

THREE GEESE RESEMBLING “GRAY-BELLIED BRANT”/“LAWRENCE’S BRANT” FROM LONG ISLAND, NEW YORK

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ABSTRACT

Three oddly plumaged brant, intermediate in several respects between “Atlantic Brant” (*hrota*) and “Black Brant” (*nigricans*), were photographed and described on western Long Island, New York in 2002 (two in March, the third in October). Their plumage corresponded to that of the little-studied and apparently genetically distinctive population known among goose biologists as “Gray-bellied Brant,” which breeds only on a few islands in the western Canadian High Arctic, stages in migration in the inner Aleutians, and winters in a small portion of the Greater Puget Sound area. But Gray-bellied Brant also wander, having been found in winter as far from Puget Sound as Baja California in the west, and Iceland and the British Isles to the east—these strays presumably having migrated southwest with Pacific-wintering *nigricans* and southeast with Atlantic-wintering *hrota*, respectively.

Complicating the picture is that the type specimen of *nigricans*, a distinctive New Jersey specimen collected in 1846, also differs from “true” Pacific Coast Black Brant in several respects, in a manner qualitatively similar to the Long Island birds described herein. The appearance of the type, often referred to informally as “Lawrence’s Brant,” differs from typical Black Brant to such an extent that Delacour and Zimmer (1952) rejected application of *nigricans* to Pacific Black Brant, to which the name *orientalis* would have to be applied instead. Recent examination of museum specimens of breeding- and winter-area Gray-bellieds confirms that Lawrence’s Brant closely resembles some of them—as do these three Long Island birds. Whatever the ultimate statuses of Gray-bellied and Lawrence’s Brant prove to be—and however the relationships among them and the three currently recognized other taxa of brant eventually play out—birds resembling Gray-bellied/Lawrence’s are occurring on both Atlantic and Pacific coasts and perhaps also in interior North America, so knowledge of their plumage variation should now be factored into the identification of all oddly-plumaged or out-of-range brant, but especially of putative “*nigricans*” inland or on the Atlantic Coast.

INTRODUCTION

On 14 March 2002, at Jacob Riis Park on the Rockaways barrier beach separating Jamaica Bay from the Atlantic Ocean, S. S. Mitra and P. A. Buckley found an odd dark brant in a flock of 500 or so Atlantic-wintering Brant, *Branta bernicla hrota*—the European name for which is “Pale-bellied Brent Goose” (herein called “Atlantic Brant”). One week previous,

SSM had found another off-color Black Brant some 32 km east at Jones Inlet. Both appeared to be curiously lightish Black Brant, *B. b. nigricans*, but we suspected that both might actually be Gray-bellied Brant—a name first used by Canadian Wildlife Service biologists and now generally applied to a little-known population breeding in the western Canadian High Arctic and wintering mostly in Puget Sound (Washington and British Columbia). Detailed descriptions were taken of both individuals, but neither was photographed when found. However, on 16 March 2002, SSM and others relocated and photographed both. On 26 October, just one week before an article discussing the March birds was scheduled to begin layout, SSM and P. Lindsay found and photographed a third possible Gray-bellied Brant on Long Island—this one at Robert Moses State Park, near Fire Island Inlet, ca. 28 km east of Jones Inlet.

DESCRIPTIONS

Bird I—Point Lookout, Jones Inlet, Nassau County, Long Island, New York

7 March 2002—SSM notes: strikingly dark adult brant suggesting Black, but browner dorsally and ventrally than expected for that taxon. Back, lower breast, and belly wholly dark brown, slightly darker than back color of adjacent *hrota* but still obviously lighter than neck-stocking. Flanks stark white. Necklace huge, bold, complete ventrally, and almost complete dorsally. Below occiput, collar with only small gap in center of nape, but its end-points linked by less distinct, downward-pointing white V. Bird larger than many *hrota*, and conspicuously thick-necked.

