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CAVITY-NESTING MARBLED MURRELETS

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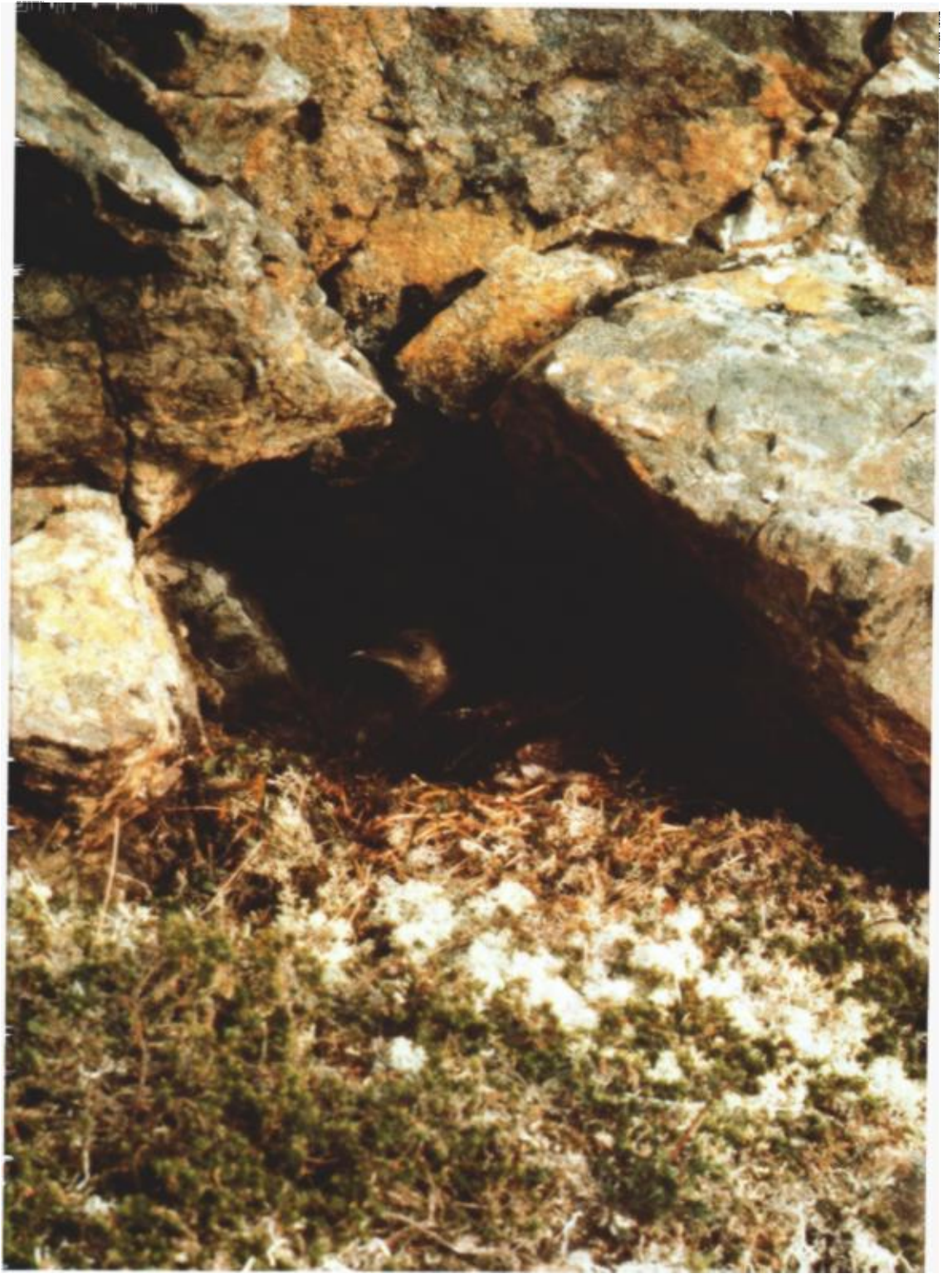
In a recent paper (Day et al. 1983), a nest of a Marbled Murrelet (*Brachyramphus marmoratus*) was documented that had been found by S. Johnston on 2 July 1981 near Port Chatham, Alaska (see also Gibson 1981). This was the sixth definite nest of this species found in North America and the fifth definite ground nest (Carter and Sealy 1983). The nest was only briefly described as Johnston was unable to supply further information to R. H. Day at that time. Thus, little attention was given to the fact that this was the first definite nest to be located in a cavity. The cavity was described in Day et al. (1983) as "a small grotto." The cavity was about 50 cm deep, 20 cm across, and 20 cm high at the entrance (estimated from a field drawing and photographs). An incubating bird was flushed from the cavity on 2 July, permitting Johnston and other members of the British Aleutian Islands Expedition 1981 to examine closely the egg and nest site. The ground color of the egg was a bright pale green, which is characteristic of most Marbled Murrelet eggs (Kiff 1980, Day et al. 1983). The egg was covered by dark brown, slaty, and lilac spots that were clustered mainly at the large end. Although dark green mosses and grasses and pale lichens grew at the entrance to the cavity, no nest was evident and the egg rested on bare rock.

