twigs at the extremity of the branches.

The construction of the nest of this richly clad species is nearly the same in all parts of the Union in which it breeds. It is frequently fixed on a branch crossing a road, or an opening of some description, or, if in the woods, in some partially cleared space. It is usually placed low on a horizontal branch. It is composed externally of dried stalks of weeds, and is finished within with fine grass, arranged in a slovenly manner. It is so insecurely fastened to the branch, that it may be shaken off by striking the latter smartly. The female lays four or five eggs of a light blue colour. The male and female sit upon them alternately for twelve days, and are as anxious about their safety as most species. The young are seen about the

Summer Red-bird.

1. Male. 2. Female. 3 Young Male.

Wild Muscadine Vitis rotundifolia Mich.

Drawn from Nature by J. J. Audubon F.R.S.F.L.S. Lith.d Printed & Col.d by J. T. Bowen Phila.d

beginning of June, and follow their parents until the time of the migration of the latter, which takes place a fortnight earlier than that of the young birds. They raise only one brood in a season.

The alterations of plumage which appear in the young birds between the period at which they leave the nest, and the ensuing spring, are as great as those of the Orchard Oriole. They are at first nearly of the colour of the female. The males become a little mottled with dull reddish-orange, towards the time of their departure for the south, the females only deepening their tints.

I have several times attempted to raise the young from the nest, but in vain. Insects, fruits, and eggs, mixed with boiled meat of various kinds, always failed, and the birds generally died in a very few days, uttering a dull note, as if elicited by great suffering. The same note is emitted by the young in their state of freedom, when, perched on a branch, they await the appearance of their parents with their proper food.

I found this species in the Texas about the middle of April, when it was arriving from the south. At this period many of the males were in full plumage, while almost as many were imperfect; but I observed that before we left Galveston, about the middle of May, scarcely one was met with in the latter state; and, although a considerable number reach even our middle Atlantic districts, in a mottled and incomplete livery, it is the opinion of my friend Dr. Bachman, as well as my own, that the males obtain all the beauty of their colours when about twelve months old. This opinion is founded on the fact, that mottled birds of this species are comparatively but rarely found in the act of breeding. I now feel almost quite certain that too great an extent of time has hitherto been supposed necessary for this bird to acquire its perfect plumage; and this is equally the case with several other species. My friends Mr. Harris and Dr. Trudeau have procured female Summer Red-birds almost as red as the males. They were obtained while breeding, and I am informed by these gentlemen that such cases are not rare. This bird sings pleasantly during the spring, for nearly half an hour in succession, and, although its notes have some resemblance to those of the Red-eyed Vireo, they are sweeter and more varied, surpassing, indeed, those of the Baltimore-bird, and nearly equalling those of the Orchard Oriole.

I have represented an adult male, his mate, and a young bird in its singularly patched state, to enable you to judge how different a family of these birds must appear to the eye of a person unacquainted with the peculiarity of their differences and changes of plumage.

The *vine* on which you see them is usually called the *Muscadine*. It grows everywhere in Louisiana, and the State of Mississippi, and that most luxuriantly. In those States you may see vines of this species fifteen inches

in diameter near the roots, either entwined round the trunk of a large tree, and by this means reaching the top branches and extending over them and those of another tree, or, as if by magic, swinging in the air, from roots attached at once to some of the uppermost branches. In favourable seasons, they are laden with grapes, which hang in small clusters from every branch, from which, when they are fully ripe, a good shake will make them fall in astonishing quantity. The skin is thick and very tough, the pulp glutinous, but so peculiarly flavoured as to be very agreeable to the taste. These grapes are eaten by most people, although an idea prevails, in Lower Louisiana particularly, that the eating of them gives rise to bilious fevers. For my part, I can well say, that the more I have eaten of them the better I have found myself; and for this reason seldom lost an opportunity of refreshing my palate with some of them in my rambles. I am equally confident, that their juice would make an excellent wine. Another absurd opinion prevails in Louisiana, which is, that the *common blackberries*, however ripe and pleasant, produce biles; although the country people make use of a strong decoction of the root as a cure for dysentery.

Male, $7\frac{1}{2}$, 11.

From Texas to Massachusetts. In the interior to Canada. Abundant. Migratory.

