

within the crown of a tree, and any individual that entered another's portion of the tree was chased out of it. The volume of Poró canopy defended by a single bird at San José appeared similar to the total crown volume of the largest machete tree at Monteverde.

Tennessee Warblers arrive in Costa Rica between August and October (Skutch *in* Bent 1963, Life Histories of North American Wood Warblers, part 1, New York, Dover, pp. 85–86; Slud 1964, Bull. Amer. Mus. Nat. Hist. 128: 320). Individual *Erythrina* trees bear abundant blossoms for only 4–6 weeks, mostly during December–February. As trees go in and out of flower a scramble for trees worth defending probably occurs, with individuals that can successfully defend nectar sources shifting from tolerance to intolerance of conspecifics at least once and perhaps several times during a single winter.

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### Discovery of an Oilbird Colony in the Western Drainage of the Ecuadorian Andes

FERNANDO I. ORTIZ-CRESPO

*Instituto de Ciencias, Universidad Católica del Ecuador, Apt. 2184, Quito, Ecuador*

The Oilbird, *Steatornis caripensis*, has been recorded from many lower montane localities in the periphery of the Amazonian basin of mainland South America, in the coastal mountains of northern Venezuela, eastern Panama, and Trinidad. Many records, however, involve single individuals collected in the open, and comparatively few are of birds secured within, and showing the locations of, roosting and nesting colonies. Thus the precise distribution of these colonies remains largely unknown, even though the most conspicuous and accessible ones have become famous among ornithologists; one has been studied in great detail (Snow 1961, 1962). The occurrence of stray individuals far from known colonies could indicate that smaller groups roost and nest elsewhere, a possibility substantiated by recent evidence from highland Ecuador.

Several Oilbirds have been collected in the vicinity of Quito despite its high elevation (about 2,800 m) and its separation from the Amazonian basin by mountains of over 4,000 m (Salvatori and Festa 1900, Lönnberg and Rendahl 1922, Chapman 1926); one was captured alive and later preserved as a skin at the campus of Universidad Católica, Quito, on 3 July 1975. The source colony of these birds was unknown but it seemed unlikely that they came from southeastern Ecuador, some 400 km from Quito, where the only colonies in the country have been reported (Albuja and de Vries 1977).

Rumors of a nearer site first reached me in February 1976, when the geographer Francisco Terán claimed that a colony of fruit-eating "owls" lived in a gully near Puéllaro, a town only 25 km north of Quito, and added that these might be Oilbirds rather than owls because peasants in the neighborhood reputedly raided the colony and obtained nestlings from which they extracted oil. I visited the Puéllaro area on 7 and 9 October 1977, and with additional information from local people was able to explore the actual site.

It consists of an undetermined but small number of shallow caves formed by subsidence of pieces of volcanic tuff in the nearly vertical walls of a 175 m-long section of the Quebrada Santa Marta, a mountain torrent that has carved a trench 25–30 m deep with sides only 6–8 m apart, and which flows rather precipitously into the Río Guayllabamba. The general course of the quebrada follows an east-west slope, which is gentle with low banks in the stretch immediately above the trench and gradually becomes steeper so that below the trench the water rushes in a long series of rapids toward the Guayllabamba. The site is about 500 m downstream from the Quebrada Santa Marta bridge of the main road between the towns of Guayllabamba and Puéllaro, 63 km by road from Quito, at an elevation of about 2,160 m.

Despite the sheer tuff walls of the gully, native trees grow attached to cracks and raise their crowns well over the rims. Their foliage shields the gully from direct sunlight; this and the gully's steepness and depth make its lower recesses perpetually dark. The vegetation along the trench contrasts sharply with that growing in the surroundings; while native trees have persisted in the gully itself, cultivated fields of corn, tomatoes, and beans, pastures, and *Agave* and *Eucalyptus* hedges surround it. A permanently inhabited dwelling is only 100 m from the north rim, and directly above the darkest portion of the trench are the remains of an old foot bridge.

Most of the Oilbirds roost under the bridge's ruins. Their vocalizations can be heard whenever the foliage above is shaken or stones are dropped, and also at dusk when they begin flying near the bottom prior to leaving for their nightly foraging. On both of my visits the roar of the stream obscured the birds' voices but it seemed that at least six individuals roosted under the old bridge and another four nearby along the trench. One was seen leaving the site at 1845 on 7 October, but because of the trench's length, its foliage cover, and the growing darkness I saw no other birds that day or on the evening of 9 October. Rafael Narváez and I were able to lower ourselves into the trench with ropes on the second visit, and even though close inspection was limited to a section of the gully 20 m wide at a point some 50 m upstream from the bridge's remains, we found a group of six old nests in a shallow depression on the north wall about 12 m vertically below the edge and halfway between it and the bottom. Two of these nests were in poor condition but the others were unbroken, consisting of truncated cones of organic mud-like materials; the bases were 40–45 cm across, 40–45 cm high, and had flat tops 25 cm in diameter surrounded by a thin vertical rim 2–3 cm high. A piece from the top of one nest revealed that the materials had been deposited in concentric layers. The nests had been built on the sloping floor of a cavity 2 m deep that opened to the outside by an entrance 2.4 m wide and 2.0 m high. They were placed toward the rear of this cavity with their bases touching in a crescent.

