Two probable hybrid gulls from New Jersey.—Although some sympatric species of gulls are similar in size and plumage, there are few reports of naturally occurring hybrids. The scarcity of known hybrids probably indicates the existence of effective isolating mechanisms, but it may also indicate that hybrids between many similar forms are undetectable. For example, plumages of immature gulls are highly variable, and this variation might be sufficient to mask evidences of hybridization. Indeed, even some adult hybrids (e.g., *Larus argentatus* × *L. thayeri*) might be unrecognizable. We follow N. G. Smith (in press) in treating *L. thayeri* as a full species.

We recognize the difficulty in identifying unusually plumaged gulls, but we wish to call attention to two specimens which we think are hybrids. Both have been compared with specimens in the American Museum of Natural History, The University of Michigan Museum of Zoology, and the Cornell University bird collection, and one (AMNH no. 468816) with specimens in the collection of the Chicago Natural History Museum. They are unmatched by any of the specimens in these collections.

AMNH no. 781670: on 13 March 1963, at a pig farm in West Trenton, Mercer County, New Jersey, Frohling observed an unusual gull in a flock of 1,000 Herring (*L. argentatus*), 4 Glaucous (*L. hyperboreus*), and 12 Iceland (*L. glaucoides*) gulls. This gull was noticeably larger and paler than any of the Herring Gulls in the area, but darker than the Glaucous Gulls. It was shot the next day.

Description.—Like a large, third-winter Herring Gull, but the primaries and tail are brown, and the mantle is much paler gray. Measurements are: culmen, 53 mm; wing (arc), 452 mm; tarsus, 69 mm; bill (depth at base), 19.9 mm; bill (depth at gonys), 20.7 mm. Other characters: male; basal two-thirds of bill light grayish, distal one-third blackish; iris, brownish black; legs and feet, gray with pinkish tinge; head, neck, and body, white with dark tan flecking on hind neck; chest and belly, tinged with buff; outer five primaries Clove Brown on outer vanes; inner vanes paler, with extensive "tongues" of white on primaries 6 to 9; trace of mirror on outer vane of primary 10; shafts of primaries light buff; outer vanes of secondaries Hair Brown, inner vanes paler; remainder of wing largely whitish, but some tan and gray coverts present; distal portion of tail brown, slightly lighter than outer vane of primaries, basal portion white, mid-section speckled; mantle, Pallid Neutral Gray as in *L. hyperboreus*, and much lighter than in *L. argentatus*; scapulars flecked with tan. Capitalized color names follow Ridgway (*Color standards and color nomenclature*, 1912).

Comments.—In pattern the specimen is much like *L. argentatus*, but the large size, pale mantle, "washed out" primaries and tail, and general light appearance suggest hybridization with *L. hyperboreus*. The iris was dark, much more similar to that of young *hyperboreus* (brown) than to that of young *argentatus* (grayish). We think the specimen almost certainly represents a Glaucous × Herring Gull hybrid. All dimensions except those of the culmen are intermediate between those of the inferred parental species (Table 1).

AMNH no. 468816: a large white-winged gull, first seen by Jehl, L. S. Hilton, and F. P. Wolfarth on 19 January 1958, was shot by Jehl from a flock of Herring Gulls at a garbage dump in Rutherford, Bergen County, New Jersey, on 9 February 1958. In life the bird appeared to be an abnormally colored Glaucous Gull. In characteristic *L. hyperboreus* fashion, it frequently robbed Herring Gulls of choice bits of refuse, and easily dominated them in all observed encounters.

Description.—Resembles a second-winter Glaucous Gull, but has brown primaries and tail. Measurements are: culmen, 54 mm; wing (arc), 440 mm; tarsus, 73 mm;

TABLE 1
MEASUREMENTS OF MALE GULLS
(FROM DWIGHT, 1925)

	Glaucous Gull (11)	*Herring Gull (19)*	*Thayer's Gull (12)*	*AMNH 781670*	*AMNH 468816*
Wing	435–477(459.1)	405–460(435.0)	410–430(418.3)	452	440
Tail	180–210(196.6)	151–190(175.2)	163–175(168.8)	189	184
Tarsus	60–77(72.6)	60–74(67.8)	62–68(63.8)	69	73
Culmen	57–67(62.7)	49–62(57.0)	49–57(52.2)	53	54
Bill (base)	20–24(21.8)	17–22.5(19.5)	16.5–20(18.5)	19.9	19.0
Bill (angle)	21–25(22.4)	18–22(20.3)	16.5–20(18.1)	20.7	18.9

tail, 184 mm; bill (depth at base), 19.0 mm; bill (depth at gonys), 18.9 mm; male, testes 8 × 4 mm; excessively fat, weight 1,730 g. The bill coloration is typical of immature *L. hyperboreus*, with the basal two-thirds pink and the distal one-third black; legs, bright pink; iris, gray; orbital ring, colorless; head, neck, and body, white, with scant tan flecking on hind neck; buffy wash on belly; wings, largely white except for outermost five primaries and their coverts, which are Hair Brown; inner vanes of dark primaries paler; "tongue" of white present on inner vane of primaries 6 and 7; no mirrors present; shafts of primaries tan; tail, Hair Brown except for basal one-third, which is whitish; mantle, mainly white—the few gray feathers present are Pallid Neutral Gray, perhaps slightly darker than in most specimens of *L. hyperboreus*.

