ROLLERS

Family Coraciidæ

Vol. I., p. 91.

The rollers, now regarded as close relatives of the bee-eaters and kingfishers, are well distributed in the Old World. They are fairly large birds, roughly of pigeon-size and with brilliant plumage. The popular name is derived from their very curious habit of tumbling about and actually somersaulting in flight, a character especially well marked in the breeding season. The white eggs are usually laid in holes in banks and trees.

Bill short and strongly hooked, crow-like in the true rollers (*Coracias*), but broader and flattened in the dollar birds (*Eurystomus*). Feet with four toes and the soles rather broad and flattened. Wing long and pointed; tail square in the local species.

Two species are Malayan.

KEY TO THE MALAYAN ROLLERS

Coracias benghalensis affinis

The Burmese Roller

Coracias affinis Horsfield, Proc. Zool. Soc. for 1839, 1840, p. 164 (Assam); Oates, in Hume's Nests and Eggs Ind. Birds (2nd ed.), iii., 1890, p. 56; Sharpe, Cat. Birds, Brit. Mus., xvii., 1892, p. 13; Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 105; Oates, Cat. Birds' Eggs, Brit. Mus., iii., 1903, p. 27; Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, v., 1922, p. 119.

Coracias benghalensis affinis, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 226; Herbert, Journ. Nat. Hist. Soc. Siam, vi., 1924, p. 300 (nidification); Stuart Baker, Nid. Birds Ind. Emp., iii., 1934, p. 390.

Malay Name.—Unrecorded.

Description.—Back and breast, brownish; top of head, green; wings and tail, variegated, bright blue.

ROLLERS 73

Adult.—Sexes alike. Top of head, green, bluish in certain lights, paler and brighter on forehead and over the eyes. Mantle, back, scapulars and innermost secondaries, brown washed with oily green; rump, deep purpleblue; upper tail coverts, paler greenish blue. Centre pair of tail feathers, deep blue at base, passing into dusky, dingy green elsewhere. Other tail quills sharply divided, basal half purple-blue, terminal half light bluish green; outer tail feathers often with a small black terminal spot. Cheeks, sides of neck, throat, breast and upper abdomen, pale hair-brown, the throat washed with blue and so heavily streaked with glistening blue that in some birds the whole throat appears blue; abdomen slightly vinous and passing into pale blue-green on the lower abdomen and under tail coverts. Thighs and flanks, purple-blue. Lesser and median wing coverts, purple-blue; greater coverts, blue-green; primary coverts, paler blue-green. Primaries, deep blue at base, then pale blue-green with the tips dusky. Secondaries, pale blue-green at base of outer web, otherwise purple-blue, becoming black on the inner webs. Axillaries and wing lining, blue.

Immature.—The plumage much duller than in adults. There is no bluish wash on the throat and the top of the head is brownish like the back. Wing coverts much duller.

Soft Parts.—"Iris, dark hazel; bill, black; feet, dirty yellowish" (South-West Siam, *Robinson and Kloss*). Eyelids and bare skin round the eye, yellowish orange.

Dimensions.—Total length, about 12.5 to 13 in.; tail, 4.75 in.; wing, 7.25 to 7.5 in.; tarsus, 1.1 in.; bill from gape, 1.6 in.

Range in the Malay Peninsula.—Occurs only in the north. On the western side of the Peninsula its southern limit is undefined. Davison obtained specimens as far south as Junk Zeylon, but it is not recorded from the Langkawi group, Penang, Perlis or Kedah. On the eastern side, specimens have been collected at Bangnara in Patani, and I have seen it near the coast in Kelantan only a few miles from the Trengganu border.

Extralimital Range.—Bhutan, Assam, Eastern Bengal to Yunnan. Common in suitable localities throughout Siam, French Indo-China and Burma, including Tenasserim. West of Bhutan, in Sikkim and Nepal, it intergrades with the typical race, the Indian roller.

Nidification.—No record from the Malay Peninsula. In other parts of its range this roller deposits its four or five white, glossy eggs in holes in trees, the eggs generally being laid on the bare wood. Siamese eggs, according to Mr E. G. Herbert, measure about 1.3 by 1.06 in.

Habits.—The Burmese roller seems to avoid the more heavily wooded areas within its range, preferring gardens, the neighbourhood of villages, and open spaces where widely scattered trees, posts and telegraph wires provide suitable perches from which this gaudy, unmistakable bird descends to the ground to catch the large grasshoppers and other insects on which it preys, and also catches in the air, especially when grass fires provide good hunting. Like other rollers it has a harsh voice, and it also conforms to type by indulging in the aerial acrobatics from which the trivial name is derived. It has been

suggested that it is only a migrant to the extreme southern parts of its range, but specially directed observation is needed to confirm this suggestion. It breeds in Central Siam, and I have seen it in Kelantan in June. Patani specimens are dated from September to December. Perhaps it is partly migratory and partly resident in the north of the Malay Peninsula.

Eurystomus orientalis orientalis

The Broad-billed Roller or Dollar-Bird

Vol. I., p. 91.

Top of the head, blackish olive turning to dull green, brownish in certain lights, on the remaining upper parts; wing coverts, blue-green; wing quills, black edged with a little blue and the primaries with a pale whitish-blue patch at the base. Primary coverts, washed with blue. Chin and throat, bright blue; remaining under parts, dull blue-green. Tail, black edged with a little blue. Bill and feet, red.

Total length, about II·5 in.; wing, 7·5 in.

This roller is common throughout the lowlands of the Peninsula, but no details have been published of the local nesting habits although the species certainly breeds in the Malay States. It is usually seen in clearings either in cultivated country or on the edge of forest and is especially active just before dusk. In the winter a northern breeding form $(E.\ o.\ calonyx)$ visits the Peninsula in large numbers. It differs from the resident race in having the blue on the secondaries and tail feathers much more extensive and deeper in colour. The two races appear to me as well differentiated and worthy of recognition.

Mr A. T. Edgar writes from Perak: "In February there was a nest, thirty feet up, in a hole in a dead nibong palm, which was unclimbable. On 1st April there were two nestlings in a hole in a perepat tree."