16 March 2002: J. Fritz, G. Fritz, R. Kurtz, P. Lindsay, and SSM relocated and photographed this individual (Fig. 1) shortly after they had relocated and photographed Bird II (Fig. 2; see below).

17-23 March 2002: SSM observed the Pt. Lookout bird on three additional dates, in the company of numerous other observers, and under a variety of lighting circumstance. Thus, Bird I proved to be the only one of the three described here that was certainly seen by multiple observers, and it was photographed by several people over the week. In general, it was regarded as a “Black Brant” in informal conversation, but virtually all observers readily noted that its body plumage was brown, not blackish, and therefore contrasted markedly with its black neck stocking. SSM explicitly noted over this series of observations that the features whereby Bird I differed from a typical Black Brant were most obvious under good, indirect light, and least obvious (though nevertheless still discernable) under either direct, glaring light or very low light levels. Figures 1-3 accurately convey field impressions; in SSM’s opinion, Figure 1 particularly represents Bird I’s appearance in life under ideal viewing conditions.

Bird II—Jacob Riis Park, Gateway National Recreation Area, Queens County, Long Island, New York

14 March 2002—SSM notes: second adult, different from Pt. Lookout bird. Bold, ventrally complete necklace, bold white flanks, dark underparts extending through legs, and obvious contrast between stocking and both upper- and underparts. Upperpart color uniformly dark brown, darker than many *hrota* but very close to some *hrota* adults in fresh-looking plumage. Lower part of front of neck collar complete, but fine webbing above broken in center-front; in rear, collar broken, and two end-points, although curling farther around rear of the neck than in any *hrota*,

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not linked by downward-pointing V as in previous week's bird. Size slightly smaller (not slightly larger, as was last week's bird) than accompanying *hrota*; appeared short-legged but not particularly thick-necked, and showed straight head-bill profile. Flank patch contrasted well with dark underparts, but resembled *hrota*'s in rectangular shape, limited brownish crescents, and only moderately defined brown rearward border. Dark underparts extended through legs (but not much farther beyond) and faded out (became paler) toward white vent. Underpart color tone deep grayish-brown, similar to, but slightly paler than, dorsal color. Sharp contrast between black stocking and brown dorsal and ventral color.

14 March 2002—PAB notes: Adult dark brant in *hrota* flock. First thought very *nigricans*-like, but inspection suggested possible Gray-bellied Brant. Brown-backed, essentially similar to *hrota*; black stocking sharply and obviously separate from chest and back; complete, tall, white neck-ring ventrally, ending dorsally as two triangles pointing upward at about 45-degree angle but not quite meeting. Lower breast and belly dark, brownish-tan, showing only limited *hrota*-like horizontal scaling. Dark color extended to or slightly past legs where appeared to fade out (depending on angle of view) rather than ending abruptly as in typical Black Brant. Ventral dark color widest below stocking, then narrowing posteriorly when reaching legs. Lacked nominate *bernicla*'s smooth smoky-brown texture with pinkish tints, and the almost jet-black of typical Black Brant: a uniquely colored and patterned brant ventrally. Flanks with rectangular off-white patch having vertical barring strongest at rear and at front of whitish patch (which reached up to folded wings, where it brightened considerably). Flank patch broad and more or less rectangularly symmetrical—in sharp contrast to lobate flank patch of Black Brant (narrow anteriorly and flaring posteriorly to twice its anterior width, usually dipping downward toward legs). Patch not sharply set off from black belly and black back as in Black Brant, and shape very similar to those of adjacent *hrota*. Flat profile of head from skull crest through culmen to bill tip, not concave as in many (but not all) adjacent *hrota*. Noticeably smaller and shorter-legged than *hrota*; tail coverts either so long or tail so short that only very narrow black band visible at end of upper tail surface. At distance, not nearly as easy to pick out from *hrota* as typical Black Brant; one had to scan flock until suddenly “coming upon it.”