SUMMER RED-BIRD, *Tanagra æstiva*, Wils. Amer. Orn., vol. i. p. 95.
TANAGRA ÆSTIVA, Bonap. Syn., p. 105.
SUMMER RED-BIRD, *Tanagra æstiva*, Nutt. Man., vol. i. p. 469.
SUMMER RED-BIRD, *Tanagra æstiva*, Aud. Orn. Biog., vol. i. p. 232; vol. v. p. 518.

Adult Male.

Bill rather short, robust, tapering, compressed, acute; upper mandible a little convex in its dorsal outline, convex on the sides, the acute edge slightly notched near the tip, which is a little declinate; lower mandible also a little convex in its dorsal outline, with the edges inflected. Nostrils basal, lateral, round. Head large. Body rather long. Feet shortish; tarsus compressed, anteriorly scutellate, about the length of the middle toe; outer toe united at the base to the middle one; claws arched, compressed, acute.

Plumage soft, blended, glossy. Wings of ordinary length, the second quill longest. Tail slightly emarginate, of twelve acute feathers.

Bill yellowish-brown above, bluish below. Iris hazel. Feet and claws light greyish-blue. The whole plumage is vermilion, brighter on the lower parts, excepting the tips and inner webs of the quills, which are tinged with brown.

Length $7\frac{1}{4}$ inches, extent of wings 11; bill along the ridge $\frac{7}{12}$, along the gap 1; tarsus $\frac{5}{6}$.

Adult Female.

The general colour above is light brownish-green, the sides of the head and the under parts generally brownish-yellow; larger wing-coverts dusky, edged with yellow; quills deep brown, externally margined with yellowish-red; tail-feathers of the same colour. The bill, eyes and legs are of the same tints as in the male.

Dimensions nearly the same.

Young Male.

Dull vermilion, spotted with dull green.

The palate is ascending, concave in the middle, with two ridges, and a small soft prominence in front; the upper mandible has three ridges beneath, of which the lateral are broader. The posterior aperture of the nares is linear, and papillate on the edges. The tongue is 7 twelfths long, somewhat triangular, sagittate and papillate at the base, fleshy and convex above, the point horny, thin-edged and lacerated. The width of the mouth is $5\frac{1}{2}$ twelfths. The œsophagus is 2 inches 10 twelfths long, its greatest width 4 twelfths. The stomach is very small, broadly elliptical, $5\frac{1}{2}$ twelfths long, 5 twelfths in breadth; its lateral muscles rather small; the epithelium thin, tough, and longitudinally rugous. Intestine $7\frac{1}{4}$ inches long, from 2 twelfths to 1 twelfth in breadth; cœca extremely small, scarcely distinct from the intestine. The trachea is 2 inches long, about 1 twelfth in breadth; its rings about 75. Bronchial half rings about 15. The muscles are as usual; the inferior laryngeal very small. Salivary glands very slender, extending to behind the articulation of the lower jaw.

The Wild Muscadine.

Vitis rotundifolia, *Mich.*, Flor. Amer., vol. ii. p. 231. *Pursch*, Flor. Amer., vol. i. p. 169.—Pentandria Monogynia, *Linn.*—Vites, *Juss.*

Leaves between heart-shaped and kidney-shaped, nearly equally toothed, shining on both sides.

SCARLET TANAGER, OR BLACK-WINGED RED-BIRD.

PYRANGA RUBRA, *Linn.*

PLATE CCIX.—MALE AND FEMALE.

You have now before you a representation of one of the most richly coloured of our birds, and one whose history is in some degree peculiar. The Scarlet Tanager enters the United States from Mexico, through the Texas, in the beginning of April. On several of the islands in the Gulf of Mexico, I found it exceedingly abundant, and restrained in a great measure from proceeding eastward by the weather, which was unseasonably cold. Many were procured in their full dress, and a few in the garb of the females. These plain-coloured individuals turned out to be males, which in so far confirmed my former observations respecting this and several other species, in which the males precede the females by about a fortnight in their spring migrations. It was at the same period that I observed the wonderful rapidity in the change of the plumage from its winter aspect to its summer colouring in the Red-breasted Snipe, *Scolopax Noveboracensis;* and I became convinced that nearly the same phenomenon took place in the Tanagers. In them, in fact, the older individuals, being stronger, had attained their full colouring, while the younger were later in changing. As we advanced, I procured many specimens partially coloured, and when the males had mostly passed, the females made their appearance; manifesting similar gradations in the changes of their colours. I knew that many of the males of this species reach our Middle Districts in a spotted dress, and soon after acquire their full colours; and I am disposed to think that in the autumnal months, the young males of the year become of a much purer tint than that of the young or old females. The latter themselves improve materially in this respect as they advance in age, and I have some nearly twice as richly coloured as birds only a year old. The same observations apply to our Summer Red-bird, *Tanagra æstiva*, of which I have females, procured by my valued friend EDWARD HARRIS, Esq., exhibiting tints nearly as bright as those of their mates obtained at the same time, when they had nests. In the Scarlet Tanager it is remarkable, moreover, that some males acquire a beautiful transverse band of glowing red on the smaller wing-coverts; and I have several specimens in this state, presented to me by Mr. HARRIS and Dr. TRUDEAU.

