Field identification of Thayer's Gull (*Larus thayeri*) in eastern North America.

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" . . . one must check all the field marks to build a case for positive identification . . ."

Thayer's Gull (*Larus thayeri*) breeds in arctic Canada and locally in northwest Greenland and winters on the Pacific Coast of North America, mainly from southern British Columbia to California (Godfrey, 1966). However it also can be encountered in winter throughout eastern subarctic North America, as occurrences are attested by no fewer than thirteen specimens. Six of them were secured in the Niagara Frontier Region: single first-winter birds of undetermined sex on February 4, 1945 and December 24, 1957, a second-winter female on December 17, 1967, single adult females on December 11 and 17, 1967 (Andrle, 1969) and one adult female on December 21, 1968 (Bull, 1974). One was taken at Kentucky Dam on December 15, 1967 (W. E. Godfrey, personal communication) and six in the Ottawa Region in 1974: five first year birds and one adult between October 3 and November 22 (Goodwin, 1975). Other earlier specimens coming from scattered localities undoubtedly need reexamination: Mt. Ephraim, New Jersey on March 9, 1888: Phila. Acad. of Nat. Sciences (Stone, 1924); Barnstable Beach, Mass. on February 25, 1940: Boston Mus. Science 18875 (Griscom and Snyder, 1955); South Bass Island, Ohio on February 26, 1946, a first-winter female: Mus of Zoology, U. of Michigan 114587 (Trautman, 1956); Chicago, Illinois "taken after the breeding season" (Dwight, 1925); it also must be noted that Godfrey (1966) did not mention the records of Cuslett, Newfoundland: MCZ (Peters and Burleigh, 1951) and of Tadoussac, Québec: adult female, July 26, 1898 AMNH 358144 (Dwight, 1917).

Many northeastern observers recently took a sudden interest in Thayer's Gull generated particularly by Godfrey's (1966) decision to award it specific rank and by its presence in the area as established by the specimens collected by Andrle (1969). Consequently, since the 1968-69 winter season, many sight records have been reported in leading ornithological journals. There are seven records from the Atlantic Coast: five in Newfoundland (Finch, 1970; Brown, 1972) and one each in Massachusetts (Finch, 1972) and New York (Boyajian, 1969). All others come from the shores of the Great Lakes and the upper St. Lawrence River; they are as follows: nineteen in Minnesota (Green, 1974), one in Wisconsin (Janssen, 1974), four in Québec (Boyajian, 1969, 1970, 1971, 1972) and the remaining eleven divided between New York (Buckley and Kane, 1974, Byron, 1974; Davis and Buckley, 1974) and Ontario (Savile 1957; Goodwin, 1971; Yaki, 1972, 1973, 1974; Dafoe, 1974). One of these sightings occurred in October, 10 in November, 8 in December, 8 in January, 7 in February, 1 in March, 1 in April, and 4 in May.

To question the accuracy of those more or less detailed sight records is beyond the scope of this paper but the fact remains that the field identification of Thayer's Gull, especially when immatures are involved, has raised doubts and even con-

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troversies (see Coggeshall, 1955, Finch, 1972, Reddall, 1972; Buckley and Kane, 1974; Oberholser, 1974). Many questions will go unanswered until the observer has at his disposal readily available information that will enable him to distinguish *thayeri* from two closely related species, the Herring Gull (*Larus argentatus smithsonianus)* and the Iceland Gull (*Larus glaucoides)*. While the former is similar in many respects to *thayeri* at all ages, the plumage of the latter varies greatly, especially in the western race, known as "Kumlien's Gull" *(Larus glaucoides kumlieni)*. What is not known are the exact limits within which Thayer's Gull can be identified in the field; that ignorance stems primarily from the lack of comprehensive information on the extent of variation of *L. g. kumlieni*

It must also be pointed out that it is very difficult (if not impossible) to identify a gull of this group from a black-and-white photograph taken in life. This is especially true of first-year birds in flight. Because of the technical problems inherent in bird photography (overexposure, underexposure, shadows or unfavourable light, etc.), the field marks are often unclear.

Our purpose here is to bring together every available piece of knowledge dealing with the field identification of Thayer's Gull; the discussion is limited to winter plumages which are compared with those of Iceland Gull (*Larus glaucoides*) and Herring Gull (*Larus argentatus*). The Glaucous-winged Gull (*Larus glaucescens*) is not considered because it has not been reported east of Churchill, Manitoba. It must be stated that the researchers who worked with insufficient material in the first half of this century left many unresolved problems; but the investigations of Macpherson and Smith on the breeding grounds brought answers to many questions. Some unverified assertions persist and there are still some sequences of plumage for which more information is needed.

