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## NEST AND YOUNG OF THE HIGHLAND TINAMOU IN SOUTHERN COLOMBIA

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The nest and young of the Highland Tinamou (*Nothocercus bonapartei*) are little known and published information is limited to the northern part of this polytypic species' range. Schäfer (J. Ornithol. 95:219-232, 1954) described several nests of the race *bonapartei* in northern Venezuela, and Wetmore (The birds of the Republic of Panama, Smithson. Misc. Collect. 150:15, 1965) gave the coloration of a recently hatched *N. b. frantzii* from Costa Rica. The nominate race occurs south through the Andes to southern Colombia (Blake, Manual of neotropical birds, Vol. 1, Univ. Chicago Press, Chicago, 1977), and is fairly common at subtropical altitudes in the Cave of the Oilbirds National Park (1°35'N, 76°00'W) on the western slope of the Eastern Andes in the Department of Huila, Colombia. I describe here a nest site and young of *N. b. bonapartei*, and present observations on the behavior of the adult at the nest.

On 8 March 1978, I flushed an adult from a nest containing two eggs in a forested section of the park at 2,000 m. The nest was in a crevice under a fallen log on a hillside of 40° slope. The crevice measured 42 cm from entrance to back × 65 cm wide × 50 cm high. A seldom-used foot trail created a narrow level area 1 m downhill from the crevice opening. The eggs were incubated on a roughly circular concentration of dead leaves (*Vismia* sp., Hypericaceae) 29 cm in diameter, drawn together from the leaf litter on the crevice floor. The weight of the adult and eggs had created a "nest bowl" 5 cm deep, and an entrance to the nest was indicated by a slightly depressed area at one side. A barely discernible path led several meters uphill from the side of the crevice nearer to the nest entrance. The front of the nest extended slightly beyond the crevice opening, affording the incubating bird a wide lateral view.

Typically, several females deposit eggs in a single nest to be incubated by the male (Schäfer 1954). This clutch of only two eggs suggested a young male who had attracted only one hen. The eggs were deep turquoise, but I was unable to measure them prior to

hatching. Most of my observations of the male during incubation are consistent with those of Schäfer. Although he observed a male to leave the nest for 50-80 min each morning, the bird I watched was present during the mornings of 9 and 10 March but absent for most of both afternoons. At 08:45 on 11 March I began observations from a blind 7 m from the nest. The adult was motionless until 11:32 when two chicks appeared at the front of the nest, having hatched some time that morning. After gathering the young under its wings, the adult remained very alert, looking from side to side. At 13:15 I approached to 0.5 m of the nest before the adult suddenly flew off downhill giving a loud "quok quok quok." It did not first raise its hindparts in the "defense position" noted by Schäfer. The young scrambled through a small hole at the back of the crevice and hid in an adjoining cavity under the log until captured. After photographing and measuring the chicks, I returned them to their hiding place. At 14:17 the adult returned along the path above the crevice and went directly to the nest. The chicks, which had hitherto been silent, started peeping until the adult began calling a soft "bup bup" etc. with the bill closed (about one note per second). In response, the chicks returned to the nest and settled under the wings of the adult, who looked around and preened until I left the blind at 17:15. The birds had left the nest by 07:00 on 12 March.

The young were colored as follows: head and neck dark gray with small white spots on nape only; small whitish area on chin; back dark reddish brown, finely vermiculated with black; underparts pale rufous, paler on abdomen and under tail coverts; legs and nails slate gray; bill black with white egg tooth; and iris dull brown. Pale rufous primaries had emerged 2-3 mm from the sheaths. Weights were 86 g and 87 g, and respective measurements (mm) were: length (prone) 184, 188; wing from wrist 41, 43; tarsus 38, 39; middle toe with claw 35, 35; and culmen from base 18, 17.

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## POSSIBLE COMPETITION BETWEEN SEASIDE CINCLODES (*CINCLODES NIGROFUMOSUS*) AND RUDDY TURNSTONES (*ARENARIA INTERPRES*)

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Studies of interspecific competition in vertebrates have usually focused on closely related species (e.g., Morse 1974, Holmes and Pitelka 1968). Recently, some ob-

servers have examined competitive relationships between taxonomically distant species and their importance in sharing resources: birds and bats (Shields and Bildstein 1979), birds and other mammals (Fisler 1977), ants and rodents (Brown and Davidson 1977).

This note reports the foraging behavior and feeding associations of two distantly related bird species, and considers whether overlap in habitat, behavior and diet may result in competition between *Cinclodes nigrofumosus* (Furnariidae) and *Arenaria interpres* (Scolopacidae).

The Seaside Cinclodes of coastal Peru forages in the littoral zone. Although a passerine, its behavior and diet resemble those of shorebirds (Koeppke and