The Scarlet Tanager proceeds as far northward as Lake Huron, where it

Scarlet Tanager.

1. Male. 2. Female

Drawn from Nature by J. J. Audubon F.R.S.F.L.S.

Lith.d Printed & Col.d by J. T. Bowen Philad

was observed by Dr. RICHARDSON; but this must happen rarely, as it is very sensible to cold, so much so indeed, that in the State of Massachusetts, should a sudden change take place in the weather, during the time of their spring migrations, hundreds die in the course of a night, not only in the woods and orchards, but even in the towns and villages. I witnessed a like occurrence at Eastport in Maine late in May, when I was on my way to Labrador; and as I was proceeding to the Texas, I observed that they sought the shelter of the low bushes, when the weather was damp or chill. None were seen after we left the former place, though they are at times found breeding in the British provinces of New Brunswick and Nova Scotia. In the United States they seem extremely partial to certain districts, generally preferring sandy soils and undulating grounds. Thus, I found them breeding abundantly in Louisiana, but rarely there in the lower parts. My friend Dr. BACHMAN informs me that they are seldom met with in the maritime districts of South Carolina; and that there they follow the mountain range as it were for a guide. Yet they are plentiful in the Jerseys, where they usually arrive about the middle of May, in Kentucky, and along the Missouri; and, in short, are generally dispersed over the Union.

The migrations of this species are performed by night. Its flight on ordinary occasions is even and swift, and it passes through the woods in a gliding manner, when the glowing colours of the males render them as conspicuous as pleasing to the sight. On the branches their movements are rather sedate, and it is but seldom that they emit their usual notes when in motion. These are by no means musical, although oft repeated. They have been well imitated by WILSON, who represents them by the syllables "*chip, churr.*" I have not, however, thought them pensive in any degree, but rather lively; and when emitting them, the bird often inflates his throat, stands erect, and vibrates his body, as if in perfect ecstacy.

It is by no means true, as authors allege, that the Scarlet Tanager retires from the sight of man, and prefers the deepest recesses of the forest to the neighbourhood of the husbandman's cottage; at least, this is not the case in those parts of our country where the population is not very dense; for I have observed it to take up its abode for a season in the very vicinity of the squatter's cabin, to the patch of open ground near which it constantly resorted to search for coleoptera and other insects, forming its slightly-built nest on the lower branch of a spreading oak, or on a tree close to the roadside. It is composed externally of a few dry weeds and small twigs, and scantily lined with fibrous roots or slender grasses. In Louisiana the eggs are deposited by the first of May, about a month later in our central districts, but in the State of Maine frequently not until the middle of June. It never raises more than one brood in the season; and I have observed that,

notwithstanding the difference in the temperature of our Southern and Northern States, the young are no sooner able to travel than they are at once led off, so that families may be seen travelling southward for many weeks in succession, and by the end of September all have left the United States. The eggs are from three to five, smooth, of a dull greenish-blue colour, speckled with reddish-brown and light purple, and measure a little more than seven-eighths of an inch in length, by five-eighths in breadth. The young are fed with insects and fruits of many sorts. At this period the old birds feed also on insects and larvæ, but toward the latter period of their stay they all subsist chiefly on the smaller berries and grapes.