In order to put this paper into shape, much information was drawn from the literature and the authors' field notes; the examination of preserved skins in the National Museum of Natural Sciences of Canada in Ottawa proved very valuable. We examined over 75 *L. a. smithsonianus*, almost 70 *L thayeri*, and 40 or so *L. glaucoides*; more than 15 specimens of each of the three species in juvenal and first winter plumage were available. All specimens were collected in Canada.

IMMATURES IN WINTER PLUMAGE

Between September and December, juvenals of the three species undergo a post-juvenal molt of the body feathers (the primaries and rectrices being retained), and acquire their first winter plumage which averages somewhat lighter than their juvenal plumage (Dwight, 1925; Rand, 1942). We examined many *smithsonianus* specimens in first winter plumage, and several November *thayeri* recently collected in Canada, in both species, we did not see any striking or significant difference from the respective juvenal plumage pictured here. Consequently, immatures of the two plumages are treated together

On the other hand, it has not been demonstrated that it is possible to separate immature *L g. glaucoides* from immature *L. g. kumlieni* Rand (1942) states that the lightest birds are called *glaucoides,* the darkest birds *kumlieni*, there is a diversity of opinion as to the identity of the birds in the centre of the series. Therefore, the name *glaucoides* is used *sensu lato* in the treatment of the immatures, designating birds of the two races.

I. Immatures in juvenal and first winter plumage

Variations of these plumages are considerable in *glaucoides*, moderate in *thayeri* and *smithsonianus*. In pattern and color tones, *thayeri* is much closer to *smithsonianus* than to *glaucoides*.

A) PRIMARIES. As a general rule, *glaucoides* is a whitish bird with distinctive light primaries, the back feathers and wing coverts are more or less marked with drab or light brown bars. When the bird is at rest, its primaries are often distinctly paler than the wing coverts and back feathers, even when the primaries are marked with pale drab smudges as is often the case (Figure 1). Such paler primaries of *glaucoides* are diagnostic as they never occur in *thayeri*. Furthermore, in most *glaucoides* specimens, there are dusky subapical spots on the primaries (Figure 2); no such spots are visible on *thayeri* specimens (see also Macpherson, 1961).

On the other hand, *thayeri* has grayish-brown, brown or occasionally deep brown primaries averaging darker than those of *glaucoides* and lighter than those of *smithsonianus* (Macpherson, 1961); being always uniformly colored, they are slightly darker than or concolor with the brown color of the back feathers (Figure 1). A very dark *thayeri* is practically indistinguishable from *smithsonianus* as its primaries are much darker than its body.

The obvious field mark of *smithsonianus* is its dark brown or blackish primaries sharply contrasting with the lighter back and wing coverts