While no specimens were secured, the location of these nests and their form of construction are typical of those reported for Oilbirds (Snow, op. cit.). The brief sighting of a flying bird on 7 October was enough to show that the bird's outline was like that of the bird captured alive in 1975, although no details of color could be seen. The voices heard were also similar to the sounds uttered by the captive specimen. Furthermore, I was able to locate the peasants responsible for the most recent raids at the colony, the brothers Delfín and Medardo Campaña, who described the birds fairly accurately as Oilbirds and readily recognized the preserved specimen. Mrs. Delfín Campaña smelled the latter and said its odor was exactly like that of the birds killed in their raids, which she cooked at home. These people reported that the birds fed mostly on the fruits of "Higuerón" (*Ficus* sp.), and that their breeding at the gully was timed to coincide with these trees' fruiting season in February and March each year. This, however, awaits confirmation because *Ficus* fruits have not been reported as food for Oilbirds elsewhere. While the Campaña family visited the colony regularly in the past and claimed to have killed about 40 birds including adults and juveniles in one raid 6 yr previously, the colony has not been disturbed in the last 2 yr because these people no longer own the ladder and ropes needed to climb into the trench.

The Puéllaro area must have supported significant stands of Andean forests; this is suggested by old records of birds typical of these forests such as *Otus albugularis* (Sclater 1860, Lönnerberg and Rendahl 1922, Chapman 1926), *Thalurania furcata*, *Trogon personatus* (Sclater op. cit.), *Semnornis ramphastinus* (Jardine 1855), *Tyranniscus nigrocapillus*, *Turdus serranus* and *Tangara vassori* (Sclater op. cit.), and likewise by recollections from early childhood of Puéllaro residents such as Francisco Terán. The forests have largely been destroyed but 'gallery' strips along steep gullies and ravines still remain, and continuous stands are found in the Guayllabamba gorge and adjacent areas at from 20 to 30 km to the northwest.

Presumably the Oilbirds at Quebrada Santa Marta follow the forest strips to reach the more extensive stands to forage each night, returning to their roost before dawn. These long trips might have caused a decrease in the numbers of birds there; the Puéllaro peasants claim that the colony was much larger in the past. The fact that a few individuals still persist can only mean that roosting and nesting safety are at least as important as foraging logistics for the long-term survival of colonies of these unique birds.

While the size of the colony at this site resembles that of the smallest colonies in Trinidad (see Table I in Snow 1962), its location is exceptional in that it is at considerable elevation (probably the highest yet found), on the western drainage of the Andes (the only one yet known), and in a region extensively disturbed by man. Furthermore it is probably the most accessible Oilbird colony that has been located, being less than a kilometer away from a major road and within short driving distance from a major city.

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***Caprimulgus indicus*, *Eurynorhynchus pygmeus*, *Otus scops*, and  
*Limicola falcinellus* in the Aleutian Islands, Alaska**

ROBERT H. DAY

*Division of Life Sciences, University of Alaska, Fairbanks, Alaska 99701 USA*

ERIC P. KNUDTSON

*P.O. Box 81109, College, Alaska 99708 USA*

DENNIS W. WOOLINGTON

*Wildlife Research Field Station, Humboldt State University,  
Arcata, California 95521 USA*

AND

ROBERT P. SCHULMEISTER

*Aleutian Islands National Wildlife Refuge, P.O. Box 5251,  
Adak, Alaska 99695 USA*

The remains of a Jungle Nightjar, *Caprimulgus indicus* (UAM 3585, female by plumage, wing flat 216 mm), were found above the high tide mark on the beach of Buldir Island (52°23'N 175°56'E) on 31 May 1977. The specimen was identified as *C. i. jotaka* by Daniel D. Gibson, University of Alaska Museum. The species breeds from Transbaicalia to China and Japan and south to India and Ceylon; this northern subspecies breeds from Transbaicalia as far east as Amurland and Hokkaido, Japan, and is the only migratory race. It has straggled to Sakhalin and the southern Kuriles (Vaurie 1965, The birds of the palearctic fauna. Non-Passeriformes. London, H.F. & G. Witherby, Ltd. pp. 637-638). This is the first North American record of the species.

An adult female Spoon-bill Sandpiper, *Eurynorhynchus pygmeus* (UAM 3584, 34 g, moderate to heavy fat, ova to 2.2 mm), feeding at the wrack line, was collected at North Bight Beach, Buldir Island, on 2 June 1977. It was feeding with a male Ruff (*Philomachus pugnax*), two Ruddy Turnstones (*Arenaria interpres*), and a Mongolian Plover (*Charadrius mongolus*). The species breeds from the tip of the Chukotsk Peninsula to the base of the Kamchatka Peninsula and winters from southeastern China to the Indo-Chinese countries (Vaurie 1965, op. cit. p. 405). There is one previous Alaska and North American record: two specimens were collected from a flock of up to 10 birds on 15 August 1914 at Wainwright Inlet (Dixon 1918, Auk 35: 387-404).

The left wing of a Scops Owl, *Otus scops* (UAM 3618, wing flat 152 mm), was found behind North Bight Beach, Buldir Island, on 5 June 1977. It was identified as *O. s. japonicus* by Joe T. Marshall, National Museum of Natural History, who regards that subspecies as including *O. s. stictonotus*. The species has a wide range in Eurasia, from northwest Africa and Europe to Amurland and Japan. This subspecies is migratory and resident in Japan, breeding as far north as Hokkaido, and it has straggled to the southern Kuriles (Vaurie 1965, op. cit. p. 601). There is no previous North American record.

A female Broad-billed Sandpiper, *Limicola falcinellus* (UAM 3588, 30.5 g, little body fat, wing flat 104 mm, ovary identified), was collected on the beach at Clam Lagoon, Adak Island (51°55'N 176°35'W), on 19 August 1977, a first record for North America. It was feeding with a flock of Ruddy Turnstones