

A possible Brown Skua (*Stercorarius antarcticus*) on Sable Island, Nova Scotia

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ABSTRACT

This paper considers characters of a skua photographed 13 May 1996 on Sable Island, Nova Scotia, which the authors identify as a possible Brown Skua (*Stercorarius antarcticus*), a species not yet confirmed in the western North Atlantic but recently documented by molecular evidence in the eastern North Atlantic.

FIELD ENCOUNTER

In mid-day on 13 May 1996, Lucas found a skua sitting on the beach at Sable Island, a 45-km long crescentic sandbar some 160 km from the nearest mainland of Nova Scotia. This skua was approachable, to within about 5 m, allowing two photographs to be taken in full sunlight before it stood up, took off, circled and flew away. Because of its overall bulk and dark ventral plumage—with what appeared to be warmer tones than had been observed on South Polar Skuas (*Stercorarius maccormicki*)—it was initially identified in the field as a Great Skua (*S. skua*).

DISCUSSION

SKUAS IN CANADIAN ATLANTIC WATERS

Balch (1981) focussed attention of birders on summer presence of South Polar Skuas in North Atlantic waters. Although earlier literature indicates otherwise, three sum-

mer (June–August) specimens in Canadian museums collected prior to 1980 in Atlantic Canada have been critically identified as South Polar Skuas (Michel Gosselin, National Museum of Canada, pers. comm.; University of Western Ontario [see below]). All Great Skua specimens have come from the Grand Banks: an immature in late August 1961 (D. McAlpine, New Brunswick Museum, pers. comm.) and several adults in September (M. Gosselin, pers. comm.). The Great Skuas listed for Sable Island by McLaren (1980) were not critically identified. Nova Scotian observers have attempted to distinguish the two species since at least the early 1980s. Since 1992, Lucas has studied six live Great Skuas on Sable Island at fairly close range and has found five tideline carcasses (two salvageable as specimens), all between September and January. These were identified by their bulk, presence of distinctly cinnamon or rufous underparts, and pale or rufous streaks on backs. She has also found two dead South Polar Skuas and closely observed a live one, all in late May. These were typical light- or intermediate-morph birds, dark-backed, evenly brownish gray below, and with pale nuchal areas. McLaren has similarly identified South Polar Skuas off Seal Island in August 1983, Great Skuas during a pelagic trip off Halifax, Nova Scotia, in October 1990, and both species during a pelagic trip off Halifax in late September 1990, and on a research cruise on the Scotian Shelf in late September 1997.

Because the photographs of the May 1996 bird on Sable Island do not easily accord with either of the two regularly occurring skua species, we have been led to consider other possibilities. For several decades, skuas outwardly similar to the Sable Island bird have led observers in the North Atlantic to suspect that a third species, Brown Skua (*Stercorarius antarcticus*) wanders to the North Atlantic. This suspicion has been supported by recent molecular evidence from the United Kingdom (Scott 2002, Moon and Carrington 2002). Information on skua identification,

in both published articles and material posted on the WorldWideWeb, has indicated to us that the Sable Island bird strongly resembled Brown Skua, although deficiencies in this information lead us to leave it formally unidentified.

BACKGROUND ON CONFIRMED AND POSSIBLE BROWN SKUAS IN THE NORTH ATLANTIC

Even after Chilean (*S. chilensis*) and South Polar Skuas were recognized as distinct species, the three other skua taxa in the Southern Hemisphere continued to be classified as forms of Great Skua (e.g., Devillers 1977). Brown Skua, however, has become generally recognized as a distinct species with three subspecies (e.g., Olsen and Larsson 1997): Falkland Skua, nominate *antarcticus*, of the Falklands Islands and southern Argentina; Tristan Skua, *hamiltoni*, of Tristan da Cunha and Gough Islands in the South Atlantic; and Subantarctic Skua, *lonnbergi*, of the Antarctic Peninsula and islands from South Georgia across the Southern Ocean to New Zealand. The future may bring further rearrangements in systematics of the southern skuas (Blechs Schmidt et al. 1993), and the evolutionary relationship between Great Skua and Pomarine Jaeger (*Stercorarius pomarinus*) is apparently close enough (Braun and Brumfield 1998) that the American Ornithologists' Union (Banks 2000) has recently merged genus *Catharacta* into genus *Stercorarius*, although this reclassification has not been made uniformly in the world ornithological community.

