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LEUCISTIC GREBE AT MONO LAKE — AN IDENTIFICATION CHALLENGE

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From 12 to 15 October 2006 I observed and photographed a fully leucistic *Podiceps* grebe on Mono Lake, California. Subsequent study of the photographs raised questions about which species I had been watching and led to a review of how best to differentiate white-plumaged grebes.

Mono Lake hosts more than 1.5 million Eared Grebes (*Podiceps nigricollis*) in October when most molt into basic plumage (Boyd and Jehl 1998). The grebes gorge on superabundant Mono Lake Alkali Flies (*Ephydra hians*) and Mono Lake Brine Shrimp (*Artemia monica*) before heading farther south for the winter (Cullen 1999). Within minutes of our arrival at Mono County Park in the mid-afternoon of 12 October 2006 Patti Blumin, my wife, spotted a white grebe, and we watched it for the next 30 minutes as it foraged at the surface and occasionally dove. The bird's behavior differed from that of the neighboring Eared Grebes; it dived more frequently and occasionally swam like a merganser with just its head below the surface. We relocated and photographed the leucistic grebe on 14 and 15 October, and we later learned it had been spotted earlier by Jim Dunn on 7 October.

Upon processing the digital photos, which I had taken at 30× magnification through a spotting scope, I quickly realized the bird's structure was not typical of the Eared Grebe, showing instead many features of the Horned Grebe (*P. auritus*) described by Stedman (2000). The bill looked thick and straight, with the culmen tapering down at the tip, rather than straight and flat as in the Eared Grebe. The forehead had a shallow slope, leading into a flat crown that peaked well behind the eye. The neck looked thicker and perhaps shorter than the necks of nearby Eared Grebes. I selected the best photo (featured on this issue's back cover) and posted it on the Internet with a request for help in identification. In addition, I sent the photo and another (Figure 1) to 21 scientists and friends with far greater experience in such matters.

Not entirely to my surprise, 15 of the 21 reviewers opined, largely on the basis of bill and head shape, that the leucistic grebe resembled in many respects a Horned Grebe. Such an occurrence would appear unlikely. Horned Grebes moving south in California hug the coast, preferring salt water for foraging (Stedman 2000). They are seen less frequently inland in California and rarely at Mono Lake (Gaines 1992). Leucism is rare but regular in the Eared Grebe, occurring in about one in every 75,000 to 80,000 birds in October at Mono Lake (Jehl 1985). Leucism may be even rarer in the Horned Grebe, with scant reports appearing in the literature over the past century (Weller 1959). Stedman's (2000) detailed monograph on the Horned Grebe does not mention aberrant plumages. Thus, if the white grebe shown here were a Horned Grebe, it would be a distinctly rare sighting, especially at this inland locality.

Kaufman (1992) provided guidance for discriminating between Eared and Horned grebes with aberrant plumage. He discounted somewhat the value of bill shape as a discriminating factor, stating, "unfortunately, the difference in bill shape between the two species is subtle, and partly bridged by variation in both species." He also devalued the use of neck thickness and fluffed hindquarters as helpful, again because of overlap between the species and the fact that apparent neck thickness can change easily with different postures or activities. Kaufmann emphasized the differences in head shape and provided instructive drawings.

Although shape of the white bird's head in the featured photos suggests a Horned

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Figure 1. Leucistic grebe at Mono Lake, October 2006.

Photo by Len Blumin

Grebe, I do not believe the bird can be conclusively identified as that species. Figure 2 shows an Eared Grebe with a steep forehead and peak over the eye. Figure 3 shows a similar Eared Grebe actively pursuing prey, showing a less steep forehead and a shift of the peak toward the rear of the head, similar to the profile of the leucistic grebe. In Figure 2 we see a typical Eared Grebe bill, with a flat culmen and upturned tip of the mandible. In Figures 4 and 5 we see Eared Grebes with bills that appear straighter, due to a downcurve of the tip of the culmen, not unlike the bill of the leucistic grebe featured on the back cover.

Although experienced birders viewing the photos opted for the Horned Grebe over the Eared by about a 3:1 margin, consider for a moment how probability favors the Eared Grebe. If we take bill shape first, we learn from Kaufman (1992) and Cullen (1999) that some Eared Grebes have bills that appear straight. Even if only 5% of Eared Grebes have straight bills (Figures 4 and 5), that's still 75,000 or more such birds at Mono Lake in October. Second, judging head shape is subjective, especially when a distinct "peak" is lacking. When an Eared Grebe sleeks its feathers down before a dive it can appear a lot like a Horned, as shown by Kaufman (1992) and by the lunging bird in Figure 3. Six of 21 reviewers of the leucistic grebe judged its head shape to indicate the Eared, suggesting we can't use head shape as a clear discriminator. I conclude that at Mono Lake in early October finding a leucistic Eared Grebe with some features suggesting the Horned Grebe is far more likely than finding a leucistic Horned Grebe. Finally, the bird did not show one unequivocal Horned Grebe feature, a pale or white tip to the bill. Lacking this key feature, I think we are left with a probable Eared Grebe, showing again that field identification sometimes leaves us with an irresolvable degree of uncertainty.

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Figure 2. Eared Grebe, showing typical bill with flat culmen, steep forehead, and peak of the crown over the eye.

Photo by Len Blumin



Figure 3. Eared Grebe lunging forward, with more shallowly sloped forehead and the peak of the crown shifted toward the back of the head.

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Figure 4. Eared Grebe whose head lacks a distinct peak and whose culmen tapers downward at the tip. Compare to shape of bill in Figures 1 and 3 and on back cover.

Photo by Len Blumin



Figure 5. Eared Grebe with steep forehead and culmen tapering at tip. Compare to shape of bill Figures 1 and 3 and on back cover.

Photo by Len Blumin

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Photographs can be invaluable in documenting rare sightings, but there is a risk of selection bias in the choice of photos, an error that concerned me when I chose the two photos featured here. Small changes in the angle at which the head is viewed can greatly influence the apparent shape of the head and bill. Other less sharp photos I took (not shown) sometimes showed a steeper forehead and/or thinner bill, but all showed a compact bird with a somewhat thick neck. Photos of the same bird taken by others on 13 and 15 October, such as those taken by Ron Wolf, depict a bird with a head shape more typical of an Eared Grebe's.

I have followed Buckley (1969) in referring to birds with white feathers and normally pigmented bare parts as "leucistic." Others such as Jehl (1985), Collins (2003), and van Grouw (2006) have followed the lead of Buckley in choosing leucism/leucistic over terms such as albinism/albinistic, albino, partial or incomplete albino, etc.

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