16 March 2002, Jacob Riis and Point Lookout—SSM notes: J. Fritz, G. Fritz, R. Kurtz, P. Lindsay, and SSM relocated and photographed this individual shortly before they relocated and photographed Bird I (see above). These observers confirmed that the Pt. Lookout bird was darker than the Rus Park bird, but nevertheless also showed clear contrast between black stocking and brown back and breast. They also agreed that the Riis Park bird showed a more extensive, rectangular white flank patch, and that its dark underparts extended less far to the rear and faded (lightened) much more markedly. Differences noted earlier regarding details of collar patterns and relative body size were confirmed.

Bird III—Robert Moses State Park, Suffolk County, Long Island, New York

26 October 2002—SSM notes: distinctive-looking adult brant, recognized among *hrota* by its grayish-brown ventral apron contrasting obviously with black upper breast and extending rearward between and slightly beyond legs; there, it faded and tapered to an obscure point (very different from the discrete and semicircular terminus of a Black Brant's apron), but was nevertheless visible from full rear views. Dorsal plumage was essentially identical in color to nearby *hrota* and slightly darker and browner than apron. As in nearby non-juvenile *hrota*, the back showed worn, rusty feathers interspersed among the fresh, brown feathers. Both dorsum and apron contrasted very obviously with black neck-stocking—

as much as *hrota* dorsum did. The white flank patch was roughly rectangular and did not narrow as dramatically to the front as in Black Brant, this feature—as well as the color tone of the back—was totally unlike Dark-bellied Brant. The neck collar was medium-bold for non-juvenile *hrota*, but not strikingly so; it was completely broken ventrally and did not curl far around the nape dorsally. The webbing on the sides of the neck collar was moderately tall. The head-bill profile was slightly concave and within the limits of variation showed by nearby *hrota*. This bird was obviously larger than several nearby *hrota*, and it appeared bulky, with a deep belly and an angle between the thick neck and the bulging breast (See Fig. 3 for a photo taken by SSM on 26 October 2002.)

“FRONTIERS OF FIELD IDENTIFICATION” POSTING AND RESPONSES

On 26 March 2002, we posted photographs and descriptions of Birds I and II on the “Frontiers Of Field Identification” <birdwg01@listserv.arizona.edu>, Will Russell's listserve. Unexpectedly few responses were forthcoming, but this was probably due to the almost complete lack of published information on and general knowledge of Gray-bellied Brant. Reactions of those experienced observers who did respond ranged from bewilderment (“What are those birds?”), to certainty (“I'd pass this by as just a Black Brant,” but also “A classic Gray-bellied Brant.”), and uncertainty (“I have never seen anything like that.”). These replies faithfully mirror the current lack of knowledge about Gray-bellied Brant but also an unanticipated problem: if extensive variation in “true” Black Brant adults exists, it has never been described in any field-identification context and in fact is barely touched upon in recent reviews (e.g., Palmer 1976, Reed et al. 1998).

BACKGROUND

Gray-bellied Brant breed only on the Parry Islands (Melville, Prince Patrick, and Borden) in the western Canadian High Arctic, winter principally in the Padilla Bay and Boundary Bay areas of Puget Sound, and in migration stage at Izembek Lagoon in Alaska. For a form with a very small population (recent estimates range from only 5000-7000 individuals), Gray-bellied Brant seem to wander more than expected, with banded or marked individuals having been recovered or seen as far afield as Baja California, Iceland, and the British Isles (Reed et al. 1998; A. Reed and H. Boyd, pers. comm.; details to be published elsewhere by those involved).

A very brief look at their mitochondrial DNA with a tiny sample (Shields 1990) concluded that Gray-bellied Brant were “morphologically distinct and genetically separated from other brant [...] [that] their mtDNA is unique, [and that] they have been reproductively isolated from Pacific Black Brant for 400,000 years.” The mtDNA of the single *hrota* examined in the same study was even more divergent, affirming Gray-bellied Brant's uniqueness, but larger samples of all brant populations/stocks are clearly needed for full confidence in any taxonomic conclusions.