On 3 July, Johnston observed an adult (in alternate plumage) incubating the egg. The incubating bird was about 30 cm from the entrance (i.e., near the back) of the cavity, where it would be protected from rain and most winds. It faced outward and at times held its head below the high point of the back in a flattened posture (see Simons 1980). It was observed and photographed from 2–8 m for about 5 hr. It opened and closed its eyes (possibly dozing on the nest) but otherwise remained motionless. It finally came to the entrance for about a minute (see Frontispiece) when Johnston accidentally startled it, but it returned and resumed incubating



Adult Marbled Murrelet *(Brachyramphus marmoratus)*
at entrance to nest cavity near Port Chatham, Alaska, 3 July 1981.
Photo by Stuart Johnston.

in the same position. This short glimpse, however, afforded ample time for definite species identification and documenting photographs.

The nest was found at an elevation of about 710 m, about 55 m below the top of a mountain (as reported in Day et al. 1983). This is the highest elevation at which a nest of a Marbled Murrelet has been found. The surrounding area was very rocky alpine habitat with sparse vegetation. The cavity was a hollow in the side of a rock outcrop or "stack," such that the entrance faced to the west and sideways across the south-facing slope. This outcrop was a distinct feature that stood about 1.5 m higher than the rest of the steep slope. Lower on the slope, subalpine vegetation included salmonberry (*Rubus spectabilis*), bracken (*Pteris* sp.), and elderberry (*Sambucus* sp.) up to 2-m high with some alder (*Alnus* sp.) and small spruce (*Picea* sp.). The coastline of Port Chatham, where the slope leveled out, was heavily forested (mainly Sitka spruce, *Picea sitchensis*) but part of this area had been logged recently. The ocean at Port Chatham was clearly visible from the nest site (an aerial distance of 1–2 km), as were the Barren Islands (about 40 km distant) where Marbled Murrelets are also known to nest (Simons 1980, Hirsch et al. 1981).

Marbled Murrelets have been suspected of nesting in cavities by many workers. Native Indians told Grinnell (1897) and Cantwell (1898) that murrelets nested in hollow trees, high on the mountainside in Alaska; other Indians told Dawson (1923) that they nested in burrows on some of the higher slopes of the Olympic Mountains in Washington. C. de B. Green, A. Brooks, and S. J. Darcus reportedly discovered murrelets nesting in burrows on Cox Island, British Columbia, but their evidence has been doubted consistently (cf. Sealy 1974; Kiff 1980; Sealy and Carter, in press). Guiguet (1971) reported that loggers had observed murrelets leaving high cliff faces on Vancouver Island, British Columbia. Although he did not find any birds there the following breeding season, nest sites may have been deserted due to disturbance from logging. The discovery of a nest of a Marbled Murrelet in a cavity near Port Chatham lends greater credence to earlier unconfirmed reports of nests in various types of cavities. Marbled Murrelets are now known to nest on tree branches (Kuzyakin 1963, Binford et al. 1975), on the open ground (Simons 1980, Hirsch et al. 1981, Day et al. 1983), and in cavities. The diverse types of nest sites used by Marbled Murrelets and their solitary-nesting behavior increase the difficulty of finding nests. The ability to use various types of nest sites may prove to be important to future populations if logging continues to remove tree-nesting habitat in many parts of the breeding range (Sealy and Carter, in press).

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COLOR PLATE

Inclusion of the color frontispiece of an adult Marbled Murrelet (*Brachyramphus marmoratus*) at the entrance to its nest cavity has been made possible through an endowment established by George Miksch Sutton (1896–1982). Photo by Stuart Johnston.