

Roger Zimmerman reported a colony of pelicans in Montalva Bay, near La Parguera on the southwest coast of Puerto Rico that he found on 11 February 1977 (Zimmerman, in litt.). On that date he found 25 adults on nests and 20 young ranging from 6 weeks old to fledging age, on a small mangrove island. He noted this as the only colony he found during extensive work along the southwest coast. The Montalva Bay colony apparently constitutes the only known nesting of pelicans in Puerto Rico between Kepler's 1971 aerial sightings and our 1978 observations on Conejo Cay.

*Observations of the Montalva Bay colony.*—RWS found 27 adults, 17 on nests, on 20 September 1978. All had brown necks, 21 had white heads but 6 had full yellow heads, indicating that courtship activity had just begun. One pair, a subadult male and full adult female, copulated while RWS was present and 2 other subadult males and 3 unsexed subadults were associated with nests. Age and sex were determined using plumage and comparative bill size (Schreiber, unpubl.). Sixteen nestlings, 4–10 weeks old were visible in 10 nests and 18 juveniles were in the immediate vicinity. This colony continued nesting activities through the fall after the Conejo Cay colony was deserted. The extended nesting season is also obvious here and the colony appeared to be the same size as was reported in February 1977 by Zimmerman.

*Surveys of the pelicans of Puerto Rico.*—During aerial surveys for manatees (*Trichechus manatus*) along the entire coast of Puerto Rico during 3 days each in early August, September, mid-October and November 1978, DWB counted 250, 534, 250 and 398 pelicans. These incomplete counts give a conservative estimate of the size of the total population.

A count of the pelicans in San Juan harbor on 30 October 1978, yielded a total of 350 birds, comprised of 26% adults, 7% subadults and 67% birds less than 1 year old. One-third were loafing on the tourist ship docks, one-half were in the *Casuarina* trees on the Coast Guard base, and the remainder were equally divided among the mangrove area on the southeast portion of the harbor, the channel markers and a large feeding flock. It thus appears that the Coast Guard base provides an important roost-loafing site. We suggest that the mangrove areas of the harbor are important habitat for Brown Pelicans and should be carefully protected from development and other human intrusion.

Both the Montalva Bay and Conejo Cay colonies are readily accessible and would make fine study sites for future work on Brown Pelicans in Puerto Rico. Studies on their breeding biology and on non-breeding aspects of population parameters would contribute importantly to our understanding of the marine avifauna of the Caribbean region.

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**Eggs of the Marbled Murrelet.**—The Western Foundation of Vertebrate Zoology (WVZ) recently obtained the Edward J. Booth bird egg collection from the Whatcom Museum of History and Art in Bellingham, Washington. Among the specimens in the collection is a single egg (WVZ 113.186) which apparently is that of the Marbled Murrelet (*Brachyramphus marmoratus*).

The original account of Booth's acquisition of this specimen appeared in the Murrelet

(Anon., Murrelet 8:16, 1927) and reads in part: "Mr. E. J. Booth of Bellingham, Washington, discovered in the office of a logging camp in Whatcom County, Washington, an egg which he was unable to identify. This egg was given to him, and upon showing it to several ornithologists, including Mr. J. Hooper Bowles and Mr. D. E. Brown, it was identified as being beyond reasonable doubt that of the Marbled Murrelet. This egg had been found about fifteen miles inland, near Saxon, on the south fork of the Nooksak River, on June 19, 1925. The egg lay on a bed of moss, no nest being apparent, and incubation was about one-third advanced."

The specimen was later mentioned by Jewett, Taylor, Shaw and Aldrich (Birds of Washington State, Univ. Washington Press, Seattle, Washington, 1953), who also believed it to be an egg of the Marbled Murrelet. However, it has not been included in recent summaries of the breeding biology of the species (Binford et al., Wilson Bull. 87:303-319, 1975; Sealy, Bird-Banding 46:141-154, 1975), or has its authenticity been questioned (Drent and Guiguet, B.C. Prov. Mus. Occ. Pap. 12, 1961), perhaps because its whereabouts were not generally known.

The egg measures  $58.32 \times 36.51$  mm with an empty shell weight of 2.222 g and a shell thickness at the waist of 0.214 mm. It is long subelliptical in shape (Preston, p. 13 in Handbook of North American Birds, Vol. 1, R. Palmer, ed., Yale Univ. Press, New Haven, Connecticut, 1962) and moderately glossy. The ground color of the egg is *pale glass green*, and it bears large *blackish-brown* splotches and scrawls and small spots of *gull gray*, all concentrated mostly at the larger end (italicized colors from Ridgway, Color Standards and Color Nomenclature, published by the author, Washington, D.C., 1912). Most of the spots are less than 2 mm in diameter.

