

Several small "blue geese" were seen this winter, suggesting that either blue Snows are crossing Ross' or more outrageous that the Ross' actually has a blue morph. Ah, the obvious things we've never noticed.

— Rich Stallcup and Jon Winter, 1976

Pinning Down the Blue Ross'

THE EDITORS

Indeed, the idea seemed outrageous. Waterfowl perennially have been among the most heavily studied of birds, and the Snow Goose complex in North America had received at least its full share of attention. True, the unsuspecting birdwatching public had taken a jolt with the overdue lumping (A.O.U. 1973) of the "Blue Goose" and "Snow Goose;" but with this taxonomic move accomplished, the situation seemed rather clearly defined:

The most numerous form, the Lesser Snow Goose *Chen c. caerulescens*, nested from northeastern Siberia to north-central Canada and wintered mainly from the Pacific states to the Gulf of Mexico, with an outpost on Chesapeake Bay; it had two color phases, one white with black wingtips and the other (often called "Blue Goose") dark with a white head and upper neck. A larger subspecies, the Greater Snow Goose *C. c. atlantica*, nested in the northeastern Canadian Arctic and wintered mainly in the middle Atlantic states; it had no blue phase, being always white. And there was a scarcer smaller species, Ross' Goose *C. rossii*, breeding in north-central Canada and wintering in central California and locally east to the Gulf of Mexico; it too was always of the white-with-black-wingtips type.

Admittedly, there had already been a few breaks in this neat pattern. Beginning in the early 1960's, hybrids between Ross' and white Lesser Snow Geese had been detected in migration and then on the breeding grounds (Trauger *et al.* 1971). More surprisingly, two birds that were evidently blue phase Greater Snow Geese were collected in Canada in 1973 (Palmer 1976). But in 1976, the suggestion of a blue phase in Ross' Geese seemed totally new and bizarre.

However, at the same time that Stallcup and the other California birders first noticed these "pint-sized Blue Geese," a few professional waterfowl biologists were also beginning to close in on the blue Ross'. Results of their study have just been

published, in the July 1979 number of *The Auk* (McLandress and McLandress 1979). These researchers confirmed the existence, in the wild, of two more elements in this complex: blue phase Ross' Geese, and blue phase hybrids between Ross' and Lesser Snow Geese.

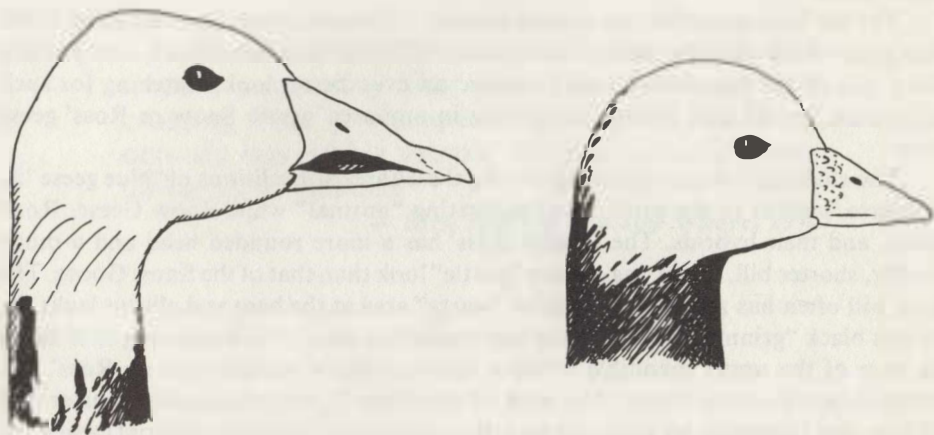
For the field observer, this is news indeed. Although certain identification of the blue phase Ross' may be possible only under ideal viewing conditions, and pinning down one of the blue hybrids may require an even better look, watching for such individuals should add interest to birding in any area where Snow or Ross' geese occur.

The challenge of distinguishing among these three size editions of "blue geese" is, of course, similar to the problem of separating "normal" white Snow Geese, Ross' Geese, and their hybrids. The smaller Ross' has a more rounded head and a much smaller, shorter bill, imparting a more "gentle" look than that of the Snow Goose. The Ross' bill often has a grayish bumpy or "warty" area at the base and always lacks the Snow's black "grinning patch" where the mandibles meet. The feathering that meets the base of the upper mandible forms a nearly-straight vertical line on Ross', but curves forward on the Snow. The neck of the Ross' is proportionately shorter and thicker; and (although we have not seen this mentioned anywhere in print) when the two species are seen standing or walking on land, the tail of the Ross' appears proportionately a bit longer.

