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Occurrences of the Asiatic Marbled Murrelet [*Brachyramphus marmoratus perdix* (Pallas)] in North America

SPENCER G. SEALY,¹ HARRY R. CARTER,¹ AND DELISE ALISON²

¹Department of Zoology, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

and ²Redpath Museum, McGill University, 859 Sherbrooke Street West, Montréal, Québec H3A 2K6, Canada

The Marbled Murrelet [*Brachyramphus marmoratus* (Gmelin)] is a small alcid that Urdvady (1963: 90) considered to have a disjunct subboreal distribution during its presumed breeding season in the North Pacific Ocean. He portrayed this range with a gap bracing the Aleutian islands, with subspecific differences on opposite sides of the gap—*B. m. marmoratus* (Gmelin) of the northeastern and *B. m. perdix* (Pallas) of the northwestern Pacific Ocean. This gap may not actually exist, as Urdvady described it, because *B. m. marmoratus* is suspected of breeding along the Aleutian chain west at least to Adak Island (Nelson 1887, Byrd et al. 1974), and observations of the species (not necessarily breeding) have been made during its presumed breeding season (Sealy 1974, 1975; see also Simons 1980) even farther west to Attu Island (Murie 1959, Kessel and Gibson 1978). All specimens from the northern Bering Sea in summer [St. Lawrence Island (Bédard 1966), the Diomed Islands (Kozlova 1957), and Idlidlya Island, on the northern coast of the Chukotski Peninsula (Bent 1919)] have been referred to *marmoratus*. Thus, the breeding distribution of *marmoratus* probably extends north as well as west of the Alaska Peninsula, but, to date, only a few birds have been noted in this area (see Nelson 1883, Gabrielson and Lincoln 1959, Bartonek and Gibson 1972). There have been no published reports of *perdix* from North American waters. The most northern record of *perdix* in the Bering Sea is from Litke Strait, on the eastern coast of Kamchatka (Dement'ev and Gladkow 1968), but the closest Asian locality (where *perdix* has been collected) to North American waters is the Commander Islands (Hartert

1920), where *perdix* may breed (Taczanowski 1893; see also Kuz'yakin 1963). Thus, the known breeding ranges of the two subspecies of the Marbled Murrelet appear to be geographically separated only by Near Strait, a distance of approximately 500 km.

Whether the subspecies are, in fact, separated year-round is not known. Nominat *marmoratus* ranges regularly in summer and winter along the Aleutian chain and Alaska Peninsula to southeastern Alaska and south along British Columbia to central California (Binford et al. 1975, Ainley 1976), with movements in some winters to southern California (Sealy 1975). *B. m. perdix* ranges in summer along the west and north coast of the Sea of Okhotsk, south to Sakhalin and the eastern coast of the Kamchatka Peninsula (Kozlova 1957, Vaurie 1959), but occasionally south to western Korea (Austin 1948). Movements in winter shift its range south to include the coasts of Japan, Korea, and northern China (Vaurie 1959).

On 11 November 1979, a bird, unidentified by the hunter who shot it at Point Columet, Lake of Two Mountains, near Oka, Québec, was obtained at a bag check by M. Fontaine and turned over to Alison (see David and Gosselin 1980). The frozen specimen was shipped later to Sealy for identification and study. The bird was a Marbled Murrelet [National Museum of Canada (NMC) no. 69,845], which we have referred, on the basis of body measurements (Table 1), to the larger subspecies *B. m. perdix*. Photographs of the bird in the flesh were reproduced by DeBenedictis (1980: 137), who reported it only as a Marbled Murrelet.

This bird was shot as it flew over a freshwater lake.

TABLE 1. Measurements (mm) of murrelets of the genus *Brachyramphus*, including three specimens from inland North America.

