COTYLE RIPARIA.

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Sand-Martin.

Hirundo riparia, Linn. Syst. Nat., tom. i. p. 344.

Cotyle riparia, Boie.

THE Sand-Martin is the least of the British Hirundines; it is also the most universally dispersed: like the Swallow, it spends the winter in countries near the tropics, and the summer in more temperate and northern regions. Those individuals which make the British Islands their summer home arrive at the end of March or beginning of April; hence they precede the Swallow by a few days. In many parts of its economy the Sand-Martin differs from its congeners; for, small as it is, and frail as is its tiny body, it is a wondrous miner; and it is the bird which excavates the numerous holes in upright sand-banks, the sides of railway-cuttings, and all similar situations. In every English county little colonies of these birds may be observed, the young members of which assemble, and form the great masses which we see congregated on many parts of the Thames during the months of August and September. Those who have not seen these vast assemblages can form but a faint conception of the sight: it must be seen, and the myriads of their twittering voices heard, to be understood. I have frequently observed masses of these birds collect high up in the air, and, having performed certain circular flights and other evolutions, descend, with a loud rushing sound, to the willow-beds like a shower of stones—the willows upon which they settle being completely covered and bowed down by the united weight of these little birds, which sit side by side for the sake of warmth and the occupation of the least possible space. If the night be cold, and the morning ushered in by frost, these little creatures suffer severely, and hundreds may be found benumbed by the sudden lowering of the temperature; in this case, many of them die, while others take warning and, with wonderful instinct, wing their way southward, to the more congenial climates of Spain and Africa. A moment's reflection is, I am sure, all that will be necessary to convince every one of the immense amount of good that has been effected during the short period of their existence; for, if the birds are in countless thousands, what myriads of insects must have fallen a prey to these little aerial wanderers!

It is an exceedingly interesting sight to see these fairy birds perch, every night and morning for two or three weeks in autumn, side by side in thousands, on the telegraphic wires of the fine railway bridge which crosses our beautiful Thames at Taplow.

But let us now speak of the bird in its capacity of a miner. If for a moment we study its form, can we feel otherwise than surprised that so frail a structure, and so feeble a bill as I consider it to be, should be able to perforate holes in the solid sand-bank to the depth they are known to do? Yet this is the case; and all the members of the genus *Cotyle* do the same; while the common Martin (*Chelidon urbica*) builds a dome-shaped nest of mud under the eaves, the Swallow (*Hirundo rustica*) in our chimneys, the Esulent Swallow (*Collocalia esculenta*) in caves, and the Swift in the church-steeple. Thus we see that each of these divisions or genera of the great family of the *Hirundinidae*, or Swallows, construct their nests in a peculiar manner, and different from each other, both as to situation and materials; their eggs, too, are different.

“This little wanderer,” says Mr. Yarrell, “frequents, as its nesting-place, high banks of rivers, sand-pits, and other vertical surfaces of earth that are sufficiently soft in substance to enable the bird to perforate it to the depth necessary for its purpose. In such situations, this tiny engineer forms circular holes in a horizontal direction, boring to the depth of two feet or more, with a degree of regularity and an amount of labour that is rarely exceeded among birds.” The mode in which this perforation is accomplished has been well described by Mr. Rennie, in his ‘Architecture of Birds,’ in the following terms:—“The beak is hard and sharp, and admirably adapted for digging; it is small, we admit, but its shortness adds to its strength, and the bird works, as we have had an opportunity of observing, with its bill shut. This fact our readers may verify by watching their operations, early in the morning, through an opera-glass, when they begin, in the spring, to form their excavations. In this way we have seen one of these birds cling, with its sharp claws, to the face of a sand-bank, and peg in his bill, as a miner would do his pickaxe, till it had loosened a considerable portion of the hard sand, and tumbled it down amongst the rubbish below. In these preliminary operations it never makes use of its claws for digging; indeed, it is impossible it could, for they are indispensable in maintaining its position, at least when it is beginning its hole. We have further remarked that some of these Martins’ holes are nearly as circular as if they had been planned out with a pair of compasses, while others are more irregular in form; but this seems to depend more upon the sand crumbling away than upon any deficiency in the original workmanship. The bird, in fact, always uses its own body to determine the proportions of the gallery—the part from the thigh to the head forming the