In these characteristics the specimen agrees closely with indisputable eggs of the Marbled Murrelet, which now include the following: (1) an egg taken from the oviduct of a bird collected on 23 May 1897, at Howcan, Prince of Wales Archipelago, Alaska (Cantwell, Auk 15:49, 1898). Bent (U.S. Natl. Mus. Bull. 107, 1919) reproduced this egg in color (plate 48) and described it as having a *pale chalcedony yellow* ground color and being uniformly, but not thickly spotted with dark *blackish-brown* or nearly *black* spots. The egg was too badly broken to be measured accurately, but was reported to be  $63 \times 35$  mm (Ralph in Cantwell 1898), which agrees closely with Bent's plate 48; (2) an egg taken from the oviduct of a bird collected on 23 May 1934, near Mittelnach, an islet in the Strait of Georgia, just east of Campbell River, Vancouver Island, British Columbia, which was described as being *pale glass green* spotted with *light lavender gray*, *deep madder blue*, *sepia*, *bone brown*, and *black* (Sutton and Semple, Auk 58:580-581 and plate 19, 1941). It measured  $58.5 \times 39.5$  mm; (3) another oviduct egg taken on 13 July 1941, from a bird collected near Pleasant Island, SE Alaska, by Stanley G. Jewett, who stated (Jewett, Murrelet 23:67-75, 1942) that the egg agreed perfectly with the color description given by Sutton and Semple (1941) for the preceding egg, although the Alaska specimen was said to be more heavily marked. It measured  $60.5 \times 39.0$  mm; (4) an egg photographed in a nest on East Amatuli Island, Barren Islands, Alaska, on 8 July 1978, by Theodore Simons. This egg, which was allowed to hatch, was described as being "pale olive green and covered with irregular brownish black, tar-colored spots. These spots were more prevalent around the larger end of the egg but covered it entirely." The egg weighed 41.0 g and measured  $61.2 \times 36.3$  mm (Simons, Condor 82:1-9, 1980); and (5) another egg photographed in a nest on East Amatuli Island in July 1979 by Lee Astheimer, Katherine Hirsch and Douglas Woodby. This egg measured  $58.9 \times 36.3$  mm and weighed 38.5 g when found; it was also allowed to hatch. I have examined transparencies of this egg, and its ground color is identical to that of the Booth specimen. However, it is more heavily spotted over its entire surface, and some of the spots are light brown, a color not found on the Booth egg.

Eggshell fragments taken from the California Marbled Murrelet nest described by Binford

et al. (1975) were identical in color to those of the Sutton and Semple specimen, except that markings of *saccardo umber* were also found. Eggshell fragments obtained with a live Marbled Murrelet from a felled hemlock tree about 0.5 miles E of Masset, Queen Charlotte Islands on about 4 June 1953 (Guiguet, Audubon Mag. 58:164–167, 174, 1956), were compared to the Jewett and Cantwell oviduct eggs in the United States National Museum by I. McT. McCowan. He found that they agreed with the latter specimens in ground color, markings and texture, and that they did not resemble eggs of the Ancient Murrelet (*Synthliboramphus antiquus*) in these details (Drent and Guiguet 1961).

An egg of the Asian race, *Brachyramphus marmoratus perdix*, was collected from a nest on 17 June 1961, by Kuzyakin (Ornithologia 6:315–320, 1963, English translation in Josselyn Van Tyne Library, Univ. Michigan, Ann Arbor, Michigan) about 12 km NW of Okhotsk, Siberia. It is of interest that his egg differs from the North American specimens in color (blue-greenish with fine spots of brownish and hazel) and in being slightly more elongated (63.6 × 39.3 mm).

The principal distinguishing characteristic of North American Marbled Murrelet eggs appears to be their yellowish or pale green ground color. The ground color of eggs of the congeneric Kittlitz's Murrelet (*B. brevirostris*) has been described as "olive lake" (Thayer, Condor 16:117–118, 1914) or "olive-green" (Bailey, Condor 75:457–486, 1973). A series of over 100 sets of eggs of the Ancient Murrelet, the only other murrelet breeding sympatrically with the Marbled Murrelet, in the WFVZ collection have ground colors ranging from a pale cream color to rich buffy brown; none are yellowish or greenish.

