

Identification and Variation of Winter Adult Kumlien's Gulls

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Long ago, William Brewster (1883) described "an apparently new gull from eastern North America," which he named *Larus kumlieni* – the "Lesser Glaucous-winged Gull." This taxon has since become known as Kumlien's Gull and is usually treated as a subspecies of Iceland Gull (*L. glaucoides*), e.g. by Godfrey (1986) and AOU (1998). The relationship of Kumlien's Gull and Iceland Gull to Thayer's Gull, however, remains contentious, with the latter taxon considered either a full species, *Larus thayeri* (e.g. AOU 1998, Howell and Elliott 2001) or a dark-winged subspecies of Iceland Gull (e.g. Salomonsen 1951, Macpherson 1961, Godfrey 1986, Weir *et al.* 2000). In this paper we use Iceland Gull only for nominate *glaucoides*, and use Kumlien's and Thayer's for *kumlieni* and *thayeri* types, respectively.

Zimmer (1991) provided a useful review of plumage variation in Kumlien's Gull, while more recently Garner and Mactavish (2001) discussed the identification of Kumlien's Gull and Thayer's Gull. These and other authors have commented on the highly variable appearance of Kumlien's Gull, which apparently spans the spectrum from white-winged birds (like Iceland Gulls) to dark-winged birds (like Thayer's Gulls). But just how variable are Kumlien's Gulls? And are there patterns to their variation? Howell and Elliott (2001) noted that "Kumlien's Gull cannot be defined satisfactorily until an attempt is made to define the characters of Thayer's Gull (and Iceland Gull)"; as a starting point, they described variation in adult Thayer's Gulls wintering in central California, USA. Here, we build upon that work by describing characters of, and quantifying variation in, adult Kumlien's Gulls wintering on the Avalon Peninsula in eastern Newfoundland, Canada.

Although identifying gull taxa away from the breeding grounds carries inherent implications of uncertainty, in this case the wintering grounds may be at least as well defined as the breeding grounds. That is, on the breeding grounds it appears that "we can't learn how much they [= Kumlien's and Thayer's] interbreed until we can distinguish them, but we can't distinguish them because they appear to interbreed" (Howell 1998). And, as pointed out by Garner and Mactavish (2001) and by Howell and Elliott (2001), researchers on the breeding grounds of these gulls have not critically defined the characters of what they called "Kumlien's" and "Thayer's."

Methods

Kumlien's Gulls winter mainly in the North Atlantic (AOU 1998), with large concentrations in the Gulf of St. Law-

rence and around Newfoundland, in eastern Canada. We assumed that birds wintering in Newfoundland could be called Kumlien's Gulls and quantified their variation before examining the data for patterns. Thayer's Gulls winter primarily along the Pacific coast of North America from southern British Columbia to California. Mactavish has lived with thousands of wintering Kumlien's Gulls for over 20 years. Howell has lived with hundreds of wintering Thayer's Gulls for over 10 years and, in February 2002, visited Newfoundland to study Kumlien's Gull. For this paper we quantified the plumage of over 400 adult Kumlien's Gulls studied at close range from early February to early March 2002 (Photo 1); our sample was unbiased, that is, we did not select for dark-winged or white-winged birds. We recorded data on the pattern and darkness of markings on primary 10 (P10, i.e. the outermost primary) inward through P5, and on eye



Photo 1. A flock of Kumlien's Gulls at St. John's. © Steve N. G. Howell, St. John's, Newfoundland, 2 February 2002.

colour, as well as noting general features of structure, bare-part colours, and overall tone of the upperparts relative to American Herring Gulls (*L. argentatus smithsonianus*) and "Canadian Glaucous Gulls" (*L. hyperboreus leucereetes*). We checked all birds for signs of immaturity (e.g. a brownish wash to the primary markings, relatively small white tips to P7-P9 and dark marks on the primary-coverts and tail) and restricted our wingtip analysis to 398 birds in at least their 4th winter (i.e. in 4th basic plumage and beyond). Under field conditions, such birds would be considered adults by most birders.

