

## SHORT COMMUNICATIONS

### DISCOVERY OF A KITTLITZ'S MURRELET NEST

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On 22 July 1972 a Kittlitz's Murrelet (*Brachyramphus brevirostre*) was flushed from a nest at approximately 2500 ft elevation on the east side of Frosty Mountain located at Cold Bay (162°42' W, 55°12' N), near the tip of the Alaska Peninsula. A single pear-shaped egg was found in a slight gravel depression between rocks situated on a steep moraine between two snow banks and below a hanging glacier. The olive-green egg with brown and black splotches measured roughly 5 × 3.5 cm and was pipped in two places. I remained nearby the nest for nearly 2 hr, but the parent was exceedingly wary and flew near the nest only once. The nest site is about 8 miles from the sea.

The nest was revisited on 28 July, and a grayish downy young was present. The color description fits

that given by Thompson et al. (Auk 83:349, 1966). I revisited the nest on 4 August when the chick was presumably 13 days old. Except for its somewhat larger size and pugnacious behavior, there was little change from a week earlier. The only plumage difference was the appearance of quills on the wings. The parent bird was never seen after initial discovery of the nest on 22 July.

When the nest was visited for the fourth time on 15 August, the chick was gone and presumed fledged.

I believe this is the fourth recorded nest of a Kittlitz's Murrelet in Alaska. An egg was found on the side of Pavlof Volcano about 30 miles E of Cold Bay on 10 June 1913 (Gabrielson and Lincoln, The birds of Alaska, Wildlife Management Institute, Washington, D. C., 1959). A male with incubating patches was collected with its egg near Wales, Alaska (65°37' N, 168°05' W) on 16 June 1943 (Bailey, Birds of Arctic Alaska, Colorado Museum of Natural History, 1948). A downy young and adult were collected on 26 July 1960 at Angmakrog Mountain, 15.5 miles NE of Cape Thompson, Alaska (165°33' W, 68°17' N) (Thompson et al., op. cit.).

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### POLYGYNY IN THE DIPPER

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#### INTRODUCTION

The North American Dipper (*Cinclus mexicanus*) has been regarded as exclusively monogamous (e.g., Bent 1948; Hann 1950; Bakus 1959; Verner and Willson 1969). This paper reports on the discovery of polygyny (simultaneous pairing of two females with one male) in two Dipper populations in the Front Range of Colorado.

#### METHODS

As part of a continuing study on territoriality, food, and population dynamics of the Dipper, we have been collecting data on Boulder and South Boulder Creeks in the vicinity of Boulder, Colorado, from March 1971 to the present. Our two study areas are 19.3 km and 8.1 km long, and extend from approximately 1576–2105 m and to 1921 m elevation, respectively. Data were collected on 66 breeding adults during 1971 and 1972. Dippers were captured in mist nets and individually color-banded with plastic and aluminum leg bands. Only one of our breeding adults, a male in 1972, was unbanded.

#### RESULTS

Definitive proof of polygyny would require observation of a male copulating and maintaining pair bonds with two females. Although copulation of a male with two females was never observed, Dippers are strongly territorial during the breeding season and males actively participate in nesting. Therefore, we considered a male to be polygynous if there were no other adults in the nest area during egg laying, and if the male: (1) defended a territory which included both females' territories; and (2) fed both broods.

Table 1 summarizes our evidence for polygyny in the four males which meet these criteria and for which we have the most data. Females carried out most of the nest construction (males occasionally carried material) and all of the incubation. Monogamous males normally assisted in feeding nestlings and fledglings and all polygynous males in table 1 also assisted in feeding at both nests (Bock and Price, unpubl. data). Our data were not collected systematically, however, and we cannot evaluate relative attentiveness at the different nests.

Table 2 shows the frequency of polygyny in our populations and the reproductive success of polygynous versus monogamous birds. The productivity of polygynous birds was significantly higher than that of monogamous birds ( $P < 0.001$  for each sex; two sample Student's *t*-test; Brownlee 1965).

The size of 17 monogamous males' territories averaged 944 m of streambed, while those of 6 males believed to be polygynous averaged 2031 m (1504 m without male no. 521; see table 1).