

- PACHECO, J., AND C. J. NARANJO. 1978. Field ecology of *Dasyopus sabanicola* in the flood savanna of Venezuela. Pp. 13-15 in *The armadillo as an experimental model of biomedical research*. Sci. Publ. 366, Washington, D. C., Pan Amer. Health Org.
- TABER, F. W. 1945. Contribution on the life history and ecology of the nine-banded armadillo. *J. Mammal.* 26: 211-226.
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**Identification of Arctic Loons in winter plumage.**—Only two records of the Arctic Loon in Florida had been published (Kittleson 1976), by 1974, so on 18 and 19 February, 1974 observers rushed to Melbourne, Florida, to see a bird reported to be an Arctic Loon (*Gavia arctica*). Because this small loon had a short bill and a pale head, hind neck and back and because the head appeared rounded, many observers considered identifying this bird as an Arctic Loon. However, Harold Axtell (pers. comm.) of Ontario, Canada, wrote nine single-spaced, instructive pages of convincing details on why he considered this bird to be a small Common Loon (*Gavia immer*) rather than an Arctic Loon. Axtell's letter created the feeling among some observers that identifying an Arctic Loon by sight in Florida was a difficult endeavor, but after my experiences and the recent discoveries of field marks, I have concluded that Arctic Loons in winter plumage can be identified by sight in the field.

This observation presented an opportunity to evaluate available field guides. Using one Arctic Loon observation, without considering possible variations in plumages of other Arctic Loons, I compared the main field characteristics to the relative information presented in four 1983 field guides: Robbins et al. (1983), National Geographic Society (1983), the Audubon Society master guide to birding (Wahl 1983), and Harrison (1983), which I will refer to as Robbins, Geographic, Wahl, and Harrison, respectively. My grading system was as follows: if the text presented the entire field mark in a thorough manner, I graded it a 10; in a useful manner, but with minor omissions, a 9; in an adequate manner, but with some serious omissions, an 8; in a poor manner with some field marks ambiguous or inaccurate or no field marks in the text, but the field mark illustrated well, a 5; or omitted the field mark, a 0. The grades for each field mark were averaged for each guide to determine the effectiveness of each in identifying this individual bird.

On 26 December 1983 on the Jacksonville, Florida, Christmas Bird Count John Hintermister and I had the fortuitous opportunity to observe the loon continuously through telescopes for over an hour from less than 30 m away. In the calm huge tidal pool west of Ward's Bank, this resting bird floated in front of us, turning slowly on the water. Occasionally, the loon raised its head as we watched it. Although other observers saw this bird on 26 and 27 December, our sighting was so lengthy and so close that we had the opportunity to make detailed notes at leisure (Fig. 1).

**Bill.** The bill on our loon was straight, gray, thinner and shorter than a Common Loon's bill with no sharp angle on the lower mandible. Robbins stated,

"The bill is thinner than Common's and straight." No mention was made of bill color—8. Geographic reported that the ". . . bill is slim and straight," but omitted its color—8. Wahl wrote, "The slender darkish bill is normally held horizontally."—9. Harrison wrote that the bill was gray with the culmen blackish and also the tip in first winter birds. The bill was ". . . more slender . . ." than the Common Loon and a ". . . straighter, dagger-like bill . . ." than the Red-throated Loon (*Gavia stellata*)—9.

**Head color.** The head and crown on our loon was a striking brown in color, forming a cap running from the base of the bill well below the eye straight back to the rear of the auricular patch. There was no white around the eye except for a very light distinct stripe that started at the bottom of the eye and continued downward to the edge of the cap. Robbins did not describe the head—0. Geographic described the dark cap as extending to the eye, did not remark on the absence of white around the eye, but did mention the white around the eye of a Common Loon—9. Wahl described the dark cap extending cleanly below the eye, but did not mention the absence of white around the eye—8. Harrison described the dark brown shading to grayish brown on the crown and on the sides of the face but did not include the absence of white around the eye nor say how far down the side of the face the cap extended. Harrison also mentioned the white around the eye of a Common Loon and was the only guide to report the gray on the head of the juvenile and the brown on the head of an adult in winter plumage—9.

**Chin.** On our loon a narrow dark line ran under the cap between the white chin and throat to form a distinct well-marked chin strap. Robbins and Geographic both presented the chin strap—10. Wahl and Harrison omitted this mark—0.