Brown Skua has long been known to wander north of the equator in the Indian Ocean (Higgins and Davies 1996), but in the western North Atlantic, our lack of specimens and limited criteria for the discriminating skuas within the *antarcticus/lonnbergi/hamiltoni* complex have thwarted identification of several suspected Brown Skuas. Single skuas photographed at the Hudson Canyon off New York/New Jersey on 28 May 1977 (photograph in *American Birds* 32: 1108; Balch 1981) and 29 May

1987 (Brady 1988) were thought to be Brown Skuas, the former a probable Subantarctic Skua, while the latter bird was identified by world authorities at the time as a Tristan Skua. Off North Carolina, records from 22 May 1992 (Brinkley 1994) and 29 May 1993 (M. O'Brien, pers. comm.; see Figures 6, 7) perhaps pertain to Subantarctic Skua. Several more recent candidates from the Gulf Stream off North Carolina have also been posted to websites (<www.patteson.com/skuas/skuas.htm>, and <www.magikcircle.com/birds/image.asp?title_id=457>). At present, no North American bird records committee has admitted any taxon of skua other than *mac-cormicki* and *skua* to its official list, although the North Carolina Bird Records Committee has considered reports of Brown Skua (H. LeGrand, pers. comm.).

In the eastern North Atlantic, Brown Skua has now been confirmed twice: on the Scilly Islands, 7 October 2001 (Scott 2002) and in Glamorgan, 3 February 2002 (Moon and Carrington 2002). The identification of these skuas from mitochondrial DNA did not exclude the possibility of either being a hybrid with paternal South Polar Skua, but this was deemed very unlikely from population estimates and morphology (Votier et al. 2004). There are no other confirmed records of Brown Skuas from North Atlantic waters, but more may come from the eastern Atlantic Ocean off Senegal, where only Great Skuas had been thought to occur. Numbers from that region have been photographically identified as South Polar



Figure 1. Skua on Sable Island, Nova Scotia, 13 May 1996. Photograph by Zoe Lucas.

Skuas (Newell et al. 1997), but others have raised the possibility of Brown Skuas among some of the more robust intermediate- and dark-plumaged individuals (Jiguet 1997).

We can no longer assume that all skuas in the North Atlantic are either Great or South Polar, and records committees should now review all past reports of skuas, just as they did in the 1970s, when South Polar Skua was accorded species status. Until more is known about the identification of Brown Skua from observations or photographs, morphometric or genetic determination from birds in the hand remains nec-

essary. The May 1996 bird on Sable Island is therefore described here as a plausible but unconfirmed record, in part to advance the question of skua identification.

APPEARANCE OF THE SABLE ISLAND SKUA

In diagnosing the Sable Island bird (Figure 1, 2), we consulted photographs, illustrations, and descriptions of the various species and subspecies of skuas by James (in Higgins and Davies 1996), Olsen and Larsson (1997), and Shirihai (2002), along with numerous web-posted photographs.

• Ageing

The reference taxa for the Sable Island skua were naturally Great and South Polar Skuas. At this time of year, a Great Skua born in 1995 would be at least almost one year old, whereas any southern-hemisphere skua could be considerably younger. The lack of pale feathering around the bill, the uniformly dark bill (some paleness apparently from light reflection), and the blackish rather than grayish or mottled tarsi indicate that it is a post-juvenile. No matter what the species, there are no indications that this individual was under one year of age. Beyond that, it is not possible to age this bird on present knowledge, although we suspect that this individual is not in the "definitive" plumage of an adult of any taxon, given its rather uniform dorsal plumage. The bird might therefore best be considered a subadult, an imprecise label but one suited to the uncertainties surrounding skua plumages (see comments based on molt below).