radius of the circle. It does not trace this out, as we should do, by fixing a point for the centre, around which to draw the circumference: on the contrary, it perches on the circumference with its claws, and works with its bill from the centre outwards; and hence it is that in the numerous excavations recently commenced, which we have examined, we have uniformly found the termination funnel-shaped, the centre being always much more scooped out than the circumference. The bird consequently assumes all positions while at work in the interior, hanging from the roof of the gallery with its back downwards, as often as standing upon the floor. We have more than once, indeed, seen a Bank-Martin wheeling slowly round in this manner on the face of a sand-bank, when it was just breaking ground to begin its gallery. All the galleries are found to be more or less tortuous to their termination, which is at the depth of from two to three feet, where a bed of loose hay and a few of the smaller breast-feathers of geese, ducks, or fowls is spread with little art for the reception of the eggs. It may not be unimportant to remark, also, that it always scrapes out with its feet the sand detached by the bill; but so carefully is this performed, that it never scratches up the unmined sand, or disturbs the plane of the floor, which rather slopes upwards, and of course the lodgment of rain is thereby prevented."

A nest taken from a bank of the Thames, on the 4th of July 1854, was composed of a layer of grasses, above which was a second layer of the Swan's breast-feathers, so placed as to curl over the eggs, the appearance forcibly reminding one of the calyx of a tulip or white water-lily; although the hole was damp, the platform of grasses and feathers formed a warm and dry receptacle for the eggs, which were of a pearly white, and six in number. It is supposed that the Sand-Martin only rears one brood in each year, but I think it sometimes goes to nest a second time.

This species, like the other members of the family, is very much infested with parasites, respecting which the following note has been kindly transmitted to me by Signor Henry Giglioli, a gentleman of Pavia, at present residing in this country for the prosecution of his scientific studies:—"In at least twenty nests of the Sand-Martin (*Cotyle riparia*) which I examined at the beginning of July, in Surrey, I found all of them infested with parasites, some living on the young birds, and others on the materials of which the nest was formed. These parasites were so numerous that the eggs, as soon as laid, were literally covered with their excrements, giving them a spotted appearance. What strikes me as strange in the matter is, that I have observed this in no other country. When in Paris last year, I examined at least fifty Sand-Martins' nests, but no trace of a parasite was discoverable. On examination of the specimens I placed in spirits, I find they comprise five distinct species:—a Tick (*Ixodes* —?), a Flea (*Pulex* —?), a larva, probably that of the flea, an insect very like the *Ricinus hirundinis* of Latreille, and a brachelytrous Coleopteron (*Oxytelus rugosus*?)."

The Sand-Martin is found over all the British Islands, even to the outer Hebrides. The Duke of Argyll informs me that a considerable colony breeds opposite Balmoral Castle, and that it appears to be the most numerous species on the Upper Dee. It is also found in summer throughout the temperate parts of the Old World; for I find it in Schrenck's 'List of the Birds of the Amoor,' Swinhoe's 'List of the Birds of China,' in Blyth's and Jerdon's Lists of the Birds of India, and we know that it may be enumerated among the avifaunæ of the northern portion of Persia and Africa. It is also equally abundant in all parts of North America, where, as with us, it is a summer visitant.

Such, then, is a brief history of the little Sand-Martin, the most hardy of the Swallow tribe which visits our island. Like the Swallow, it comes to us from Africa, sometimes in March; but these early visitors are few in number; indeed winged insects, upon which these birds solely live, are at this season very scarce, and quite insufficient to support a large number. These early birds frequent in preference the sunny sides of cliffs on our south coast, although sometimes they may be seen inland, flying over rivers and such sheltered places as are likely to supply them with an abundance of midges, gnats, and flies. By the early part of April their migration is completed.

The sexes are alike in colour, and may be thus described:—

Head, neck, back, and upper tail-coverts light brown; primaries and tail-feathers very dark brown; under surface white, crossed on the upper part of the breast by a band of hair-brown; beak nearly black; legs, toes, and claws purplish brown.

The young, from the time they emerge from the hole in which they have been bred, are very similarly but somewhat darker-coloured than the adults, and each feather is narrowly edged with grey.

The front represents the bird of the natural size, colony in the distance, and the English chicory, *Cichorium intybus*.

Gould, John. 1873. "Sand-Martin, *Cotyle riparia* [Pl. 7-8]." *The birds of Great Britain* 2, -. <https://doi.org/10.5962/p.323823>.

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