The parental affection of this bird has been so beautifully and truly described by WILSON, that, in presenting the following statement regarding it, I must contribute to the gratification of your kindly feelings as much as of my own. "Passing through an orchard one morning, I caught one of the young birds that had but lately left the nest. I carried it with me about half a mile, to shew it to my friend, Mr. WILLIAM BARTRAM; and, having procured a cage, hung it upon one of the large pine trees in the Botanic Garden, within a few feet of the nest of an Orchard Oriole, which also contained young; hopeful that the charity or tenderness of the Orioles would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended at home. The poor orphan was altogether neglected, notwithstanding its plaintive cries; and, as it refused to be fed by me, I was about to return it back to the place where I found it, when, towards the afternoon, a Scarlet Tanager, no doubt its own parent, was seen fluttering round the cage, endeavouring to get in. Finding this impracticable, he flew off, and soon returned with food in his bill; and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner; and, notwithstanding the insolence of the Orioles, continued his benevolent offices the whole day, roosting at night as before. On the third or fourth day, he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power, for him to come out. This was too much for the feelings of my venerable friend; he procured a ladder, and, mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored him to liberty and to his parent, who, with notes of great exultation, accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and shewed itself in his benevolent countenance; and I could not refrain saying to myself,—If such sweet sensations can be derived from a single circumstance of this kind, how exquisite—how

unspeakably rapturous—must the delight of those individuals have been, who have rescued their fellow beings from death, chains, and imprisonment, and restored them to the arms of their friends and relations! Surely in such godlike actions, virtue is its own most abundant reward."

Male, 7, $11\frac{3}{4}$. Female, $6\frac{1}{2}$, $10\frac{3}{4}$.

From Texas to Lake Huron. Throughout the Valley of the Mississippi, Kentucky, and Ohio. Common. Migratory.

SCARLET TANAGER, *Tanagra rubra*, Wils. Amer. Orn., vol. ii. p. 42.
TANAGRA RUBRA, Bonap. Syn., p. 105.
SCARLET TANAGER, or BLACK-WINGED SUMMER RED-BIRD, Swains. and Rich., F. Bor. Amer., vol. ii. p. 273.
SCARLET TANAGER, *Tanagra rubra*, Nutt. Man., vol. i. p. 465.
SCARLET TANAGER, *Tanagra rubra*, Aud. Orn. Biog., vol. iv. p. 388.

Adult Male in Spring.

Bill rather short, robust, compressed toward the end, acute. Upper mandible with its dorsal outline declinate and slightly convex, the ridge rather narrow, the sides convex, the edges sharp, overlapping, with two slightly prominent small festoons about the middle, and a faint notch close to the tip, which is a little declinate. Lower mandible strong, with the angle short and wide, the dorsal line straight, the back broadly convex, the sides convex, the edges sharp, the tip acute. Nostrils round, basal.

Head rather large, ovate, flattish above; neck very short; body ovate, compact. Legs shortish; tarsus short, compressed, rather stout, with seven anterior scutella, and two lateral plates forming an acute edge behind; toes of moderate length; middle toe longer than the tarsus, lateral toes much shorter and equal, hind toe stout. Claws rather large, arched, much compressed, acute.

Plumage soft and blended; very small bristles at the base of the upper mandible. Wings of ordinary length, the second quill longest, the first four having the outer web attenuated toward the end; secondaries slightly emarginate. Tail rather long, straight, emarginate, of twelve feathers.

Bill dull greenish-yellow, brown above. Iris hazel. Feet greyish-blue, claws greyish-yellow. The general colour of the plumage is pure scarlet; the wings and tail black; the axillar feathers, inner lower wing-coverts, and more or less of the inner webs of nearly all the quills, white.

Length to end of tail 7 inches, to end of wings $5\frac{3}{4}$, to end of claws $6\frac{3}{8}$; extent of wings $11\frac{3}{4}$; wing from flexure $4\frac{1}{12}$; tail $2\frac{10}{12}$; bill along the ridge $\frac{7\frac{1}{2}}{12}$, along the edge of lower mandible $\frac{10}{12}$; tarsus $\frac{9}{12}$; hind toe $\frac{4\frac{1}{2}}{12}$, its claw $\frac{3\frac{1}{2}}{12}$; middle toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{4\frac{1}{2}}{12}$.

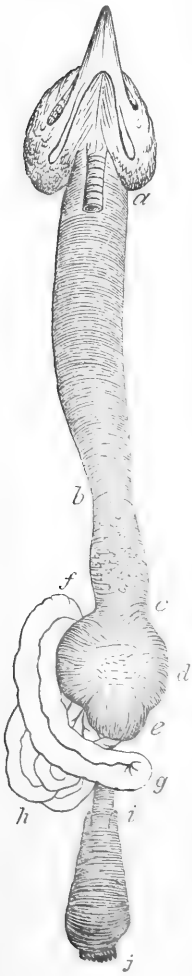
Adult Female.

