

FROM FIELD AND STUDY

Breeding Habits of Megapodes on Simbo, Central Solomon Islands.—Perhaps the most appropriate of the many vernacular names applied to the members of the genus *Megapodius* is that of "Incubator Bird." Instead of incubating the eggs in the usual manner, the female deposits them in a situation where the necessary heat may be derived from some natural source such as warm sand, decaying vegetation, or even warm volcanic ashes. The precocious young make their way to the surface and remain completely independent of adult care.

Throughout the Solomon Islands megapodes (*Megapodius freycinet eremita*) are common birds of the jungle. Their loud harsh calls are much more often heard than the birds themselves are observed. Individuals or small parties of 5 to 10 forage on the ground, scratching in the litter with their oversized feet, in the manner of barnyard fowl. Social contact seems to be maintained vocally by scattered members of a group, for often the calling which is initiated by one will be echoed by several others from widely separated positions. When suddenly startled, the birds may take to the wing and with frightened cackles fly laboriously a short distance before dropping into the concealing vegetation. More often they escape quietly on foot and only a fleeting glimpse may be obtained of them through the foliage.

On February 9, 1945, it was my privilege to visit the island of Simbo in the New Georgia Group, central Solomon Islands. Simbo is situated 50 miles west of New Georgia and is separated from the larger island of Ganongga by a strait about 4 miles wide. The relative geologic infancy of Simbo is attested by its small size, active vulcanism, and the fact that several groups of small birds, common on the other islands of the New Georgia Group, have not yet invaded it, for example, *Zosterops*, *Rhipidura rufifrons*, and *Myiagra ferrocyanea*. The volcanic activity on Simbo is restricted to a small hill in the southwest portion of the island. Several hot springs, mudpots, and steaming fissures at the base of the hill indicate the subterranean heat. The natives often cook over the boiling springs and in the crevices. Two large bare patches of rock are tinted with a yellowish crust from sulphurous deposits. The summit of the volcano is approximately 200 feet above the sea. From a distance it appears as a bare, whitish area. The core of the summit has been blown out by a recent eruption leaving a crater about 100 feet in diameter and 40 feet deep. Steam and gases issue from numerous fissures and the surface rocks in many places are too warm to permit a hand to rest comfortably upon them. The north-facing slope between the base and the summit is thickly vegetated and the soil is deep although rocky. There is no obvious surface evidence of vulcanism. It is in the warm soil of this slope that the megapodes of Simbo dig their burrows and lay their eggs. Most of the nest burrows were found on the lower third of the hill where the slope is the least abrupt.

As my party approached the area an adult megapode flushed from a burrow and flew off, cackling loudly. Several others were heard and two more were observed in the vicinity. The total area covered by the burrows was difficult to ascertain because so many were scattered through the jungle. As a conservative estimate I judged that in an area of approximately 5000 square yards there were at least 200 separate nest burrows. One especially concentrated area which I paced off measured 100 by 50 feet and contained 40 burrows. The natives told me that on the opposite side of the volcano there was a similar nesting area.

The dimensions of individual burrows varied considerably. The range in diameter was from 10 inches to 3 feet and in depth from 1 to 3 feet. Although most were simply a vertical hole with loose dirt in the bottom, a few had been undercut in such a manner that a short, covered tunnel was formed. Under the overhanging lip of one of these I found dry, crumbly earth. In this humid climate where rain falls in every 24-hour period the soil in such a position would never become dry and crumbled unless it were dehydrated by heat. The soil in the bottoms of the burrows was appreciably warmer to the touch than the exposed surface of the earth.

An old native volunteered to find some eggs for me. He tried several nest holes and at last from the loose soil in the bottom of one he unearthed an even dozen, large, elliptical eggs. They were about 3 inches long and half as great in diameter. The surface color of light brown was restricted to a flaky film which sloughed off, exposing the pure white shell beneath.

This unusual concentration of megapode nests seems directly correlated with the heat supplied by the volcano. The hill is a natural incubator. Except for the presence of the volcano, there are many hills on Simbo superficially like this one. I questioned the natives at great length and all were emphatic in their statements that nowhere else on the main island was there another nesting area of notable extent. On a small islet on the east side of Simbo they reported that a few megapodes nested in sun-warmed sand.

It was surprising to discover that even those natives who had had but little contact with whites knew the birds as "megapodes." The Simbo native name for the bird is "lápi."