For wingtip pattern, the outer primaries were scored in terms of the extent of darker grey markings on the feathers (Plate 1). On some birds with a score of 1 the faint darker speckling was almost impossible to detect. Thus, some birds with a score of 0 may have had faintly darker areas that were overlooked; still, in terms of field identification these birds showed all-white wingtips. Because of the difficulty in viewing P5 (which, on resting birds, is usually covered by the tertials) and P10 (usually cloaked by P9) we were only able to obtain complete wingtip scores (P5 through P10) for 219 of 398 birds.

For the darkness of the grey pattern on the wingtip, we used six gradations from white to blackish grey, as follows: 0 – white (Kodak 0); 1 – pale grey, similar in shade to upperparts and primary bases (Estimated Kodak 3-4); 1.5 – medium-



Photo 2. Adult Kumlien's Gull with medium-grey wingtip markings, Stage 4 primary pattern (P5-P10 scores = 0-3-5-5-2-1), and eye score of 2.5 to 3.0. © Bruce Mactavish, St. John's, Newfoundland, 23 December 1999.

pale grey (Estimated Kodak 5-6); 2 – medium grey (Estimated Kodak 7-10); 2.5 – medium-dark grey (Estimated Kodak 11-13); 3 – blackish grey (Estimated Kodak 14-17). Values relative to the Kodak Grey Scale (catalogue number 152-7662; whereby 0 = white, 19 = black) were estimated by Howell, but should only be viewed as approximate, given the inherent difficulties related to ambient lighting, the angle at which the bird is standing, and observer perceptions under variable field conditions. For example, wingtips of score 2 can easily look darker (2.5 or even 3) in low light (such as late in the day) or with backlit reflection for

birds standing on ice. Photos of birds against ice and snow often tend to be underexposed and, thus, misrepresent wingtip shades.

For the sake of consistency, we used the same scores for eye colour as those of Howell and Elliott (2001): 0 – iris uniformly dark brown; 0.5 – iris overall medium brown; 1 – iris overall pale brown or honey coloured; 1.5 – greenish or yellowish, extensively mottled brown; 2 – pale greenish or yellowish, moderately marked with brown; 2.5 – pale greenish or yellowish with little or no brown mottling visible; 3 – apparently unmarked pale yellow (like an adult Herring Gull but typically slightly darker yellow).

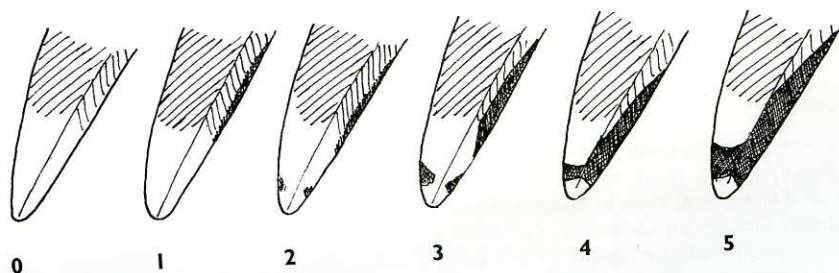


Plate 1. Examples of wingtip scoring criteria for dark markings on the outer primaries. 0: no visible darker grey markings relative to the grey basal and white distal portions of the feather; 1: darker grey markings restricted to the outer web or shaft area but with no dark subterminal marks; 2: grey markings include a partial subterminal "band" (<50% of the feather width); 3: grey markings include an incomplete subterminal band (50-99% of the feather width); 4: grey markings include a complete narrow subterminal band (< width of white primary tip); 5: grey markings include a complete broad subterminal band (≥ width of white primary tip). A band split only by a fine white shaft streak did not qualify as an incomplete band (e.g. P7-P8 in Photo 2).

Results and Discussion

First we describe, quantify, and discuss variation in the wingtip pattern, dorsal colouration, and eye colour of winter adult Kumlien's Gulls, and then discuss field identification of Kumlien's relative to similar taxa. In light of comparable studies on the range of variation in other populations of Kumlien's and Thayer's Gulls, our comments about field identification may need to be refined, but we offer them here with a view to helping resolve an identification conundrum. We did not attempt to sex the birds in our sample, but we did not detect any appreciable differences in wing-pattern or eye colour among larger (presumed male) and smaller (presumed female) birds.

