short; body rather slender. Feet of moderate length, rather stout; tarsus much compressed, with seven anterior scutella; toes of moderate size, the hind toe much stronger, the lateral about equal, the third and fourth united at the base. Claws rather long, moderately arched, much compressed, laterally grooved, very acute. Plumage soft and blended. Wings of moderate length, with the outer four quills nearly equal. Tail of moderate length, rounded and slightly emarginate. Roof of the upper mandible with a broad median ridge, somewhat prominent at the base; tongue tapering to a deeply slit point; œsophagus wide, considerably dilated about the middle; stomach elliptical; intestine short, and of moderate width; cœca very small; cloaca globular.

THE BALTIMORE ORIOLE, OR HANG-NEST.

+*ICTERUS BALTIMORE*, *Linn.*

PLATE CCXVII.—MALE, YOUNG MALE, FEMALE AND NEST.

No traveller who is at all gifted with the faculty of observation, can ascend that extraordinary river, the Mississippi, in the first days of autumn, without feeling enchanted by the varied vegetation which adorns its alluvial shores:—The tall *cotton-tree* descending to the very margin of the stream, the arrow-shaped *ash* mixing its branches with those of the *pecan* and *black walnut*, immense *oaks* and numerous species of *hickory*, covering with their foliage the densely tangled *canes*, from amongst which, at every step, *vines* of various kinds shoot up, winding round the stems and interlacing their twigs and tendrils, stretching from one branch to another, until they have reached and overspread the whole, like a verdant canopy, forming one solid mass of richest vegetation, in the fore ground of the picture; whilst, wherever the hills are in view, the great *magnolias*, the *hollies*, and the noble *pin*es, are seen gently waving their lofty heads to the breeze.

The current becomes rapid, and ere long several of the windings of the great stream have been met and passed, and with these new scenes present themselves to the view. The forest at this place, as if in doleful mourning at the sight of the havoc made on its margin by the impetuous and regardless waters, has thrown over her a ragged veil, produced by the long dangling

masses that spread from branch to branch over the cypress trees. The dejected Indian's camp lies in your sight. He casts a melancholy glance over the scene, and remembers that he is no longer the peaceful and sole possessor of the land. Islands, one after another, come in sight, and at every winding of the stream you see boats propelled by steam ascending the river, and others, without such aid, silently gliding with the current.

Much might the traveller find to occupy his mind, and lead him into speculations regarding the past, the present, and the future, were he not attracted by the clear mellow notes, that issue from the woods, and gratified by the sight of the brilliant Oriole now before you. In solitudes like these, the traveller might feel pleased with any sound, even the howl of the wolf, or the still more dismal bellow of the alligator. Then how delightful must it be to hear the melody resulting from thousands of musical voices that come from some neighbouring tree, and which insensibly leads the mind, with whatever it may previously have been occupied, first to the contemplation of the wonders of nature, and then to that of the Great Creator himself.

Now we have ascended the mighty river, have left it, and entered the still more enchanting Ohio, and yet never for a day have we been without the company of the Oriole. Here, amongst the pendulous branches of the lofty *tulip-trees*, it moves gracefully up and down, seeking in the expanding leaves and opening blossoms the caterpillar and the green beetle, which generally contribute to its food. Well, reader, it was one of these pendulous twigs which I took when I made the drawing before you. But instead of having cut it on the banks of the Ohio, I found it in the State of Louisiana, to which we shall return.

The Baltimore Oriole arrives from the south, perhaps from Mexico, or perhaps from a more distant region, and enters Louisiana as soon as spring commences there. It approaches the planter's house, and searches amongst the surrounding trees for a suitable place in which to settle for the season. It prefers, I believe, the trees that grow on the sides of a gentle declivity. The choice of a twig being made, the male Oriole becomes extremely conspicuous. He flies to the ground, searches for the longest and driest filaments of the moss, which in that State is known by the name of *Spanish beard*, and whenever he finds one fit for his purpose, ascends to the favourite spot where the nest is to be, uttering all the while a continued chirrup, which seems to imply that he knows no fear, but on the contrary fancies himself the acknowledged king of the woods. This sort of chirruping becomes louder, and is emitted in an angry tone, whenever an enemy approaches, or the bird is accidentally surprised; the sight of a cat or a dog being always likely to produce it. No sooner does he reach the branches, than with bill and claws, aided by an astonishing sagacity, he fastens one end of the moss

to a twig, with as much art as a sailor might do, and takes up the other end, which he secures also, but to another twig a few inches off, leaving the thread floating in the air like a swing, the curve of which is perhaps seven or eight inches from the twigs. The female comes to his assistance with another filament of moss, or perhaps some cotton thread, or other fibrous substance, inspects the work which her mate has done, and immediately commences her operations, placing each thread in a contrary direction to those arranged by her lordly mate, and making the whole cross and recross, so as to form an irregular net-work. Their love increases daily as they see the graceful fabric approaching perfection, until their conjugal affection and faith become as complete as in any species of birds with which I am acquainted.