In addition to the aforementioned specimens, a possible Marbled Murrelet egg was collected by Stanton Warburton, Jr., "on a mossy setting within a cavity of rocks" in a rock slide far above timberline on Mt. Doolth, Chichagof Island, Alexander Archipelago, Alaska on 13 June 1931 (Gabrielson and Lincoln, The Birds of Alaska, Stackpole Co. and Wildlife Management Inst., Washington, D.C., 1959; Drent and Guiguet 1961). A formal description of this egg has not been published, but a photograph of it is shown by Alcorn (Northwest Birds Distribution and Eggs, Western Media Printing and Publications, Inc., Tacoma, Washington, 1978). Judging from that illustration, the egg does not have a ground color characteristic of the known North American Marbled Murrelet eggs. Bent (1919) described an egg in the Charles Doe collection (now at the Florida State Museum) taken on 10 June 1904, about 70 miles N of Nome, Alaska by A. H. Dunham, which was attributed to the Marbled Murrelet and which resembles the authenticated specimens in color (*massicot yellow* with small spots of *bone brown* and *deep quaker drab*) and size (60.5 × 37.5 mm). The identity of this egg was questioned by Gabrielson and Lincoln (1959) on distributional grounds. Four eggs taken by S. J. Darcus on Langara Island, Queen Charlotte Islands on 14–15 May 1927, and claimed to be those of the Marbled Murrelet (Darcus, Can. Field-Nat. 41:197–199, 1927) are almost certainly those of the Ancient Murrelet, judging from their color and the nest descriptions. One of the latter eggs, now in the collection of the Delaware Museum of Natural History, is illustrated by Harrison (A Field Guide to the Nests, Eggs and Nestlings of North American Birds, Collins, Glasgow, Scotland, 1978).

It is therefore likely that the Booth specimen is the only whole egg specimen of the nominate race, *B. m. marmoratus*, known to have been taken from a nest. Had the nest-site from which it was collected been adequately described it would doubtless have qualified as the first North American nest of the species known to ornithology.

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**First documented Cinnamon Teal nesting in North Dakota produced hybrids.—**

Although Cinnamon Teal (*Anas cyanoptera*) are seen in North Dakota almost every year, Stewart (Breeding Birds of North Dakota, Tri-College Center for Environmental Studies, Fargo, North Dakota, 1975) lists the breeding status as hypothetical. There is 1 unpublished record of a hen with brood sighted at Napoleon, Logan Co., on 17 July 1915, by H. H. Sheldon of the U.S. Biological Survey. However, without substantiating evidence, this sight record is unacceptable because hens and ducklings of Cinnamon Teal are indistinguishable from Blue-winged Teal (*A. discors*). There are no verified records of Cinnamon Teal breeding in South Dakota (Whitney, Harrell, Harris, Holden, Johnson, Rose and Springer, The Birds of South Dakota, The S.D. Ornith. Union, Vermillion, South Dakota, 1978), and the nearest breeding record to North Dakota is for central Montana (Skaar, Montana Bird Distribution, Bozeman, Montana, 1975) about 240 km west of the North Dakota border.

On 30 April 1978, a male Cinnamon Teal with a hen was sighted in McLean County, and observed repeatedly in the same vicinity during spring; we suspected the hen was nesting. Biologists on the study area examined all teal hens captured and on 9 June 1978, a "large-billed Blue-winged Teal hen" was trapped on a nest. This hen had characteristics of a Cinnamon Teal hen as noted by Wallace and Ogilvie (Br. Birds 70:290–294, 1977), including a more sloping forehead than a Blue-winged Teal, a darker head, a darker loreal spot and a spatulated bill. The exposed culmen length was 41.9 mm which, according to Spencer (The Cinnamon Teal [*Anas cyanoptera* Vieillot]: its life history, ecology and management, M.S. thesis, Utah State Univ., Logan, Utah, 1953), placed the bird outside the range of exposed culmen lengths for Blue-winged Teal (36.5–41 mm) and within that of Cinnamon Teal (41–46 mm).

After measurements and photographs were taken, the hen was released; 6 eggs of her clutch were collected for propagation at the Northern Prairie Wildlife Research Center. Three males were raised to maturity. By early March 1979 the birds developed red-brown irises and cinnamon breast coloring similar to Cinnamon Teal, but also had partial white crescents on their heads and other plumage characteristics resembling the Blue-winged Teal (Fig. 1). The 3 males were apparently Cinnamon Teal  $\times$  Blue-winged Teal hybrids. Measurements of these birds as adults compared closely with those of the 5 hybrids measured by Bolen (Wilson Bull. 91:367–370, 1979). Upper mandible lengths of the 3 hybrids were 50 mm or greater, which would fit Spencer's (1953) criterion for Cinnamon Teal (Table 1).

Crown of the hybrids were purplish iridescent resembling Blue-winged Teal, but the cheeks were a mixture of cinnamon and black flecking with facial crescents wider at the base than those of the Blue-winged Teal. Also, the crescents were not totally white but contained many red-brown feathers. The chest, belly and sides of the hybrids were cinnamon colored but contained black spots like those found on Blue-winged Teal. The hybrids had a remnant of the Blue-winged Teal flank patch but it was smaller, cinnamon colored with black flecking. There are numerous reports on Cinnamon Teal  $\times$  Blue-winged Teal crosses, and those pictured by Lahrman (Blue Jay 29:28, 1971) and Bolen (1979) appear to be similar to the ones reported here. An unreported Cinnamon Teal  $\times$  Blue-winged Teal hybrid collected near Wishek, McIntosh Co., on 23 May 1970, is preserved at the North Dakota Game and