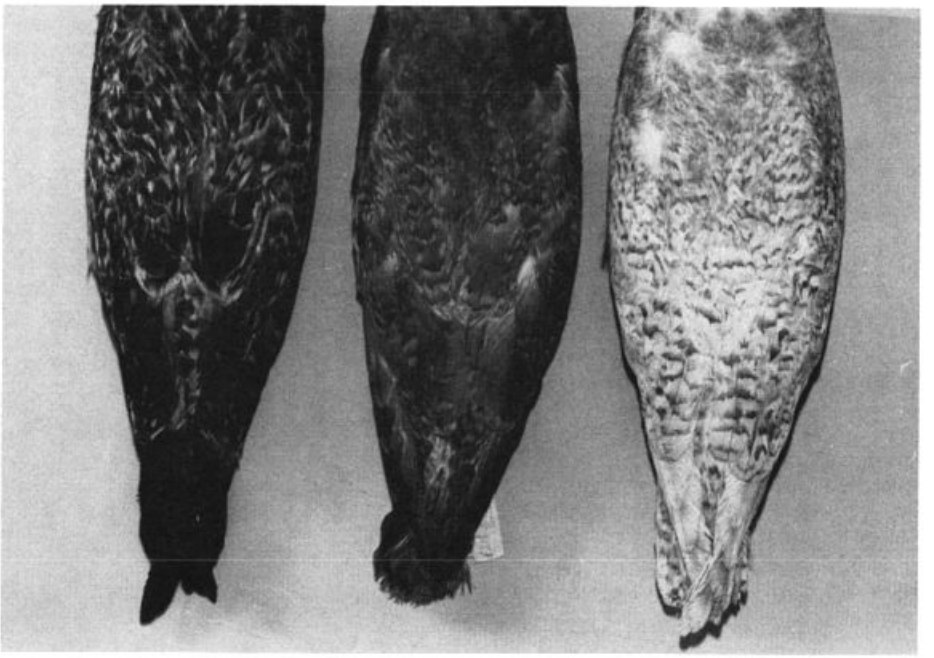

Figure 1. Typical first year immatures. Left: *Larus argentatus smithsonianus*, NMC 45195 (St. Andrews, New Brunswick, Aug. 31, 1959); centre: *Larus thayeri*, NMC 44043 (Cape Dorset, NWT, Sept. 2, 1955); right: *Larus glaucoides*, NMC 27560 (Halifax, Nova Scotia, Feb. 5, 1937). Compare the coloration pattern of the back feathers of the three specimens and the resulting different type of contrast.

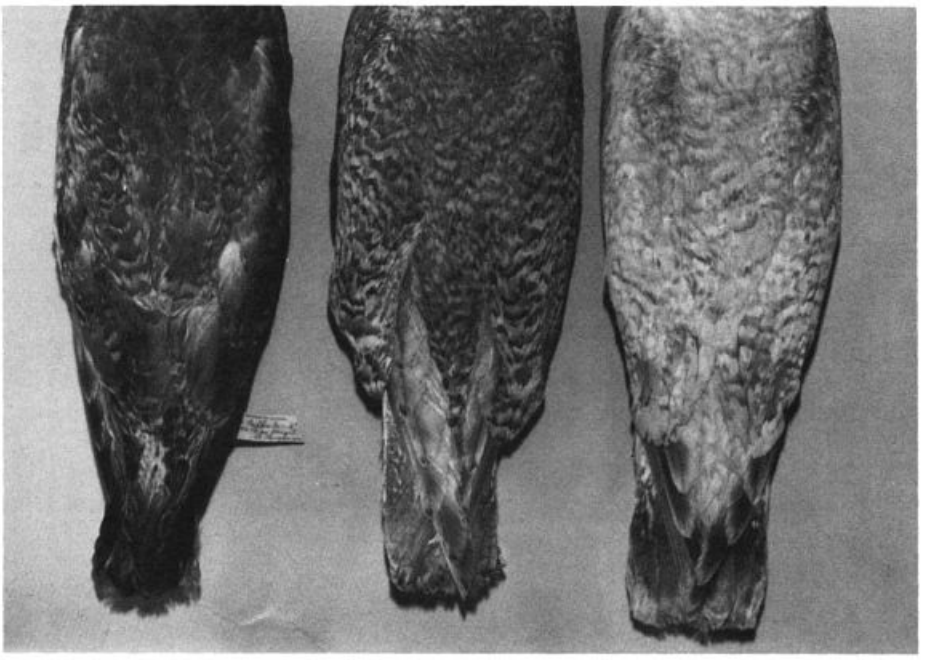

Figure 2. First year immatures. Left: a typical *Larus thayeri*, NMC 44043 (Cape Dorset, NWT, Sept. 2, 1955); centre: a very dark-backed *Larus glaucoides*, NMC 25723 (Halifax, Nova Scotia, Jan. 10, 1934); right: *Larus glaucoides*, NMC 25663 (Halifax, Nova Scotia, Mar. 17, 1933), with heavily colored primaries and rectrices. Note the dusky subapical spots on the primaries of NMC 25723.

(Figure 1); the colors of this species are the most uniform in series of examined specimens.

B) MANTLE PATTERN OF COLORATION. Some *glaucoides*, as NMC 25663 (Figure 2), may have primaries tan-colored all over (except perhaps for restricted paler tip), thus being darker than wing coverts and back; also, a very dark-backed *glaucoides*, as NMC 25723 (Figure 2), could match the shade of many pale *thayeri*. In such cases, the coloration pattern of the back feathers is the key. These feathers of *glaucoides* are clearly whitish, bearing fine brownish bars: the dark appearance is the result of the high density of those highly contrasted barrings; the same feathers of *thayeri* are greyish-brown or brown, edged with buffy or greyish: the coloration pattern of the back is the result of a low contrast between grey-brown feathers and their lighter tip (Figure 2).

The coloration pattern of *smithsonianus* back feathers is similar to that of *thayeri*, but often of a slightly higher contrast because those feathers are darker brown and edged with very pale buff or white (Figure 1).