Bill and feet as in the male. The general colour of the upper parts is yellowish-green, tinged with grey, of the lower parts greenish-yellow; the feathers of the wings and tail greyish-brown, margined with yellowish-green, the secondaries and tail-feathers narrowly tipped with greyish-white, the lower wing-coverts and the edges of all the quills white.

Length to end of tail $6\frac{1}{2}$ inches, to end of wings $5\frac{3}{4}$, to end of claws $6\frac{1}{4}$; extent of wings $10\frac{3}{4}$.

The young when fledged resemble the female; the males being, however, distinguishable from the females by their brighter tints.

The young male in autumn, after the first moult, has the lower parts of a much brighter yellow, the upper of a lighter green, but with all the feathers having a central black mark, those on the head oblong, on the middle of the back broad, on the rump linear. The wing-coverts are black; the quills and tail-feathers brownish-black, margined with yellowish-green.



Two males in my possession, shot by Dr. Trudeau, are remarkable for having the first row of small coverts scarlet, forming a conspicuous band amidst the black of the wing, and the lower wing-coverts tipped and margined with the same. In all other respects, however, these individuals agree with the others.

An adult male examined. The roof of the mouth is concave, with a median prominent ridge and two more prominent lateral ridges, between which and the edges is a broad groove for the reception of the lower mandible. The tongue is 6 twelfths long, deeply emarginate and papillate at the base, flat above, with a median groove, the tip horny and pointed, but terminated by several flattened bristles or shreds. Œsophagus, *a b c*, $2\frac{1}{2}$ inches long, its diameter $4\frac{1}{2}$ twelfths, until its entrance into the thorax, when it contracts a little. Proventriculus, *b c*, $\frac{1}{2}$ inch long, and $3\frac{1}{2}$ twelfths in diameter. The stomach, *c d e*, is a strong gizzard, 8 twelfths long, 7 twelfths in breadth, its lateral muscles moderately thick; the epithelium rugous and dark reddish-brown. Intestine, *f g h*, $7\frac{1}{2}$ inches long, its average diameter $2\frac{1}{2}$ twelfths, its narrowest part 2 twelfths. The rectum *i j*, 10 twelfths long; the cœca, *i*, $\frac{3}{4}$ of a twelfth long, and $\frac{1}{2}$ twelfth in diameter.

The trachea is 2 inches long, its diameter $1\frac{1}{2}$ twelfths, and nearly uniform; the rings about 60. The contractor and sterno-tracheal muscles are slender; and there are four pairs of inferior laryngeal.

Louisiana Tanager

1. Males. 2 Female.

Drawn from Nature by J. J. Audubon. F.R.S. F.L.S.

Lith.d Printed & Col.d by I. T. Bowen. Philad.

In a female the intestine is 7¼ inches long.

The contents of the stomach in both were remains of insects and seeds.

The digestive organs of this bird, and probably of all the Tanagers of the same group, are thus not essentially different from those of the Passerine tribe, including Finches, Buntings, &c. The œsophagus has a more elongated dilatation than in most of the species of that tribe, of which, however, the Corn Bunting of Europe is very similar in this respect.

LOUISIANA TANAGER.

†Pyranga Ludoviciana, *Wils.*

PLATE CCX.—Male and Female.

Wilson was the first ornithologist who figured this handsome bird. From his time until the return of Mr. Townsend from the Columbia river no specimen seems to have been procured. That gentleman forwarded several males in much finer condition than those brought by Lewis and Clarke. Some of these I purchased, and, on his return to Philadelphia, I was presented with a female by my young friend Dr. Trudeau. The account of this species is by Thomas Nuttall, who, however, was unacquainted with the female.

"We first observed this fine bird in a thick belt of wood near Lorimer's Fork of the Platte, on the 4th of June, at a considerable distance to the east of the first chain of the Rocky Mountains (or Black Hills), so that the species in all probability continues some distance down the Platte. We have also seen them very abundant in the spring, in the forests of the Columbia, below Fort Vancouver. On the Platte they appeared shy and almost silent, not having there apparently commenced breeding. About the middle of May we observed the males in small numbers scattered through the dark pine forests of the Columbia, restless, shy, and flitting when approached, but at length more sedentary when mated. We frequently traced them out by their song, which is a loud, short, slow, but pleasing warble, not much unlike the song of the Common Robin, delivered from the tops of the lofty fir-trees. This music continues at short intervals through-

out the whole forenoon, during which time our songster is busily engaged in quest of such coleopterous insects and larvæ as are to be found on the young branches of the trees he frequents, and which require an assiduous and long-continued search to gratify his wants. Of the female and nest we are still ignorant, though they are in all probability very similar to those of our other known species. We have not seen this bird as far south as Upper California, though it may exist in the thicker forests remote from the coast, which we had no opportunity of visiting."