Adding to the uncertainty is the fact that Gray-bellied Brant has never been formally described taxonomically as either subspecies or species. However, in 1846, when G. N. Lawrence originally described *nigricans* Black Brant, it was from a specimen taken on the Atlantic Coast, in New Jersey. Black Brant of any kind are vagrants in eastern North America, so this was a puzzling locus for the type of the quintessentially Pacific Ocean Black Brant. Western Hemisphere brant taxonomy was dormant until Delacour and Zimmer (1952) reexamined Lawrence's *nigricans* type, deciding that it was actually not a “true” Pacific Black Brant, for which the Russian name *orientalis*, already available in the literature, would now have to be applied. Delacour and Zimmer also predicted that Lawrence's

nigricans would prove to be an “almost extinct subspecies nesting farther south than the other [brant] and therefore easily destroyed,” although no such breeding grounds were known. However, most subsequent workers have not followed Delacour and Zimmer’s recommendations.

Matters rested again for 50 years until the uniqueness of Gray-bellied Brant was recognized, and eventually a few authors (Garner 1998, Garner and Millington 2001) began to speculate that perhaps Lawrence’s Brant was really Gray-bellied Brant. A major molecular study of the world’s brant involving biologists from Europe and North America has recently begun, but will not be concluded for some years (S. Talbot, U.S. Geological Survey, pers. comm.). While this study is directed at the harvesting and management of the world’s brant “stocks,” its results will nonetheless be welcomed by taxonomists, although it will be some time before uniform systematic conclusions are widely adopted.

David Sibley’s (2000) splendid guide illustrates what he calls a “stable intermediate population” of brant [that is, intermediate between Black Brant and Atlantic Brant] breeding on Melville Island and describes “intergrades” between Black and Atlantic as closely resembling Melville Island birds. Despite their tendency to associate with locally wintering *hrota* and *nigricans*, mixed pairs or hybrid young involving these vagrants have never been demonstrated in North America—nor have mixed pairs or hybrid young between *hrota* and *nigricans*, widespread belief to the contrary. In fact, the “intergrades” Sibley depicts are actually much closer to the nominate Eurasian form (*Branta bernicla bernicla*), known as Dark-bellied Brant or “Dark-bellied Brent Geese,” than to Gray-bellied. Worldwide, there is increasing awareness that documented hybridization and/or introgression between any brant populations or taxa is rare—perhaps only involving the occasional mixed pair of Black x Dark-bellied in western Siberia or mixed family groups of these same forms on *bernicla*’s European wintering grounds (Berrevoets and Erkman 1993, Bakker and Ebels 2002, Buckley et al., in ms.). However, despite some published statements and popular belief to the contrary—and a wealth of time and effort focused in this direction—we are aware of no firm evidence for breeding or wintering *hrota/nigricans* mixed pairs or hybrid young, even though several circumstances render such hybridization theoretically likely (e.g., vagrancy of each to the other’s wintering areas, pair formation among geese occurring on wintering grounds, and tendencies among waterfowl to hybridize). Syroechkovski et al. (1998) claimed to have found an area in Siberia where *bernicla* and *nigricans* were interbreeding. Their paper generated a very strong rebuttal by Sangster (2000), who pointed out many problems with the 1998 paper, chief among them that the very identification of some or all birds called *nigricans* was, after examination of published photos, in doubt if not in error, and that all birds may actually have been *bernicla*. In their response, Zöchler et al. (2000) countered that *nigricans* had indeed been correctly identified, and moreover, that birds from the area of sympatry were known from ringing recoveries to belong to two populations, one going to the Netherlands (thus presumably *bernicla*) and the other to the west coast of the United States (thus presumably *nigricans/orientalis*). The question still seems to be open.

IDENTIFICATION OF GRAY-BELLIED BRANT

In connection with other work on brant, the authors had previously examined the extensive brant collections at the Museum of Comparative Zoology, the American Museum of Natural History (including Lawrence’s type of “*nigricans*”), and the Canadian Museum of Nature (National Museum of Canada) in Hull; the latter probably holds the world’s largest collection of breeding-ground Gray-bellied Brant skins.