C) TAIL. The tail feathers of *glaucoides* are usually whitish with a variable amount of drab barring (Figure 1); in some individuals theyare quite heavily colored with light brown and often white at the tip (Figure 2); in many cases, the brownish markings form an obscure to apparent subterminal band visible in flight when the tail is fanned. On all examined specimens, rectrices of *thayeri* are patterned like those of *smithsonianus*: brown all over (but averaging slightly paler) with irregular white barring towards their bases (largely hidden by the tail coverts).

D) SIZE. Since the average measurements of *thayeri* are smaller than those of *smithsonianus* (Smith, 1966), the same relation should exist between immatures of the two species. As a matter of fact, the smaller bill of *thayeri* is often apparent on study skins when compared to that of *smithsonianus*. But one must not forget that *glaucoides* also has a smaller bill than *smithsonianus* (Smith, 1966) and that diminutive *smithsonianus* with smallish bills can also be encountered.

II. Immatures in second and third winter plumage

Very few details have been published about these plumages of *thayeri* and only four study skins were available to the authors. Therefore, no account is presented here and no attempt is made to point out the feature(s) permitting possible field separation of second winter *thayeri* from first and second winter *glaucoides* and second winter *smithsonianus*.

Figure 3. Outer primaries (upper surface) of adult *Larus glaudoides kumlieni*, NMC 58602 (the most heavily marked individual in the series examined). Note the dark areas mostly restricted on the outer web of the primaries

III. Adults in Winter Plumage

Since individuals of the eastern race of the Iceland Gull (*L. g. glaucoides*) are distinguished from *thayeri* by the lack of greyish markings on their whitish primaries, the name *kumlieni* will be used here to designate the western birds (*L. g kumlieni*) with grey areas on the primaries from which *thayeri* must be distinguished. It must be remembered that individuals of *L. g. kumlieni* with light irides and whitish primaries are identical, in these respects, to *L. g. glaucoides* of Greenland (Smith, 1966).

It must be emphasized that none of the following nine points actually constitutes a separation between dark *kumlieni* and *thayeri*; many clues must be gathered before positive identification can be possible.

A) SIZE. The only thing that can be said is that *thayeri* is intermediate in size between *kumlieni* and *smithsonianus*, the amount of overlap being

greater between *thayeri* and *kumlieni* (Smith, 1966). Wing, bill, and tarsus measurements of *thayeri* males are nearly identical to those of *smithsonianus* females; thus, in a flock of *smithsonianus*, a female *thayeri* might be perceptibly smaller.

B) MANTLE COLOR. The various authors seemed to have reached this consensus: the mantle of *kumlieni* averages slightly paler grey than that of *smithsonianus* (Dwight, 1925; Taverner, 1933, 1953; Godfrey, 1966) whereas the mantle of *thayeri* averages slightly darker grey than that of *smithsonianus* (Dwight, 1925; Manning *et al.*, 1956; Taverner, 1933, 1953; Godfrey, 1966). (A questionable dissenting opinion was registered by Gabrielson and Jewett (1940), Jewett *et al.* (1953), and Gabrielson and Lincoln (1959) stating that *thayeri* has a lighter mantle than *smithsonianus*.) The darker mantle of *thayeri* is perceptible in the field (Andrle, 1969; Jehl and Smith, 1970) as well as the lighter mantle of *kumlieni* (Snyder, 1957; authors' observations). Dwight (1925) and Taverner (1953) also say that *kumlieni* has a darker mantle than that of nominate *glaucoides*. Because the exact limits of this double overlap of *smithsonianus* mantle color at either end of its range of variation have never been established, the very slight differences in tone are of little use in the field except when direct juxtaposition is possible. Reflectometer studies similar to that of Barth (1966, 1968), are needed to establish the range of variation in mantle color in these four forms.

C) PATTERN OF WING-TIP. Some *kumlieni* with a great amount of grey markings on the primaries show a wing-tip pattern somewhat similar (see Figure 3) to that of a very pale *thayeri* (Smith, 1966); Macpherson (1961) says that the pattern of *kumlieni* "occasionally approaches that of *smithsonianus* in intensity but never in extent." Occasionally a *kumlieni* is even found with *black* in the five outer primaries. On average individuals, only the outer web of the two or three outermost primaries is marked with grey (Snyder, 1957).

