

## Letters

### Molt of Heermann's Gull and Other Gulls

I found the recent article by Iron and Pittaway (2001) on the molts and plumages of Ontario's Heermann's Gull (*Larus heermanni*) to be a thorough and well-written account. It benefited from being able to follow a known individual bird over time, and provided a wealth of detail on the timing of molt in different feather tracts. Having had a long-term interest in gulls and molt, I would like to offer the following comments on the above paper, based on my and Chris Corben's (not Corbin, as quoted by Iron and Pittaway 2001) study of molt in the Western Gull (*Larus occidentalis*), and upon review and study of molt in other North American and European gulls (Howell et al. 1999, Howell and Corben 2000, Howell 2001, Howell *in press*).

Howell and Corben (2000) showed that over a Western Gull's first winter there is but a single molt (*sensu* Humphrey and Parkes 1959), *not two*. That is, *conventional first prebasic and first prealternate molts involve only a single molt* which, in the Western Gull, appears phenotypically more similar to a prealternate molt! This also appears to be true of Heermann's Gull and other medium-sized to large gulls in Europe and North America (Howell et al. 1999, Howell 2001) and in South

America (Howell, unpubl. data). This possibility was noted for large gulls fully one hundred years ago by Dwight (1901): "It is extremely difficult to obtain enough specimens to show the limits of these two molts [= putative first prebasic and first prealternate], which may possibly represent but one." However, the mind-set of two plumages – first-winter and first-summer – was too difficult to overcome, and still pervades most recent gull literature.

Based on a sample of hundreds of birds over several years, the conventional "first prebasic" molt of Heermann's Gull is highly variable in extent. In some birds it includes no upperwing coverts while in other individuals it includes many upperwing coverts and some to possibly all tertials. If you look carefully you will note similar variability in Ring-billed (*L. delawarensis*) and California (*L. californicus*) gulls, among other species. This "first prebasic" molt, as in other medium-sized to large gulls, can overlap (to individually variable degrees) with the complete second prebasic molt in a bird's second calendar year. However, I have seen no unequivocal evidence of three molts in this period – as would be needed for the existence of first basic, first alternate, and second basic plumages.

In addition, feather color and (or) pattern does not necessarily correspond to feather generation: i.e., hormones that determine pigmentation may change within the course of a single molt, such that early-molted "first basic" feathers are brown while later-molted "first basic" feathers are grey (Howell and Corben 2000, Howell 2001).

Thus, while following an individual over time provides an invaluable snapshot, any description of molts that does not start with a known, unequivocal plumage (e.g., juvenal) can be difficult to interpret. I suggest that the conventional "first prebasic" molt of Heermann's Gull includes the so-called "first prealternate" molt invoked by Iron and Pittaway (2001). I see no evidence that any feathers were replaced enough times to involve three molts. Note, here, that "first prebasic" molts can often be suspended, or interrupted, in mid winter, with the same molt continuing in late winter or spring. The subscapulars are among the last feathers to be replaced in the "first prebasic" molt (and are not always replaced in larger gulls), and the so-called "Alternate 1" subscapulars in Figure 2 are simply growing in late in the "first prebasic" molt. Figure 1 shows some brown (apparently worn juvenal) feathers still on the head and, especially, nape. This is typical of other gulls, and a continuation of the "first prebasic" molt could produce whitish head feathers later in the hormonal cycle.

Also, a second wave of median covert replacement is common in fall (in all ages from second calendar-year onward) in other species of medium-sized and large gulls (Howell and Corben 2000, Howell 2001), and appears to be the start of the second prealternate molt – a possibility acknowledged by Iron and Pittaway (2001) but considered secondary to the idea of a supplemental plumage. (A presupplemental molt occurs only if there is a third generation of feathers in a plumage cycle, i.e., in addition to basic and alternate.)

The essentially continuous molting of medium-sized and large gulls in their first two years of life makes it difficult, and perhaps inad-

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visible, to attempt applying “false precision” to their appearance with reference to basic and alternate plumages. Thus, the Ontario bird in September appears to have been in second basic plumage with some second alternate median coverts and tertials – a conceptual difficulty for field terminology. Is it in basic or alternate plumage?

In conclusion, Iron and Pittaway’s (2001) description was a model example of detail, and I thank them for taking the time to document the Ontario Heermann’s Gull’s plumage succession so diligently. I hope my comments stimulate thought about details and difficulties involved in gull molt, and lead observers to approach the subject with a different perspective.

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#### **Jean Iron and Ron Pittaway comment:**

We read Steve Howell’s letter with interest and welcome his opinions on molt in gulls. Many of the points raised by Mr. Howell reflect his and our different interpretations of the molt cycle, so we address only his main point. Howell believes that Heermann’s Gull does not have a first prealternate molt as reported in our study. Instead, he suggests that the first prealternate molt is part of the first prebasic molt.

#### **Literature Cited**

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However, the whiter head of the first alternate plumage, well documented in our paper and photographs, fits perfectly into the homologous series of later plumages, which are white-headed in alternate plumage and dusky-headed in basic plumage. Our published study on the molts and plumages of Heermann’s Gull is clearly presented and can be tested against future studies.