What do Gray-bellied Brant look like? If one were to summarize what is known of their plumage, one might describe them as roughly interme-

diating between Black and Atlantic Brant: i.e., showing conspicuous white flank patches (unlike Dark-bellied Brant); brownish or dark grayish lower breasts and bellies (darker and more extensive than Atlantic, but lighter and less extensive than Black); more obvious contrast between neck stocking and lower breast than Black Brant; and a tendency for dark scaling on the upper breast and flanks (like Atlantic, but unlike Black). Belly color ranges from dark gray to almost as dark as Black Brant (but never as light as *hrota*), and it variably ends before, at, or after the leg insertion point, although on specimens, skin make can obscure this. *Nigricans*’ dark belly always (?) ends well past the legs and usually sharply, while that of Gray-bellied appears more to feather or taper into white posteriorly. Neck collar in adult Gray-bellied Brant may be the most variable of any brant population, ranging from interrupted as in *hrota*, through partially connected (usually at the bottom) as in occasional *hrota* and some *nigricans*, to fully connected top and bottom as in most *nigricans*. Moreover, both Gray-bellied Brant and *nigricans* can show extremely tall neck collars, but this may result from alert postures in living birds or skin make in specimens.

We are aware of only two published papers with color photographs of apparent Gray-bellied Brant, both from wintering grounds. The first (Garner 1998) depicted a presumed Gray-bellied Brant from Northern Ireland. The second (Garner and Millington 2001) presents additional (but overly gray) photos of Gray-bellied Brant wintering in Northern Ireland and in Puget Sound. Both papers should be consulted for their excellent photographs, but in essence their brant resemble the three Long Island birds quite well.

The primary obstacle to easy identification of Gray-bellied Brant is that both Canadian Arctic breeders and Puget Sound winterers have been described as exceptionally variable in plumage, some approaching *hrota* and some *nigricans* (Figs. 4-5). At present, identification of extremely light individuals (if these are in fact genetically Gray-bellied Brant, and not just vagrant *hrota*) is controversial. Furthermore, although dark individuals have been regarded as distinguishable from “true” Pacific Black Brant (adults of which appear very dark, even blackish, both dorsally and ventrally, and show very little contrast between black neck stocking and dark back and breast), a second source of difficulty could involve unappreciated (and undescribed) plumage variation among the Black Brant.

What does Lawrence’s Brant look like? It has apparently never been accurately illustrated, but basically it is a palish Black Brant with a strong stocking/chest contrast, complete collar ventrally, and a grayish-brown, not black, belly with wide, horizontal scaling similar to *hrota* (Figs. 6-7). To date, no one besides Lawrence has claimed any additional specimens matching the type. [Originally, there were three in his collection, two from southern New Jersey in the 1840s and a third from Virginia in 1888, through the early 1950s, all three were in the AMNH (Delacour and Zimmer 1952). Subsequently, the one from Virginia was discarded or lost, and the other New Jersey specimen has recently been re-identified (Buckley et al., in ms.).] Nonetheless, there do exist adult brant specimens labeled *nigricans* that show lighter (= browner) dorsal and ventral plumage, hence a bit more contrast with the stocking. Of six specimens of this general appearance in the AMNH, one was collected in winter at Puget Sound, three were collected in summer in the northwestern Canadian Arctic, and one is Lawrence’s type. Thus, it seems more than possible that these specimens all come from the same population—that which is known today as Gray-bellied Brant but which in fact may represent the long-lost Lawrence’s Brant breeding population. If this is so, then “true” Black Brant adults should seldom if ever show conspicuously brown dorsal and ventral plumage in obvious contrast to the black stocking. Clearly, more investigation of this character is required

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Is Lawrence's Brant actually Gray-bellied Brant? It is uncertain at this time, but Lawrence's shows no morphological features outside the known range of Gray-bellied Brant, and matches no other known/described brant. There are plans to extract mtDNA from Lawrence's type in order to determine its most likely identity: (a) Gray-bellied Brant; (b) Pacific Black Brant; (c) Pacific Black/Atlantic Brant hybrid; or (d) unique. Perhaps the most interesting outcome would be that Lawrence's Brant matches no known brant population, raising the fascinating possibility of still another distinctive brant from unknown breeding grounds—as originally suggested by Delacour and Zimmer (1952). Time will tell.

