

Notes on the Wren-thrush.—Little is known about the ecology and behavior of the Wren-thrush (*Zeledonia coronata*), a species restricted to the high mountains of Costa Rica and western Panamá. Although it has even been placed in a monotypic family by some authorities, its nest and eggs have never been described. The following notes obtained in Costa Rica from 1 to 3 April 1964 halfway between La Georgina and Cerro de la Muerte (C. Buena Vista) and adjacent to the Carretera Interamericano at 3050-meter elevation are of interest.

Both Carriker (Ann. Carnegie Mus., 6:332, 1910) and Slud (Bull. Amer. Mus. Nat. Hist., 128:304, 1964) state that this species is found in dense growth and is extremely difficult to observe. The birds that I was fortunate enough to study briefly (probably a pair) were in a small gully covered by a dense growth of *Chusquea* sp., a high-elevation bamboo that grows in these mountains up to the present tree line (approximately 3100 meters). This plant forms a dense thicket nearly five meters in height, and virtually no direct light strikes the ground where it grows. Leaves collect on the ground in these thickets, and the rustling of any small animal moving through the fallen leaves is readily audible after one has penetrated this vegetation.

Zeledonia coronata was most conspicuous under these circumstances. Although not particularly vocal, individuals of this species were more readily heard than seen because of the rustling that they made in the dead leaves. Only when a bird approached closer than five meters and in adequate light toward the edge of the thicket could satisfactory observations be made.

The Wren-thrushes were extremely furtive and remained very close to the ground at all times, hopping from time to time onto bent stems of bamboo as high as 30 cm. At no time during several hours of observations was either bird observed to more than half-spread its wings. When attempts were made to flush the birds, they always disappeared through the ground cover of leaves rather than by flying. Carriker (*loc. cit.*) stated that this species is an extremely weak flyer.

Two different notes were heard, one being somewhat suggestive of low-volume calls of the Swainson's Thrush (*Hylocichla ustulata*) or of the spring peeper (*Hyla crucifer*), although sounding slightly more like a whine. This vocalization may have been the *seenk* note described by Slud (*loc. cit.*). A second note heard from these birds was a chip of a quality suggestive of the chip note of a White-throated Sparrow (*Zonotrichia albicollis*), and appeared to be used as a location note, one individual usually being answered by the other when it was uttered. No mention of this vocalization appears to have been made in the literature.

The individuals that I watched often remained for considerable periods in a single spot and foraged rather leisurely at such times. In their general appearance and behavior they most closely resembled small terrestrial formicariids.

At the end of the observations I collected one of the birds to determine its breeding condition, for I was compelled to leave the study area the following day. This bird was a female, with an enlarged ovary measuring approximately 8×5 mm, the largest follicle being about 1.5 mm in diameter. The advanced breeding condition and continual presence of both individuals suggested that this was a probable breeding area of the species. The weakness of the skeleton, the poor development of the wing bones, and the thin roof of the skull (see Pycraft, Ibis, 1905:1-24) were particularly noticeable when this specimen was prepared along with a Black-billed Nightingale Thrush (*Catharus gracilorostris*), another inhabitant of this high mountainous area.

The closest associate of the Wren-thrush in the *Chusquea* thicket was the Black-cheeked Warbler (*Basileuterus melanogenys*). A pair of this species probably was nesting in the dense growth.

Since large parts of Costa Rica, including the high Talamanca Cordeillera, particularly along the Carretera Interamericano, are being despoiled of their climax vegetation, it is of particular interest to note that these observations were made in second-growth vegetation, which was sparingly grazed by cattle. Apparently this bamboo is able rapidly to cover opened areas that have been burned, particularly in gullies similar to the one in which observations were made. These observations suggest that this species may be able to maintain itself in the face of widespread destruction of habitat and perhaps even increase its numbers in the dense second growth that follows the removal of the montane evergreen oak forest.

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Trumpeter Swan in Utah.—On 27 December 1965, at a location approximately three to five miles south of the Bear River Migratory Bird Refuge and two to three miles west of the Willard Reservoir in Box Elder County, Utah, I heard a Trumpeter Swan (*Olor buccinator*) calling amidst the incessant din created by the calling Whistling Swans (*Olor columbianus*). The Trumpeter calls were coming from somewhere within a flock of several hundred Whistlers that were resting on the ice and feeding in the open water. The Trumpeter calls were heard for approximately one hour. Because none of the calls overlapped, I assumed that only one bird was present. The bird was not observed; therefore, this record for the Trumpeter Swan is based solely upon my recognition of its call.

During four springs and summers at the Delta Waterfowl Research Station, Delta, Manitoba, I became familiar with the calls of three captive Trumpeters and one captive and many migrant Whistlers; therefore, I feel qualified to distinguish between the calls of the two species—particularly when they are calling simultaneously and a comparison is possible.

Banko (The Trumpeter Swan, 35, 1960) lists two probable sight records for the Trumpeter in Utah during the period of 1927–1957: “. . . A. V. Hull, formerly a Service employee at the Bear River Refuge, observed a trumpeter on that area on June 14, 1932; also that in July 1940 Dr. D. I. Rasmussen and Leo K. Couch reported an immature trumpeter on Strawberry Reservoir.” He further lists six early occurrence records appearing prior to 1925.—JAMES C. BARTONEK, *Department of Wildlife Management, University of Wisconsin, Madison, Wisconsin, 21 January 1966.*