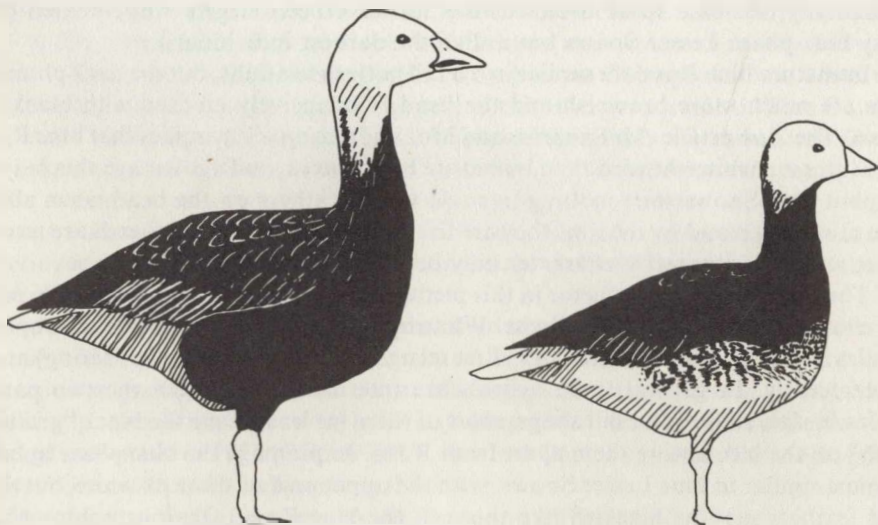
These characters will be equally useful in identifying Ross' of the blue phase. Interestingly enough, according to the paper in the *Auk* (McLandress and McLandress *op. cit.*), there are also plumage characters which may help to distinguish blue Ross' from blue Lesser Snow Geese. Blue Ross' evidently have the neck and back feathers darker, more blackish, than those of blue Snows. The head/neck pattern may be a better field mark: whereas blue-phase Lesser Snows typically have the upper half of the neck whitish like the head, the blue Ross' observed so far have had the neck entirely dark, with blackish feathers extending up to the base of the throat and the rear part of the crown. If this pattern proves to be consistent, it might be the best single character to watch for when seeking blue Ross' among large flocks of geese. Incidentally, the blue Ross' detected thus far have been largely white-bellied (like many blue-phase Lesser Snows but unlike the darkest individuals).

Immature blue Ross' are similar in overall pattern to adults, but the dark plumage areas are much more brownish and the head is extensively mottled with blackish-brown. The *Auk* article (McLandress and McLandress *op. cit.*) implies that blue Ross' immatures are whiter-headed than immature blue Snows, and age for age this may be true, but blue Snows start molting in some white feathers on the head when about three months old and by the time they are five to six months old their heads are mostly white; so this comparative character may be of dubious value for field use.

The real complicating factor in this picture, of course, is the existence of *hybrids* between Ross' and Lesser Snow geese. White hybrids have been known for a couple of decades, but blue-phase hybrids were first recognized (or first began appearing) much more recently. In general these hybrids are intermediate between the two parent species in size, shape, and bill shape; most of them (at least) have the black "grinning patch" on the bill, setting them apart from Ross'. In plumage the blue phase hybrids are most similar to blue Lesser Snows, with the upper part of the neck white, but their back feathers may be blackish like those of the blue Ross'. Obviously, blue phase hybrids (like blue Ross') should be identified with extreme caution, and preferably only when other geese of known species are nearby for comparison.



Artist's conception: Distinctions between blue phase Snow Goose (left) and Ross' Goose (right).



Taking the subject a step further, the *real* complicating factor — are you ready to absorb this? — is that the Ross' X Lesser Snow hybrids are fertile, and they may mate with other hybrids or with individuals of either of the two parent species, producing more variations on intermediacy. The offspring of a Ross' X hybrid pair are apt to look a lot like Ross', and only the most critical examination is likely to reveal the differences. Realization of this fact should make the field observer suitably cautious (if not actually discouraged!).

But it is not our purpose to be discouraging. On the contrary, we want to encourage field observers to tackle the challenge presented by this complex of species and color morphs of geese. By way of encouragement, we hereby offer a "reward:" For the first publishable photograph (or, preferably, series of photographs) received of a wild blue-phase Ross' Goose, we will pay a reward of \$100 in addition to our usual honorarium of \$7 per photo; the only stipulation is that the photographs not be offered for publication elsewhere. Since photography and driving are both increasingly expensive activities, of course, no one who goes out looking for blue Ross' is likely to turn a great profit on this \$100 reward. Nevertheless, we hope that the contest concept (though perhaps not the chance of the monetary reward itself) will add to the incentive for prospective searchers.

Now that the blue phase Ross' has a price on its head, potential "bounty hunting" photographers will want to know where the bird is likely to be found. To our knowledge, all of the definite and probable blue Ross' detected so far have been on the wintering grounds in California or along the migration route in the Canadian prairie provinces. However, Ross' (of the "normal" white phase) also migrate in numbers through the Great Plains to winter on the Gulf coast in Texas and Louisiana, and Snow X Ross' hybrids have been found on this route as well; it seems possible that blue Ross' might occur here also, overlooked among the huge numbers of blue phase Lesser Snow Geese. For that matter, Ross' Geese have even been recorded as accidentals on the Atlantic seaboard . . . and, while there are overwhelming odds against the occurrence of a blue phase bird there, such an event is perhaps not totally impossible.

LITERATURE CITED

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