It also must be said that we are by no means implying that Lawrence's Brant represents a "typical" Gray-bellied Brant (assuming it proves to be Gray-bellied Brant). Rather, it appears at this stage in our knowledge that Lawrence's Brant fits well into the spectrum of variation in known Gray-bellied Brant from their breeding grounds, and that Lawrence's Brant and Gray-bellied Brant both match several recent odd brant from western Long Island. Additional information on variation in Gray-bellied Brant is shown well in Garner and Millington (2001), but the full extent of Gray-bellied Brant's morphological limits remains to be described. A related issue is how often "true" Pacific Black Brant (*nigricans* in current taxonomy) actually occur on the Atlantic Coast, and how often Atlantic Brant (*hrota*) occur on the Pacific Coast. Although "Black Brant" are seen annually from Massachusetts to New Jersey at least and have been photographed several times, a number of older specimens have vanished (e.g., Griscom 1923, Murray 1952, Griscom and Snyder 1955), and so as far as known, there were no longer any extant specimens of eastern "Black Brant" available for taxonomic determination. Recently however, PAB located a completely typical adult female Black Brant in the MCZ, taken 23 December 1981, Chatham, Cape Cod (MCZ # 331371), whose existence as an extant skin has apparently never previously been published. As far as we know, this is the only extant Atlantic Coast specimen closely resembling a typical Black Brant. Recently, other observers have been scrutinizing brant on Long Island, and some have located additional "odd brant" (i.e., not *hrota* but unnamed) as well as Black Brant. While it is most likely that these are indeed not *hrota*, some may be *nigricans*, others may resemble Gray-bellied Brant, and still others could plausibly refer to *bernicla*—so it is inapt for us to discuss them here. Without evidence of mixed pairings and without mtDNA information, identification of many such brant has been likewise problematic, but it would be inappropriate to presume "atypical" birds to be hybrids.

While the Fifth A. O. U. *Check-list* (1957) does not record *hrota*'s presence on the Pacific Coast, Palmer (1976) notes its occurrence in California, Washington, and British Columbia, "including a number of captures, flock of 5 seen, small groups, etc." However, many earlier (and perhaps recent) records are clouded by confusion with Gray-bellied Brant, as there are more than a few reports of "intermediates"—notably from Puget Sound (Palmer 1976). Brant of any type are rare in interior North America and so tend to be examined closely when found. Both *hrota* and *nigricans* are reported in *North American Birds* annually (usually singly) from interior provinces and states, although it would be useful to revisit any records supported by skins or photographs. As to any presumed interior Gray-bellied Brant, we are aware of only two at present: Jasper, Alberta, 18 October 1959, described as an "intermediate" brant (Salt 1961) although the description matches Gray-bellied (pictures were taken but we do not know if they are extant); and 6-12 November 2001, Kamloops, British Columbia (Cecile 2002), apparently not photographed. Thus, although Atlantic Coast, Pacific Coast, and interior observers will all have several brant taxa/populations to con-



Figure 1. Bird I. Apparent adult Gray-bellied/Lawrence's Brant, Jones Inlet, Point Lookout, Nassau County, Long Island, New York, 16 March 2002. Digiscoped photograph by S.S. Mitra.



Figure 2. Bird II Apparent adult Gray-bellied/Lawrence's Brant, Jacob Riis Park, Queens County, Long Island, New York, 16 March 2002. Digiscoped photograph by S.S. Mitra.

tend with, as familiarity with Gray-bellied is gained, the true migratory, wintering, and vagrant status of all North American brant taxa should slowly become apparent.