• Comparison with plumages of Great Skua

The lack of strongly rufous tones below or



Figure 2. Skua on Sable Island, Nova Scotia, 13 May 1996. Photograph by Zoe Lucas.

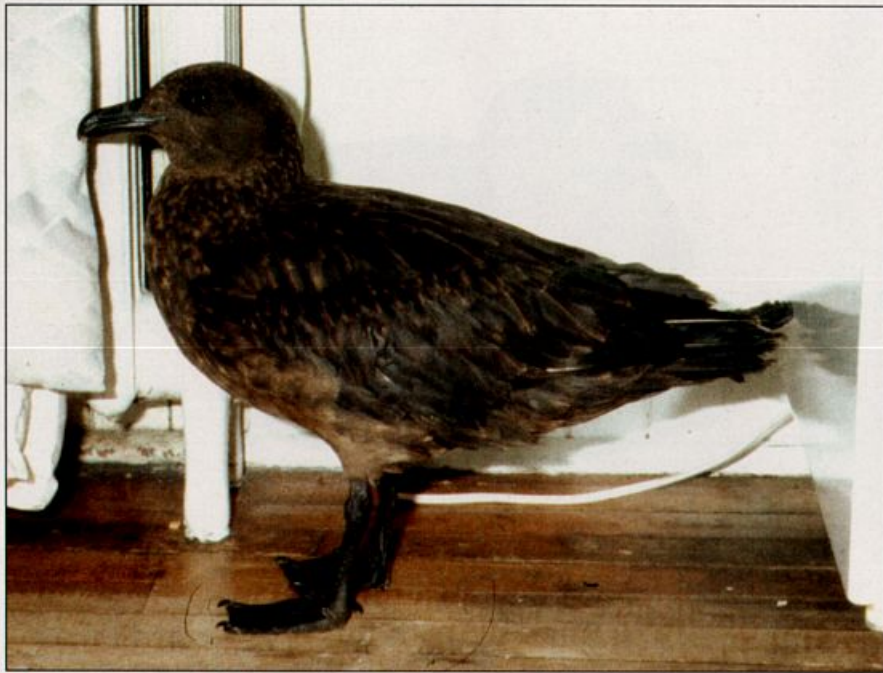


Figure 3. An apparent intermediate or pale/intermediate juvenile Great Skua, captured by Lucas on Sable Island, Nova Scotia, on 2 January 1995 and brought to the mainland for rehabilitation. Note the dark hood, tawny underparts, and pale rufous markings within covert feathers, all typical of juvenile Great Skuas (but see text). Photograph by I. McLaren.

in dorsal streaking and the lack of dark cap or strongly marked hood on the head is at variance with most Great Skua plumages at any age (e. g., Figure 3). However, the possibility of dark-morph Great Skua is important to consider. Bearhop et al. (1998) noted that some captive juveniles from Orkney in Scotland had "very dark, sooty plumage, with very little contrast between in tone between their head, neck and underparts, or between their wings and body," and that "some of the darker birds show[ed] virtually no rufous tones at all." In addition, the "the two-toned [bill] pattern became less evident as the juveniles became older and by February (ca. seven months) was hardly detectable on several birds." Votier et al. in a 2002 web-posted essay on the Scilly Islands Brown Skua (www.surfacebirds.com/members/Features/skua-identification.html) stated that dorsal feathers of "all of the juvenile Great Skuas that we have closely examined (probably 1500+ birds) show a rather distinctive internal pattern... although this may be restricted to the median and lesser coverts of the darkest birds, [consisting] of a series of complex fine pale speckles, usually just short of the tip of the feather." They further commented: "almost all all-dark sub-adult Great Skuas showed a small amount of paler, mid-brown edging to the greater coverts..." No such markings are evident in Lucas's photographs (Figure 4). Rather, there are narrow pale areas along shafts of some scapulars, ending in exposed quills on some worn ones, and what

appear to be, at most, very narrow paler margins on some fresh covert feathers.