The opportunity to visit Simbo was afforded by the kindness of the officers of the British Solomon Islands Protectorate at Hombu Hombu, New Georgia.—CHARLES G. SIBLEY, *Museum of Vertebrate Zoology, January 2, 1946.*

Snow Bunting on the Oregon Coast.—On November 10, 1945, at about 4 p.m., two Snow Buntings (*Plectrophenax nivalis nivalis*) were observed at Yaquina Head, Lincoln County, Oregon. The birds were flushed within 100 yards of one another from the gravel road leading to the lighthouse but were lost to view when they flew up the windswept, grassy ridge. An hour later at dusk one of the buntings was again encountered on the road where it had been seen previously. When approached, the bird flew about 30 feet ahead only to return and alight at the same spot from which it had risen. This individual, a male in good condition, was shot and preserved as a skin (no. 774) in the writer's collection.

This specimen appears to be the third skin obtained from western Oregon and the first from Lincoln County. In their account of the Snow Bunting, Gabrielson and Jewett (*Birds of Oregon, 1940:599*) list two skins collected on the coast at Netarts in Tillamook County 60 miles north of Yaquina Head on December 31, 1912, and October 27, 1934, and refer to an old winter sight record made about 1900 at Yaquina Bay. The species is regarded as an irregular winter visitor to eastern Oregon.—HAROLD E. BROADBOOKS, *Newport, Oregon, January 16, 1946.*

A Record of the Snow Bunting in California.—On the morning of November 25, 1945, while checking duck hunters along the south spit of Humboldt Bay, California, my attention was drawn by a single passerine bird which I at once recognized as foreign to the locality. To all appearances, it was identical with Snow Buntings I had seen in the eastern Aleutian Islands while on duty there with the Navy. Upon stopping the car, the bird flew off with a strong undulating flight and lit on the sand a short distance away. Fortunately, I was able to collect it after a short stalk. Subsequent identification by Dr. Alden H. Miller confirmed my belief that the bird is a Snow Bunting (*Plectrophenax nivalis nivalis*), the first certain record for the species in California.

Upon dissection, the bird proved to be a female, and it was quite fat. The crop was full of seeds of an unidentified species of legume.

It is interesting to note that the portion of the spit where the bird was taken is ecologically very similar to the tundra and near-tundra that Snow Buntings inhabit a good part of the year. In the main it is a low sand dune area, of but slight elevation above the sea, strewn irregularly with large drift logs and dotted here and there with small freshwater ponds. Around these pools and in some of the low depressions between dunes a low compact association of grass and sedge occurs, bare sand occupying the rest of the area. When first seen, the bird was resting on the grassy border of one of these little lakelets, where it was afforded some protection from the strong southerly wind blowing at the time.

Humboldt County has numerous such areas along its coast. Besides the south spit, the north spit of Humboldt Bay has such tracts, and they are not infrequent along the large stretches of sand dunes north of the mouth of Mad River. Then there are the Arcata bottoms, a flat agricultural area of several square miles extent, which in the winter, has short grass pasture land with numerous ponds. A sight record of the Snow Bunting was made here one winter by Fred Telonicher, of Humboldt State College.—WILLIAM H. SHOLES, JR., *Arcata, California, January 28, 1946.*

Notes on the Distribution of *Spizella breweri taverneri*.—Field studies conducted by the author in the Rocky Mountains of western Alberta and eastern British Columbia in the interests of the National Museum of Canada and of the National Parks branch have led to accumulation of certain data supplementary to existing information on the breeding range of the timberline race of the Brewer Sparrow, *Spizella breweri taverneri*.

In June and July, 1930, the author was collecting mammals in Jasper National Park, Alberta. At that time *taverneri* was known as a breeding bird only from the region adjacent to Atlin, in the northwestern corner of British Columbia. On July 18 of that year among the clumps of dwarfed spruce and balsam at timberline in the Tonquin Valley singing males, apparently on their territories, were heard and one was later collected. This specimen is in the National Museum of Canada.

On August 21 and 23 of the same summer while camped in the amphitheatre at timberline on Cascade Mountain, Banff, Alberta, a juvenile and an adult female were obtained. At the time these were believed to be migrant individuals.

Not until 1943 was the author again in the Rocky Mountains, this time engaged in big game studies for the National Parks Bureau. Extensive travels through virtually all parts of Jasper, Banff