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.

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.—MONCEIA MONADELPHIA, *Linn.*—CONIFERE, *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

Common Crossbill.

1. Males. 2. Females.

Audubon, John James. 1841. "The Common Crossbill, *Loxia curvirostra*, Linn. [Pl. 200]." *The birds of America : from drawings made in the United States and their territories* 3, 186–190. <https://doi.org/10.5962/p.319313>.

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