	Exposed culmen	Bill height	Flattened wing	Tarsus	Tail
<i>B. m. perdix</i> ^a	20.3 ± 1.4 (6) ^b R = 18.2–22.2	6.4 ± 0.3 (5) R = 6.0–6.6	141.6 ± 4.0 (7) R = 135.0–146.0	17.4 ± 0.9 (6) R = 15.9–18.5	34.5 ± 1.1 (7) R = 32.7–35.6
<i>B. m. marmoratus</i> ^a	15.5 ± 0.8 (36) R = 13.7–17.6	6.0 ± 0.3 (26) R = 5.4–6.6	134.2 ± 2.9 (25) R = 128.0–140.0	16.2 ± 0.7 (37) R = 15.1–17.6	32.8 ± 2.2 (35) R = 28.0–38.9
<i>B. brevirostris</i> ^a	10.7 ± 0.90 (100) R = 8.5–14.0	5.0 ± 0.30 (90) R = 4.1–5.8	136.7 ± 4.60 (101) R = 124.8–146.0	15.1 ± 0.80 (36) R = 13.5–16.5	30.7 ± 2.30 (52) R = 26.8–36.0
NMC no. 69845	21.9	6.7	148.5	18.4	32.6
SDNHM no. 41544	22.3	6.4	146.0	17.9	33.4
MPSQ no. 603	18.0	6.8	125.5	16.5	31.2

^a Morphological variation in the genus *Brachyramphus* is being studied presently by Sealy and Carter. Specimens of *perdix* and *brevirostris* are from throughout their ranges; the *marmoratus* specimens are from the Queen Charlotte Islands, British Columbia.

^b Mean ± SD (n), with (R) range given below. Measurements are of after-hatching-year males.

It appeared to be in good physical condition, with considerable subcutaneous fat (3 on a scale of 0–4). It was an after-hatching-year male, with the left testis measuring 8.0 × 1.8 mm. Its weight of 285.9 g was similar to the mean of 300.4 g (range, 270–331 g) of five specimens of *perdix* taken near Japan and Korea at different times of the year (H. Ogi *in litt.* 1980). The bird was actively molting on its body, but its wing molt was essentially complete. Its digestive tract contained one partial specimen of an emerald shiner (*Notropis atherionides*) and three partial specimens, plus 20 pharyngeal arches, that could be identified only as minnows, family Cyprinidae. Thus, at least 14 individual fish, all of freshwater origin, were present in this bird's digestive tract. The fish remains are catalogued as NMC no. 80-1231 (Fish Division).

In connection with an analysis of the inland occurrences of the Ancient Murrelet (*Synthliboramphus antiquus*) in North America, Sealy and Carter (unpubl. data) have examined most of the inland specimens available in museums. One specimen, reported by Lewis (1924) as an Ancient Murrelet, was taken at Montréal, Québec on 13 April 1913 by Chase Casgrain. A mounted bird housed presently in the Museum of the Petit Séminaire de Québec (MPSQ no. 603, Québec City) appears to be the specimen to which Lewis referred. This bird was misidentified. It is a Marbled Murrelet, and we have tentatively referred it to *B. m. perdix* on the basis of bill measurements (Table 1). Stejneger (1886: 215) noted that "In size *B. [m.] perdix* scarcely differs from *B. [m.] marmoratus*, but the bill is markedly longer," and he distinguished *perdix* from *marmoratus* on the basis of culmen length. Other measurements of the Montréal bird (see Table 1) are either *perdix* or *marmoratus*, although the flattened wing is in the range of the Kittlitz' Murrelet [*B. brevirostris* (Vigors)]. The wing is quite worn on the mounted specimen. The undated and unsexed specimen is in basic plumage

and is labelled for exhibition as "Mergule de Temminck (Temminck's Murrelet) *Synthuboramphus* [sic] *wumizusume*," the Japanese Murrelet (*S. wumizusume*). Another (brittle, partial) label, perhaps the collector's original label, is attached to one leg and bears in faint lettering *Brachyramphus* but no species name because that portion of the label is missing. Underneath are the words Temminck's Guillemot and two other words that cannot be deciphered. As Ancient and Japanese murrelets were also included earlier (1837–1884) in the genus *Brachyramphus* (see Ridgway 1919: 756), confusion exists regarding when this specimen was misidentified. Also, the information available now does not include the date or locality at which this specimen was collected, both of which were reported by Lewis (1924).

On 9 August 1981, Jehl and Jehl (1981) found a dead Marbled Murrelet (SDNHM no. 41544) of the subspecies *B. m. perdix* washed ashore at Mono Lake, California. Sealy and Carter examined this specimen, in alternate plumage, and concurred with them that this individual is of the race *perdix* (see Table 1). This bird was an emaciated male and weighed only 204 g.