**Cheek.** Our loon showed a white cheek area with the grayish brown forming a curved pattern partly around the rear of the auricular patch. Robbins did not mention nor show this point—0. Geographic pictured this white curved area—5. Wahl described a ". . . white cheek area below and behind the eye"—10. Harrison pictured this white curved area—5.

**Head shape.** On our loon the shape of the head was rounded, completely unlike the angular shaped head of the Common Loon with its distinctive high forehead and flat top. Robbins mentioned no head shape—0. Geographic described the head as ". . . smoothly rounded"—10. Wahl incorrectly listed the forehead as steep, but under Common Loon stated that the Arctic Loon had a ". . . more sloping profile than the Common."—5. Harrison mentioned nothing about head shape, but illustrated the foreheads as steep in the winter plumage and sloping in the breeding plumage.—0.

**Body color.** Our loon had a white chin, throat, neck and breast. A black streak ran down the center of the neck bordering a gray hindneck and a white foreneck to form a "three-toned" neck. Geographic was the only guide to describe the "three-toned" neck—10. The other guides ignored this mark—0.

**Back.** On our loon the unmarked back, with a few light gray feathered edgings barely visible, was a very dark gray on the front part of the back and a lighter gray on the remainder forming a contrast between the lighter head and neck and the darker back. Robbins stated, "The back is darkest of all loons with pale feather edgings," and under Common Loon, "In winter the head, neck, and back . . ." show ". . . less contrast than in Arctic"—9. Geo-

graphic wrote, "... winter birds crown and nape are paler than back"—9. Wahl stated, "The back appears very dark and uniformly colored." There was no mention of contrast between neck and back—8. Harrison wrote, "Upperparts mostly dark brown, with indistinct white subterminal spots on scapulars; appears blackish above at distance or in poor light" and "... crown and hind-neck paler than blackish back"—10.

**Flank.** On our loon the rear flank area from the left side was a light gray and contrasted with the darker gray around it and had two very small white patches showing on this light gray patch. The rear flank area on the right side was a dirty white. Under the crossed primaries from the rear, we could see black undertail coverts forming a black stripe and running to the waterline and with white patches on both flanks. Robbins, Geographic, and Wahl did not mention this field mark—0. Harrison was the only guide to describe this "whitish flank patch—10. (Dennis 1978, Fitzpatrick 1978, and Jackson 1978). This whitish flank patch on an Arctic Loon was drawn in field sketches by Robert Crawford (pers. comm.) on 15 December 1979 during a St. Marks Christmas Bird Count.

**Conclusions.** In aiding in the identification of this individual specimen, Geographic scored highest by far with 61 points out of a possible 80 with two excellent points: the chin strap and the "three-toned neck", the only guide to present this latter field mark. Harrison placed second with 43 points and scooped the field with the white flank patch and the brown cap on the wintering adult. Wahl scored third with 40 points. Robbins scored lowest with 27 points, but this guide mentioned the important chin strap and warned the observer about small Common Loons as did Geographic. Geographic surpassed the other field guides by a considerable margin; however, the serious student will want all the guides to assure the inclusion of current field marks.

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#### LITERATURE CITED

- DENNIS, R. H. 1978. Field identification of Black-throated Diver in winter. *British Birds* 71: 225-226.
- FITZPATRICK, J. 1978. Field identification of Black-throated Diver in winter. *British Birds* 71: 226.
- HARRISON, P. 1983. *Seabirds: an identification guide*, Pp. 34, 209-210. Boston, Houghton Mifflin Company.
- JACKSON, S. 1978. Field identification of Black-throated Diver in winter. *British Birds* 71: 226.
- KITTLESON, B. 1976. Third record of the Arctic Loon from Florida. *Fla. Field Nat.* 4: 17.
- NATIONAL GEOGRAPHIC SOCIETY. 1983. *Field guide to the birds of North America*, Washington, D. C., National Geographic Society.
- ROBBINS, C. S., B. BRUN, AND H. S. ZIM. 1983. *A guide to field identification: birds of North America*. Racine, Wisconsin, Western Publishing Co.
- WAHL, T. 1983. Arctic Loon. P. 36, *in* *The Audubon Society master guide to birding*. (J. Farrand, Jr., Ed.). New York, Alfred A. Knopf.
- H. P. Langridge, 1421 W. Ocean Avenue, Lantana, Florida 33462.  
Florida Field Naturalist 12: 61-63, 1984.