The most telling evidence against Great Skua may be the condition of bird's plumage. What can be seen of the flight feathers (Figure 4) suggests that primaries, secondaries, and median coverts are moderately fresh, but some scapular and

lesser and greater covert feathers are variably ragged and others fresh. This indicates that the bird had only partially renewed its wing plumage, which would better fit a Southern Hemisphere schedule, although timing of molt is not fully understood, especially among subadult skuas. (Steve N. G. Howell [pers. comm.] conjectures that one very worn feather in the lesser coverts may be a retained juvenile feather, indicating three generations of coverts and suggesting that the bird is starting its second prebasic molt, in its third calendar year.) Typical Great Skuas observed in waters off Virginia, Maryland, and North Carolina in late February through April have all completed wing molt and show uniformly fresh remiges and coverts by late winter (J. B. Patteson, pers. comm.; Brinkley 1994).

• Comparison with plumages of Chilean and South Polar Skua

The markedly rufous Chilean Skua, which also almost always has a strong cap, has never been reported in the North Atlantic and is ruled out on plumage, at least on present knowledge. However, nonadult plumages of Brown Skua are more difficult to distinguish from darker plumages of South Polar Skua (particularly presumed subadults). The blackish-brown wings do resemble those of South Polar Skua, but there was no hint in the field (nor in the photographs) of the pale nape and fore-mantle generally found in intermediate



Figure 4. Wing area enlarged from Figure 1 and much brightened to highlight contrasting details. Note the apparently fresh primaries and secondaries, the mix of worn and fresh scapulars and coverts, the white, exposed shafts on some worn scapular feathers, and the lack of pale internal markings on fresh covert feathers. Photograph by Zoe Lucas.

(e.g., Figure 5) and dark-intermediate birds, and often in dark-morph individuals (photographs in Howell 2004). Also, the chestnut cast to the ventral plumage, with whitish fleckings and feather margins, are not characteristic of South Polar Skuas. A dark-morph South Polar Skua should show less apparent contrast between the blackish upperparts and paler underparts (e.g., Figure 3 in Howell 2004) than the Sable Island bird. Its apparent robustness, long, flat-crowned head, and large bill would also argue against South Polar Skua, and the tarsus, even from the angle shown in Figure 2, seems relatively longer than expected for that species.

• Comparison with plumages of Brown Skua

The remaining candidate species is Brown Skua, which the Sable Island bird resembles in both structure and plumage, especially nonadults, which can have little or none of the pale blotching usually found on mantle and wings of older birds (James, in Higgins and Davies 1996; cf. Figures 6, 7). The pale fringing of contour feathers is typical of *lonnbergi* Brown Skuas photographed in November–January on Antarctic breeding grounds (J. Brian Patteson, E. S. Brinkley, pers. comm.; Figure 8). The narrow, pale streaks around the exposed white shafts of scapulars and unmarked coverts comport with the *lonnbergi* illustrated by Olsen and Larsson (1997: Figures 14, 15). Its apparent bulk and long, flat head also suggest this largest subspecies. Nothing in the photographs is at variance with identification as Subantarctic Skua. In the photographs, the lack of pale-streaked neck or capped/hooded appearance, typical of *hamiltoni* and *antarcticus*, makes this bird less likely to be of those subspecies of Brown Skua, although much remains to be learned about SY plumages of these taxa.