Two additional specimens of *perdix* also may have been taken in North America. A male [Museum of Comparative Zoology (MCZ) no. 312,083] and female (Chicago Field Museum of Natural History no. 137,219) in alternate plumage were collected on 22 and 31 May 1908, respectively, in the "Bering Sea near [the] Aleutian Is[lands]." The specimens were obtained by A. H. Dunham and eventually were acquired by J. E. Thayer and L. B. Bishop, respectively. In a letter dated 28 January 1909 to S. Henshaw, Dunham (who then resided in Nome, Alaska) offered, at W. Brewster's suggestion, two other specimens of *perdix* for sale and indicated that two had previously been purchased by Thayer. Nothing was said in this letter about the collecting localities; Dunham indicated, however, that "they will become very valuable

as none before have been [taken] in this country." The authenticity of these possible North American collecting localities is doubtful, however, because another specimen (MCZ no. 120,388) was taken by Dunham also on 31 May 1908, but in Avatcha Bay on the Kamchatka Peninsula. An itinerary of this collecting trip, if indeed it was the same trip, could not be located.

It is interesting that the first authentic records of *perdix* in North America are from localities much farther inland than the species is known to occur during its breeding and nonbreeding seasons (Carter and Sealy unpubl. data). Answers to questions of how and why these individuals occurred when and where they did are being sought by Sealy and Carter in their analyses of the inland occurrences of alcids in North America. The possibility that the occurrence of the individual in Québec in 1979 was related to the apparently unprecedented influx of Marbled Murrelets in southern California in the fall and winter of 1979–1980 (see Garrett and Dunn 1981) is being considered.

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NOTE ADDED IN PROOF: On 1 December 1981, a Marbled Murrelet, crippled after being shot, was found by P. Jamison on Lake Lemon, Monroe County, Indiana. The specimen (skin and partial skeleton, USNM 582,506) was sent to Sealy who identified it as belonging to the Asiatic race *perdix*. The specimen could not be sexed. This bird weighed 303.8 g when found, and its proventriculus contained 11 small, freshwater fish—8 gizzard shads (*Dorosoma cepedianum*) and 3 minnows, probably of the genus *Notropis* (identifications by J. P. Swigert, *vide* R. E. Mumford). The bird measured (mm): exposed culmen, 20.3; bill height, 6.2; flattened wing, 138.0; tarsus, 17.3; tail, 32.1. All of these measurements were close to the means of all measurements of male *B. m. perdix* in Table 1.

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Breeding Ospreys Feed Fledglings That Are Not Their Own

ALAN POOLE

*Boston University Marine Program, Marine Biological Laboratory,
Woods Hole, Massachusetts 02543 USA*

Many species of birds are known to have "helpers at the nest," i.e. individuals that do not breed but instead help others (often kin) tend young (Brown 1978, Emlen 1978). Examples of breeding birds that similarly accept parental duties for nonoffspring are far rarer, however. Where one member of a nesting pair has been experimentally removed, replacement mates (consorts) rarely feed young (Power 1981). Among nidicolous communal nesters like the Groove-billed Ani (*Crotophaga sulcirostris*) and the Mexican Jay (*Aphelocoma ultramarina*), several females will share in the feeding of young not necessarily theirs (Veherencamp 1977, Brown 1972), but, among species that do not share nests, such natural "adoption," necessarily confined to mobile fledglings, seldom occurs. Bitterbaum and Brown (1981) report that Purple Martins (*Progne subis*) with young of their own will feed other fledglings that intrude into their nests. Here, I report observations of nesting Ospreys (*Pandion haliaetus*) likewise adopting and providing food for fledglings from nearby nests. While other work-

ers (Fernandez and Fernandez 1977, Judge 1981) have also noted occasional nest-switching by fledgling Ospreys, no one has described this behavior in detail or considered it in an evolutionary context.

The Ospreys under study were part of a population of 19 active pairs that nested in the Westport River estuaries of southeastern coastal Massachusetts in 1980. All five nests observed were located on 4–7-m-high artificial platforms in open salt marsh habitat, and all were within sight of at least two other nests. Using a 15–60× telescope, I identified fledged young by numbered plastic leg bands. Adults were similarly marked and/or were identified by their fidelity to a particular nest site. At a distance, adults were distinguished from fledglings by plumage. Observations spanned the period 16–23 July 1980 and averaged 3 h per day. Most young Westport Ospreys fledge about mid-July; Ospreys are fully fledged at about 50 days of age (Stinson 1977).

I first observed nest-switching among Westport Osprey fledglings on 16 July 1980, when nest H1,