The *thayeri* wing-tip pattern is well known (Figure 4): "Black areas less extensive and often decidedly paler or greyer (than those of *smithsonianus*), the white tongue in outermost primary often joining a long white tip and on the next primary reaching to, or nearly to, the white spot" (Godfrey, 1966). But the *thayeri* pattern of wing-tip occurs in *smithsonianus* females, more often in eastern than western North America (Macpherson, 1961). Among 200 Herring Gulls (*Larus argentatus argentatus*) from Norway, Barth (1968) discovered 22 individuals of both sexes showing the "*thayeri* pattern." It also occurs on hybrid gulls (*Larus hyperboreus* X *Larus argentatus*). Two such hybrids were collected in North America, one in New Jersey (Jehl and Frohling, 1965), and one in California (Jehl, 1971). Such hybrids are frequent in Iceland (Ingolfsson, 1970).

According to Jehl and Smith (1970), *thayeri* can be distinguished from *smithsonianus* by the whitish undersides of its primaries, "an excellent field mark in flying birds." To this it must be added that *kumlieni* also exhibits a similar feature.

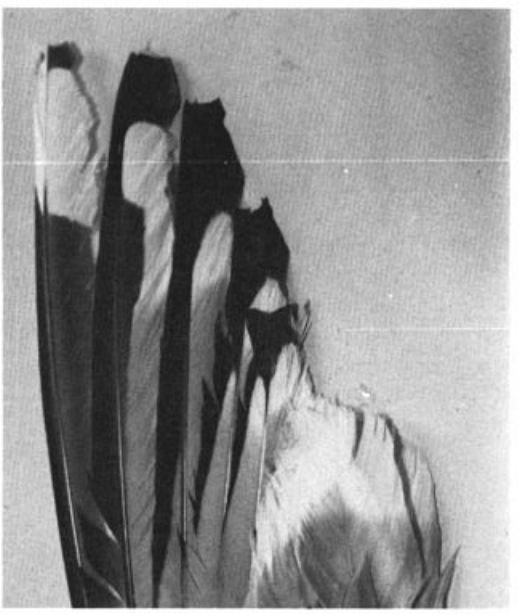

Figure 4. Outer primaries (upper surface) of a typical *Larus thayeri*, NMC 48560.

D) HEAD AND NECK MARKINGS. Those markings in *kumlieni* are normally restricted to the top of the head, the nape and (sometimes) to the sides of the neck (see also Snyder, 1957), however Finch (pers. comm.) reports many winter adults (in Nova Scotia and Newfoundland) with very heavily streaked heads, napes and necks. On examined specimens, almost no markings were noticed on the upper part of the breast

where they were obvious on *thayeri* specimens (Figure 5). It seems also that the head and neck markings of *thayeri* are somewhat lighter than those of *smithsonianus*; however, experienced observers know the considerable variations of this character in *smithsonianus*.

E) IRIS COLOR. In *kumlieni*, the irides are plain yellow or speckled with brown in some individuals, proportionally to the pigmentation of the wing-tip (Smith, 1966). In *thayeri*, the irides are lightly to heavily speckled with brown or dark grey, with a high proportion of individuals having dark irides (Smith, 1966). In *smithsonianus*, the irides are clear yellow; some individuals have very small dark specks (Macpherson, 1961) but this detail is probably noticed only when a fresh specimen is in hand.

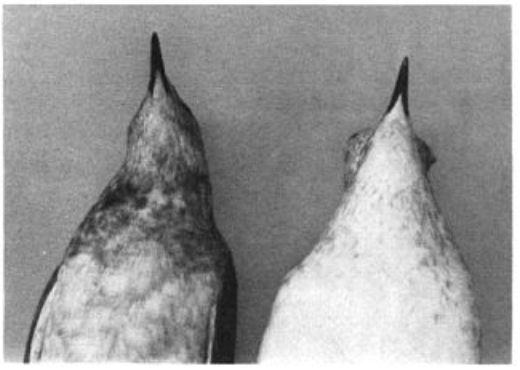

Figure 5. Head and neck markings. Left: *Larus thayeri*, NMC 44199 (a bird collected in winter on the Pacific Coast); right: *Larus glaucoides kumlieni*, NMC 58602 (the most heavily marked individual in the series examined).

F) EYELID COLOR. In breeding season, the eyelids of *kumlieni* and *thayeri* are of various shades of purplish-pink whereas those of *smithsonianus* are of various shades of yellow (Macpherson, 1961). Brooks (1937) stated that the eyelids of *thayeri* were always purplish-pink but the two adult females collected by Andrle (1969) had eyelids "pale grayish-white tinged flesh" in one case and "grayish white tinged flesh and purplish" in the other. Quick fading may be caused by death.