Mr. TOWNSEND says that "this handsome bird is called *Ik kok koot* by the Chinook Indians. It is rare on the banks of the Platte, but rather common in the woods and oak groves of the Columbia. None were seen after leaving the Black Hills, until we reached the lower country. Its voice is generally harsh, being a low and guttural *churr*, but it at times sings with considerable spirit. The female is very silent and retired in her habits, and is therefore seldom seen."

Male, $7\frac{1}{4}$, wing, $3\frac{9}{12}$.

Platte river. Columbia river. Common. Migratory.

LOUISIANA TANAGER, *Tanagra ludoviciana*, Wils. Amer. Orn., vol. iii. p. 27.
TANAGRA LUDOVICIANA, Bonap. Syn., p. 105.
LOUISIANA TANAGER, Nutt. Man., vol. i. p. 471.
LOUISIANA TANAGER, *Tanagra ludoviciana*, Aud. Orn. Biog., vol. iv. p. 385; vol. v. p. 90.

Adult Male, in Spring.

Bill rather short, robust, tapering, compressed toward the end, acute. Upper mandible with its dorsal outline declinate and slightly convex, the ridge rather narrow, the sides convex, the edges sharp, overlapping, with two slightly prominent small festoons about the middle, and a distinct notch close to the tip, which is a little declinate. Lower mandible strong, with the angle short and wide, the dorsal line straight, the back broadly convex, the sides convex, the edges sharp, the tip acute. Nostrils round, basal.

Head rather large, ovate, flattish above; neck very short; body ovate, compact. Legs shortish; tarsus short, compressed, rather stout, with seven anterior scutella, and two lateral plates forming an acute edge behind; toes of moderate length; middle toe longer than tarsus, lateral toes much shorter and equal, hind toe stout. Claws rather large, arched, much compressed, acute.

Plumage soft, blended; feathers of the head stiffish, with silky lustre; bristles at the base of the upper mandible small. Wings of ordinary length, the second quill longest, the first four having the outer web attenuated

towards the end; secondaries slightly emarginate. Tail rather long, straight, emarginate, of twelve feathers.

Bill dull greenish-yellow, brown along the ridge. Feet greyish-blue. The head all round is of a beautiful rich carmine, fading gradually on the nape, paler on the throat and fading on the fore neck; the rest of the neck, all the lower parts, two bands on the wing, formed by the middle coverts, and the extremities of the secondary coverts, together with the rump and upper tail-coverts pure bright yellow. The anterior half of the back, the scapulars, two bands on the wings, and the inner secondaries black, the latter broadly margined at the end and tipped with yellowish-white; alula, primary coverts, and primary quills chocolate-brown, margined with yellowish-white; tail black, the feathers narrowly tipped with greyish-white, and slightly margined toward the end with yellowish-white.

Length to end of tail $7\frac{1}{4}$ inches; wing from flexure $3\frac{9\frac{1}{2}}{12}$; tail 3; bill along the ridge $\frac{7}{12}$, along the edge of lower mandible $\frac{8\frac{1}{2}}{12}$; tarsus $\frac{8}{12}$; hind toe $\frac{4}{12}$, its claw $\frac{4}{12}$; middle toe $\frac{6}{12}$, its claw $\frac{3}{12}$.

Female.

Bill dusky brown above, light greyish-yellow beneath. The head, ear-coverts, and hind neck, dull green, as is the rump; the middle of the back and the scapulars greyish-brown, tinged with green. Anterior wing-coverts greyish-brown; middle coverts black, with the extremities dull yellow, secondary coverts and inner secondaries blackish-brown, tipped with greyish-white; alula, primary coverts, and primary quills chocolate-brown, slightly edged with brownish-white; tail-feathers similar, but margined with yellowish-green. The lower parts are light dull greenish-yellow, the sides tinged with grey.

Length to end of tail $6\frac{3}{4}$ inches; wing from flexure $3\frac{9}{12}$; tail $2\frac{10}{12}$; bill along the ridge $\frac{7}{12}$; tarsus $\frac{8}{12}$; middle toe and claw $\frac{9}{12}$.

END OF THE THIRD VOLUME.