The nest has now been woven from the bottom to the top, and so secured that no tempest can carry it off without breaking the branch to which it is suspended. Remark what follows. This nest contains no warming substance, such as wool, cotton, or cloth, but is almost entirely composed of the Spanish moss, interwoven in such a manner that the air can easily pass through it. The parents no doubt are aware of the intense heat which will exist ere long in this part of the world, and moreover take especial care to place their nest on the north-east side of the trees. On the contrary, had they gone as far as Pennsylvania or New York, they would have formed it of the warmest and softest materials, and have placed it in a position which would have left it exposed to the sun's rays; the changes in the weather during the early period of incubation being sometimes so great there, that the bird looks on these precautions as necessary to ensure the life of its brood against intense cold, should it come, while it knows that the heat in these northern latitudes will not be so great as to incommode them. I have observed these sensible differences in the formation and position of the nests of the Baltimore Oriole, a great many times, as no doubt have other persons. The female lays from four to six eggs, and in Louisiana frequently rears two broods in a season. The period of incubation is fourteen days. The eggs are about an inch in length, rather broadly ovate, pale brown, dotted, spotted, and tortuously lined with dark brown.

The movements of these birds as they run among the branches of trees differ materially from those of almost all others. They cling frequently by the feet in order to reach an insect at such a distance from them as to require the full extension of their neck, body, and legs, without letting go their hold. They sometimes glide, as it were, along a small twig, and at other times move sidewise for a few steps. Their motions are elegant and stately. Their song consists of three or four, or at most eight or ten, loud, full, and mellow notes, extremely agreeable to the ear.

A day or two before the young are quite able to leave the nest, they often

cling to the outside, and creep in and out of it like young Woodpeckers. After leaving the nest, they follow the parents for nearly a fortnight, and are fed by them. As soon as the mulberries and figs become ripe, they resort to these fruits, and are equally fond of sweet cherries, strawberries, and others. During spring, their principal food is insects, which they seldom pursue on the wing, but which they search for with great activity, among the leaves and branches. I have seen the young of the first brood out early in May, and of the second in July. As soon as they are fully able to take care of themselves, they generally part from each other, and leave the country, as their parents had come, that is, singly.

During migration, the flight of the Baltimore Oriole is performed high above all the trees, and mostly during day, as I have usually observed them alighting, always singly, about the setting of the sun, uttering a note or two, and darting into the lower branches to feed, and afterwards to rest. To assure myself of this mode of travelling by day, I marked the place where a beautiful male had perched one evening, and on going to the spot next morning, long before dawn, I had the pleasure of hearing his first notes as light appeared, and saw him search awhile for food, and afterwards mount in the air, making his way to warmer climes. Their flight is straight and continuous.

This beautiful bird is easily kept in cages, and may be fed on dried figs, raisins, hard-boiled eggs, and insects. When shot they will often clench the twig so firmly as to remain hanging fast to it until dislodged by another shot or a blow against the twig.

The Baltimore Oriole, although found throughout the Union, is so partial to particular sections or districts, that of two places not twenty miles distant from each other, while none are to be seen in the one, a dozen pairs or more may be in the neighbourhood of the other. They are fondest of hilly grounds, refreshed by streams.

According to Dr. RICHARDSON this species ranges through the central districts of the Fur Countries up to the 55th degree of latitude, arriving on the Saskatchewan plains on the 10th of May. At this period I saw it breeding and abundant in the Texas; but none were observed by me in Labrador or Newfoundland. I have ascertained to my perfect satisfaction, that the males of this elegant species obtain the full beauty of their plumage before the first winter after their birth, having seen several individuals taken from the nest and reared in aviaries acquire their full plumage by the end of September. They feed kindly and breed well in a state of confinement, taking great care of their young.

In the wild state I have frequently seen these birds feed on those beautiful green coleopterous insects called "May-bugs," but they seldom eat them in

confinement. I have seen one reared from the nest so gentle as to follow and come to its owner, whenever he called to it. They do not breed in the lower parts of South Carolina, but are found not unfrequently breeding at the distance of a hundred miles from the sea-coast of that State. It is not uncommon in Nova Scotia.

It will be seen from the above that WILSON and all who have copied him have erred in alleging, that the males of this species do not acquire their full plumage until the third year.

The eggs average seven and a half eighths in length, and five and three-fourths in their greatest breadth. They are rather pointed at the smaller end.