CONCLUSIONS

At present, the identification of out-of-range brant anywhere in North America is complicated by at least three serious deficiencies: (1) the limits of variation in Atlantic and Black Brant plumages are poorly documented—especially in the published literature; (2) an enormous disparity exists between, on the one hand, field observers' informal perceptions regarding the frequency and likely appearance of hybrids between Atlantic and Black Brant, and, on the other, the absence of published, documented examples of such hybridization; and (3) the status and appearance of Gray-bellied Brant remain imperfectly known.

Absent mtDNA data, we cannot absolutely dismiss the possibility that our three birds are *hrota/nigricans* hybrids. But because of the absence of proven hybridization between *hrota* and *nigricans* and of mixed pairs on



Figure 3. Bird III. Apparent adult Gray-bellied/Lawrence's Brant (left front), Robert Moses State Park, Suffolk County, Long Island, New York, 26 October 2002. Photograph by S.S. Mitra.



Figure 4.



Figure 5.

Figures 4-5. Variation in breeding female Gray-bellied Brant (with brood patches) in June—July 1949 from Prince Patrick Island, Nunavut, Canada (CMN collections). Note complete neck-rings ventrally. Photographs by P. A. Buckley.

North American wintering grounds involving *hrota*, *nigricans*, or Gray-bellied Brant, hybrid origin must be deemed unlikely. Moreover, the plumages of the three Long Island birds are also outside those of *hrota* and *nigricans* in our own experience, but *do* fall within that described for Gray-bellied Brant, while at least two of our three brant also match Lawrence's type very well.

In addition, with much Internet talk about "intergrade" brant, it is of interest that those few offspring of mixed *bernicle* x *nigricans* pairs recently photographed in Europe (Berrevoets and Erkman 1993, Bloomfield and McCallum 2001, Martin 2002) are quite different from the brant we describe here, and thus can also be confidently removed from identification consideration.

Thus, at least for now, identities of the Long Island birds must be evaluated in the context of an absence of significant documented color variation among undoubted adult Black Brant, an absence of documented hybrids between Black and Atlantic Brant, and a relatively high level of

variability described among Gray-bellied Brant. Given these caveats, PAB and SSM believe that the three geese described above most closely resemble Gray-bellied Brant. Certainly each of these three birds differs from the others in appearance, but all three share a suite of qualitative characters distinguishing them from Atlantic, Black, and Dark-bellied Brant. Birds II and III in particular appear to approximate the Gray-bellied Brant "plumage center of gravity" by virtue of:

- lighter absolute color values of their dorsal and ventral plumage (both closely resembling the dorsal color of adjacent *hrota*);
- correspondingly starker contrast of these areas to the stocking;
- more rectangular (anteriorly extensive) white flank patch;
- less posteriorly extensive dark ventral plumage, reaching only as far back as the point below the rear edge of the flank patch; and
- less uniform ventral pigmentation, patterned with crescents near the stocking and lightening in intensity posteriorly.

Moreover, whatever Lawrence's Brant ultimately proves to be, two of

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Figure 6.



Figure 7.

Figures 6-7. Type of "*Branta nigricans*," Lawrence's Brant, Egg Harbor, New Jersey, January 1846 (AMNH) collections. Photographs by P. A. Buckley.

the three Long Island birds resemble it rather closely and differ from typical Black Brant exactly in the manner described by Delacour and Zimmer (1952). Thus it would seem that either these Long Island brant or Lawrence's Brant might represent the first documented Gray-bellied Brant on the Atlantic Coast. Given that known Gray-bellied Brant have been recovered from Baja California, they must also be occurring along the Pacific Coast of the United States south of Puget Sound, even though we are aware of no reports. Irrespective of Gray-bellied Brant's ultimate taxonomic status (species, subspecies, or hybrid swarm), given its intermediate and variable plumage and its demonstrated penchant for vagrancy, observers would do well to pay particularly close attention to any "odd" brant, particularly those appearing intermediate between Black and Atlantic Brant, and—especially inland or along the Atlantic Coast—to all vagrant "*nigricans*."

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