Comments.—Although this specimen might be taken for an oddly plumaged Glaucous Gull, we think that it is not a member of that species. In all dimensions it is smaller than the mean for *L. hyperboreus* males (Table 1). Wing, tail, and tarsal measurements fall in the zone of overlap between *argentatus* and *hyperboreus*. The weight, 1,730 g, is more than 300 g heavier than any male *argentatus* in The University of Michigan collection. The bill dimensions are below the minimum for *L. hyperboreus*, and are also below the mean for *L. argentatus*.

The peculiar color of the primaries and tail is not found in any plumage of *hyperboreus*, or even of *L. glaucescens*, and we know of no dark-winged species in which this color appears in any plumage. Wing and tail patterns appear to be dilute versions of those found in *argentatus* of comparable age. As noted, the shafts of the primaries are tan, not creamy white as in *hyperboreus*, or dark brown (nearly black) as in young *argentatus*. In our opinion, the bird is best regarded as a hybrid Glaucous × Herring Gull.

Discussion.—Both of the presumed hybrids show clear evidence of *hyperboreus* influence, and we suggest that this species was the lighter parent. The identity of the darker parent is less clear. Dark-primaried gulls sympatric with the Glaucous Gull in eastern North America, the most probable area of origin of these hybrids, are the Great Black-backed (*L. marinus*), Herring, and Thayer's gulls. The Great Black-backed Gull is excluded from consideration because the hybrids are smaller than the Glaucous Gull, and because they do not match Lönnberg's (*Arkiv f. Zoologie*, 12: 1–22, 1919) description of a known *marinus* × *hyperboreus* cross. It is not possible to determine which of the other two species might have been involved in the supposed hybridization, because size and plumage differences between them are slight (the complete sequence of plumages in *thayeri* has never been described; we assume it parallels that of *argentatus*). Neither of these species can be eliminated on ecological grounds; their nest site requirements differ, but they are overlapped

by those of *hyperboreus*. However, it seems reasonable to suggest *argentatus* as the dark-winged parent. The colors of the orbital rings in *hyperboreus* and *argentatus* are similar, and much different from that of *thayeri*; Smith (*op. cit.*) has shown that the color of the orbital ring may act as an isolating mechanism in these gulls. Moreover, the Herring Gull appears to be extending its range northward. Those individuals on the edge of the range might mate more readily with a different species than those well within the range. Well developed isolating mechanisms may not evolve until after the establishment of sympatry.

The only previous report of a *hyperboreus* × *argentatus* cross known to us is from Bear Island (74°N lat., 19°E long.), where Bertram and Lack (*Ibis*, ser. 13, 3: 297, 1933) saw a bird thought to be a hybrid and found a mixed Glaucous-Herring Gull pair defending a nest and chick. Dwight (*Bull. Amer. Mus. Nat. Hist.*, 50: 249–250, 1925) considered "Nelson's Gull" a hybrid of *hyperboreus* and *L. argentatus vegae*. The few known specimens are all adult birds.

We thank D. Amadon, E. Eisenmann, B. G. Murray, Jr., A. L. Rand, N. G. Smith, R. W. Storer, and H. B. Tordoff for their assistance in the preparation of this note.—Joseph R. Jehl, Jr., *The University of Michigan Museum of Zoology, Ann Arbor, Michigan,* and Robert C. Frohling, *Belle Mead, New Jersey.*

Natal plumage characters in rails.—The downy young of the Clapper Rail (*Rallus longirostris*), King Rail (*Rallus elegans*), and Virginia Rail (*Rallus limicola*) are described as totally black in all literature examined by us. Wetherbee (*Bird-Banding*, 32: 141–159, 1961) noted that some neonates of Virginia Rail from Storrs, Connecticut, had patches of white down below the wings. "Neonatal" pertains to the developmental condition or characters at hatching distinct from the much abused term "natal" which in ornithology pertains to the condition or characters from hatching to acquisition of teleoptile plumage. The presence of similar patches of white down was observed by us in the Clapper Rails at Chincoteague, Virginia (Figure 1). An examination of many hundreds of specimens from the ranges of most of the subspecies of Clapper Rails, including the strongly contrasting *R. longirostris saturatus* from Louisiana, revealed the almost invariable presence of at least 1 and sometimes as many as 30 white neossoptiles in the anterior abdominal regions of the ventral pterylae. Conversely, no King Rail neonate examined by us has shown a white neossoptile.

Beyond the diagnostic significance of this observation, certain parallels in the genetics of black color of neonatal down in breeds of domestic chickens (*Gallus domesticus*) suggest the possibility of approaching the systematics of rails at a fundamental gene level. R. C. Punnett (*Heredity in poultry*, London, Macmillan and Co., 1923; see p. 136) and E. Kimball (*Poultry Science*, 33: 472–481, 1954) describe this inheritance in chickens. In homozygous blackish varieties of chickens, chicks with some white in the neonatal down become all black at maturity and chicks with no white in the neonatal down become "broken" in color of plumage at maturity. Phaeomelanin (red brown) genes can be expressed in the later ontogeny of solid black chicks, but phaeomelanin genes are cryptomeric in the later ontogeny of white-spotted black chicks: i.e., the extension factor (*E*) in chickens is epistatic to most other plumage color genes.

Should a similarity in the gene for extended black pigment (*E*) exist between *Rallus* and *Gallus* the taxonomy of the Clapper Rail–King Rail complex might ultimately be reduced to genetics. The bitypic King Rail, the larger, freshwater marsh,