BALTIMORE ORIOLE, *Oriolus Baltimore*, Wils. Amer. Orn., vol. i. p. 23.

ICTERUS BALTIMORE, Bonap. Syn., p. 51.

BALTIMORE ORIOLE OF GOLDEN ROBIN, *Icterus Baltimore*, Nutt. Man., vol. i. p. 152.

BALTIMORE ORIOLE, *Icterus Baltimore*, Aud. Orn. Biog., vol. i. p. 66; vol. v. p. 278.

Second and third quills longest, fourth longer than first; tail slightly rounded. Male with the head, throat, sides, and hind part of the neck, with the fore part of the back, black; lower parts, rump, upper tail-coverts, and smaller wing-coverts rich orange, passing into orange-red on the breast; wings black, the secondary coverts largely tipped, and the quills margined with white; tail black, all the feathers tipped with rich yellow, the outer for half their length, the middle on a very small space. Female considerably smaller, with the upper part of the head, hind neck, sides of the neck at the middle, and anterior half of the back, brownish-black, the feathers edged with dull yellowish-green; hind part of the back light brownish-yellow, purer on the rump; tail yellowish-brown, the middle feathers darker; wing-coverts blackish-brown, quills dark brown, all margined with whitish; first row of small coverts and secondary coverts largely tipped with white; loreal space, a band over the eye, and another beneath it, dull yellow; below the latter the cheeks spotted with dusky; lower parts yellowish-orange, duller than in the male, paler behind; some dusky streaks on the throat. Young similar to the female, but with the upper parts brownish-yellow, the head and back faintly spotted with dusky.

Male, $7\frac{3}{4}$, 12. Female, 7, 11.

In summer dispersed over the United States, to Nova Scotia. Columbia river. Texas. Abundant. Migratory.

A male preserved in spirits presents the following characters. The palate ascends anteriorly, and has two prominent soft ridges, at the anterior extremity of which is a slight protuberance, analogous to that of the Buntings, but only rudimentary or less developed; beyond it is a median broad ridge gradually tapering to the point. The posterior aperture of the

nares is linear, margined with pointed papillæ. The tongue is 6 twelfths long, emarginate and papillate at the base, slightly grooved above, horny in the greater part of its length, and tapering to a deeply slit point. The œsophagus, *a b c*, is 2 inches 5 twelfths long; at the upper part its diameter is

about 4 twelfths; it passes along the right side of the neck, forming an elongated dilatation, of which the greatest breadth is 6 twelfths; and on entering the thorax, *a b c*, contracts to 3 twelfths. The proventriculus, *c d*, is $3\frac{1}{2}$ twelfths in breadth. The stomach, *d e*, is an oblong gizzard, 7 twelfths long, 5 twelfths broad, situated obliquely, its fundus being directed toward the right side. The lateral muscles are moderately developed; the epithelium longitudinally rugous, tough, and of a reddish-brown colour. The contents of the stomach are remains of insects. The intestine is short and of moderate width, being $7\frac{1}{4}$ inches long, its diameter in the duodenal portion $2\frac{1}{2}$ twelfths. The cœca, which come off at the distance of 10 twelfths from the extremity, are very small, 2 twelfths long, $\frac{1}{2}$ twelfth in width. The cloaca is globular, and 7 twelfths in diameter.

The trachea is 1 inch 10 twelfths long, its breadth anteriorly $1\frac{1}{2}$ twelfths, at the lower part 1 twelfth. The rings, about 70, are well ossified, and considerably flattened. The inferior larynx has four pairs of muscles besides the sterno-tracheal. The bronchi have about 12 half rings.

In another individual the intestine is 7 inches 9 twelfths long. The contents of the stomach are remains of insects and particles of quartz.

THE TULIP TREE.

LIRIODENDRON TULIPIFERA, Willd., Sp. Plant., vol. ii. p. 1254. Pursh, Flora Americ., p. 332. Mich., Abr. Forest. de l'Amer. Sept., t. iii. p. 202, pl. 5.—POLYANDRIA POLYGYNIA, Linn.—MAGNOLIÆ, Juss.

This tree is one of the most beautiful of those indigenous to the United States, and attains a height of seventy, eighty, or even a hundred feet. The flowers are yellow and bright red, mixed with green, and upwards of three

Baltimore Oriole, or Hang-nest

1 Male adult. 2 Young Male. 3 Female.

Tulip Tree

Audubon, John James. 1842. "The Baltimore Oriole, or Hang-Nest, *Icterus baltimore*, Linn. [Pl. 217]." *The birds of America : from drawings made in the United States and their territories* 4, 37–42. <https://doi.org/10.5962/p.319330>.

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