Hybrid skuas must also be considered. The incidence of hybridization among southern skua taxa is said to be rather low (Parmelee 1988, Votier et al. 2004), but recent studies by Ritz et al. (2004) indicate widespread hybridization between *lonnbergi* and *maccormicki* between 61° 05' S, 55° 10' W and 64° 46' S, 64° 03' W—apparently a broader hybrid zone than known in the 1980s (Parmelee 1988). Based on a banding return of a *lonnbergi* x *maccormicki* hybrid from Brazil, Parmelee (1988) suggests that hybrids might tend to disperse farther north in the Atlantic Basin than do pure Brown Skuas. The only recovery of a known hybrid in the Atlantic Basin north of Brazil is one said to be a second-generation South Polar Skua x (South



Figure 5. This South Polar Skua (specimen 488, Zoology Museum, University of Western Ontario) is like others seen in Nova Scotia waters during summer. Scott (1959), who collected it off Lockeport, Nova Scotia on 7 June 1957, perceptively noted that its measurements were “less than the minima recorded for the ... Great Skua ...” (the ruler is 20 inches, or about 51 cm) and wondered if it could be one of the Southern Hemisphere forms. Its small bill, paler around its base, cold, brownish-gray underparts, and pale nuchal area are characteristic of a pale intermediate-morph, probably subadult, South Polar Skua. Photograph by Sarah Lee.

Polar x Chilean Skua) nestling banded 25 January 1997 at Station Jubany, Antarctic Peninsula, which was found dead at sea 1 October 2000 at the Flemish Cap, about 600 km east of St. John's, Newfoundland, some 12,264 km from the nest (Reinhardt et al. 1997, Köppen and Scheil 2001). The existence of *lonnbergi* x *maccormicki* hybrids poses a stumbling block for confirmation of Brown Skua in the western North Atlantic, at least for sight and photographic records such as the Sable Island individual. In the absence of measurements that would confirm Brown Skua—particularly tarsal length, which in large female *lonnbergi* is much greater than in other taxa—and in the absence of confirmatory genetic evidence, we must consider this record to be of an unidentified skua that resembles the known phenotypes of Brown Skua.

More needs to be learned about variations in skua plumages before Brown Skua can be definitively claimed from photographs taken in western North Atlantic waters. Two photographs of a bird on Sable Island, Nova Scotia, in May 1996 suggest that this species, and in particular the subspecies *lonnbergi*, may be occurring in the western North Atlantic. Observers of skuas, of any species, are encouraged to make extensive photographic records of their observations and to archive these with appropriate committees. Even variation in Great Skua plumages should be documented exhaustively. Any observer fortunate enough to find a skua on the beach, especially a tideline corpse or a live bird in condition suitable for rehabilita-

tion, should see that tissue or blood samples are secured from such birds for molecular-genetic determinations.

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Figures 6, 7. This large skua, tentatively identified as a juvenile Brown Skua, was observed off North Carolina's Oregon Inlet 29 May 1993. The tones of plumage were uniformly deep, warm brown with a ruddy cast in some parts (especially the coverts), very different from the colder tones and gray cast of juvenile South Polar Skua. The uniformity of color and freshness of plumage, as well as the shape of the remige tips, indicate a juvenile skua, but spring date rules out juvenile Great Skua and rules in a skua of the Southern Hemisphere. Its overall dimensions—particularly the heavy body, large, deep bill, and long legs—appeared too robust for South Polar Skua to the observers and perhaps even heavier than Great Skua, thought to be mostly a winter visitor to these waters. Other suspected Brown Skuas have been observed 1992–2001 in North Carolina waters, but none has been proved. Photograph by Michael O'Brien.

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Figure 8. Brown (Subantarctic) Skua (*S. a. lonnbergi*) at Grytviken, South Georgia Island, South Atlantic Ocean, 2 December 1995. South of Elephant Island and north of Palmer Station on the Antarctic Peninsula, Subantarctic Skua hybridizes with South Polar Skua. Some hybrids resemble Brown Skuas in the field, enough so that identification of vagrant Brown Skuas must rely on morphometric or molecular data, at least on present knowledge. Photograph by Edward S. Brinkley.