G) BILL COLOR. According to Brooks (1937), *thayeri* can be distinguished in winter from *smithsonianus* by its "pale yellow or greenish bill," the latter showing a "deep yellow" bill.

H) LEG COLOR. Wynne-Edwards (1952) says of the legs of *kumlieni* that they are of a "rather deep color perhaps brownish-pink." Macpherson (1961) says that the legs and feet of *kumlieni* have a slightly more greyish cast than those of *thayeri*. Jehl and Smith (1970) state that the leg color of *thayeri* averages much deeper pink at all reasons than that of *smithsonianus*.

I) VOICE. Jehl and Smith (1970) state that one call note of *thayeri*, given both by flying and foraging birds, is distinctly deeper pitched than the comparable note of *smithsonianus*.

CONCLUSION

Some features are diagnostic of many immature *glaucoides* in first winter plumage: obvious whitish cast on body, whitish primaries (Figure 1); primaries with dusky subapical spots and whitish tail (showing or not a subterminal band) also occur regularly (Figure 2). But some extremely dark individuals might appear at a distance to be of the same shade as pale *thayeri*; this is the result of highly contrasting brownish markings on whitish back feathers not found in *thayeri*.

At the same age, *thayeri*, contrary to *smithsonianus*, usually shows less or occasionally no contrast between its entirely brownish primaries and its buffy or grey back feathers; it might appear somewhat smaller overall with a smaller bill.

Some winter adult *thayeri* can be separated from *kumlieni* and *smithsonianus* by several slight differences as described in the main text.

In conclusion, *thayeri* presents numerous field identification problems; it is not expected that every gull encountered in eastern North America will be identified to species, especially by sight However, under the best conditions, field identification of a good number of *thayeri* will be possible; but there is not a single feature sufficient to ensure by itself this species' identity: one must check all the field marks and build a case for a positive identification.

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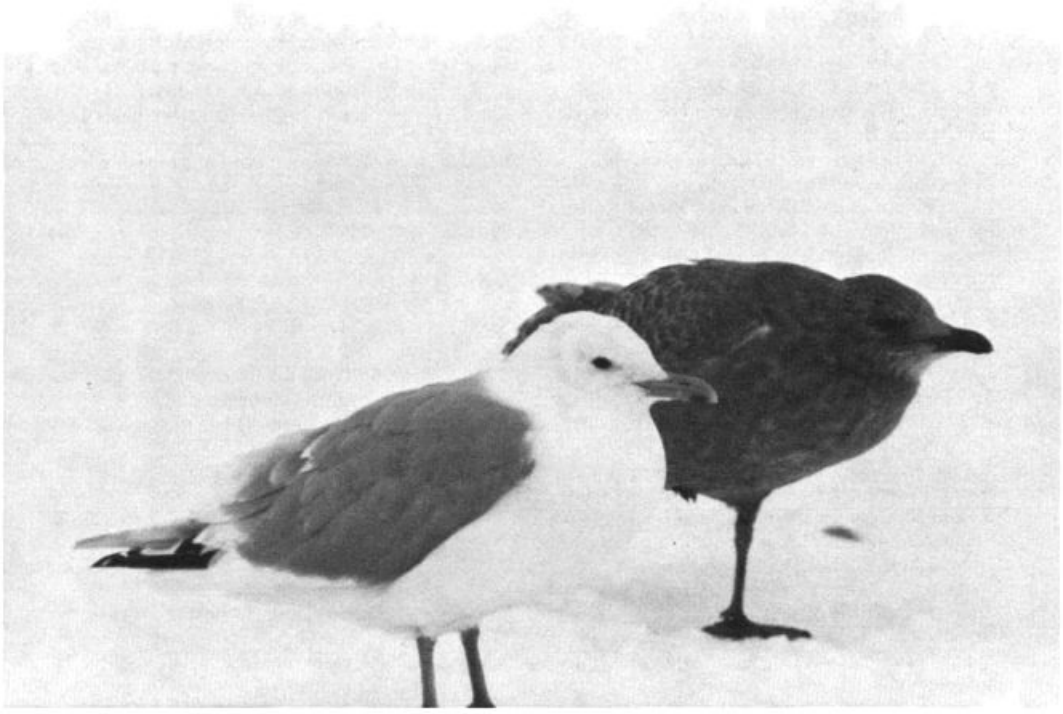

Figure 6. Adult and immature Thayer's Gulls, Resolute Bay, NWT, Sept. 11, 1975. Photo/Davis W. Finch.

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