

CONTINENTAL BIRDLIFE

VOLUME 1, NUMBER 4, AUGUST 1979

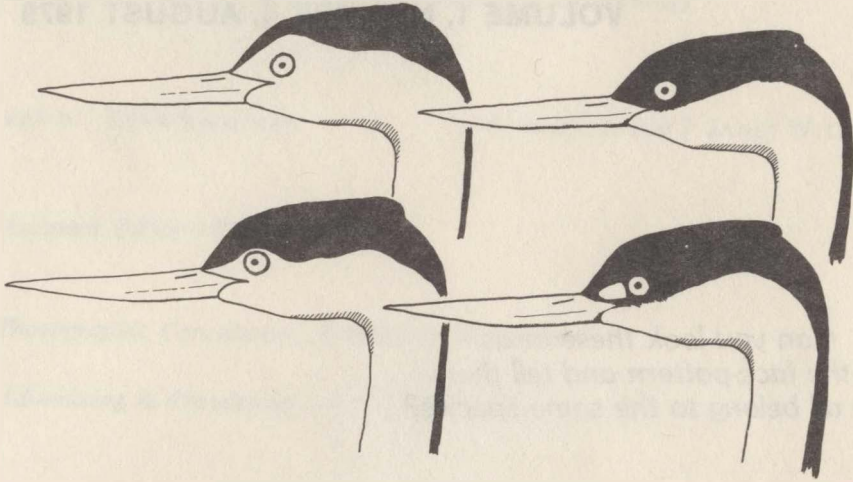
*Can you look these birds
in the face-pattern and tell them
they all belong to the same species?*

The Double Identity of the Western Grebe

For the past few years, several of us in Arizona have made a habit of looking closely at Western Grebes *Aechmophorus occidentalis* and identifying them to color phase. We had all read (and been intrigued by) Robert W. Storer's account of the situation in *The Living Bird* for 1965. Storer discussed two morphs, a "light phase" and a "dark phase," occurring in western North America. Throughout most of the grebes' range in Canada and the U.S. the light phase birds made up a small minority in the breeding population; yet there was a remarkable tendency for these light phase birds to mate with each other, rather than with the more abundant dark phase birds around them.

Our casual observations seemed to bear out this idea of preferential mating. Even on Lake Havasu, on the Arizona-California border, where light phase birds appeared to be in the majority, we almost never saw mixed pairs: dark phase birds mated with other dark birds, light phase with light. Every so often we would ask ourselves, rhetorically: If they don't interbreed, why aren't these "color phases" considered separate species?

That same question has now been put forth, in a more formal and authoritative way, in a paper by John T. Ratti published in the July 1979 issue of *The Auk*. This researcher spent parts of three years (1975-1977) studying several populations of Western Grebes, and piled up some impressive statistics. Mixed pairs (i.e., dark phase grebes paired with light phase) accounted for less than two per cent of Ratti's observations in Utah and less than one per cent of those in Oregon and California — indicating that these two forms were hardly interbreeding at all. In addition, Ratti documented significant differences between the two forms in the development of color pattern of their young, with the offspring of dark birds developing blackish backs and

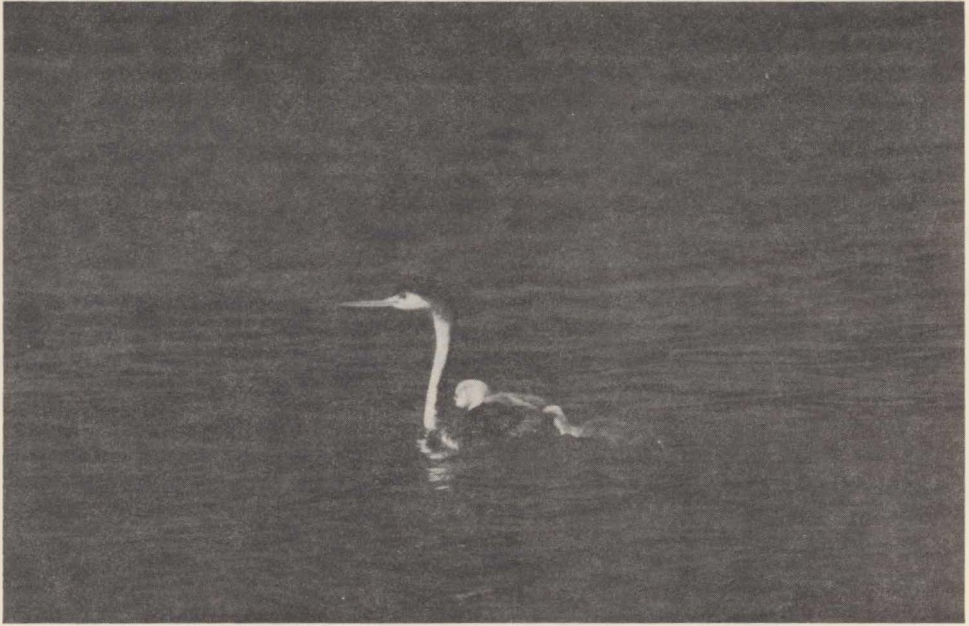


Face-patterns of the two forms of Western Grebes; "light phase" on left, "dark phase" on right. In both cases the upper figure represents the "typical" pattern, while the lower figure illustrates what is evidently individual variation on these patterns rather than any indication of hybridization. Aside from these differences in black-and-white pattern, bill color differs: orange-yellow in the light birds, greenish-yellow in the dark form.

crowns rather promptly while the young of light parents remained mostly whitish until more than a month and a half old. He also noted differences in timing of the onset of their breeding activities, and a tendency for birds to associate with others of their own color phase even during the non-breeding season. However, from a taxonomic viewpoint the near lack of interbreeding between the two forms was the most important point.

The significance of this information for field ornithologists should be self-evident. Although the question may not be closed yet*, the evidence strongly suggests that the old familiar "Western Grebe" is in fact a genus containing two closely related but separate species. If that is the case, then North American field observers are

*Our only reason for hedging on this is that there is a possibility (albeit a remote one) that the leading avian systematists may review the evidence and conclude that this is a unique situation involving two mere color phases. Preferential or assortative mating is known to occur, to a limited extent, in some polymorphic species. For example, the "Blue Goose" and "Snow Goose" are now held to be only color phases of a single species *Chen caerulescens*, yet there is a tendency for both blue phase and white phase birds to mate with others of their own color type (Cooch and Beardmore 1959). Even in the Parasitic Jaeger *Stercorarius parasiticus*, which varies from "light" to "dark" in plumage, there is a slight tendency for individuals to pair with others resembling their own color type (O'Donald 1959); and we have heard rumors of a similar phenomenon in Swainson's Hawks *Buteo swainsoni* and some other birds. However, in Western Grebes there is so very little interbreeding between birds of the two color types that it seems likely to be regarded as a situation involving two full species.



Above: An adult "light phase" Western Grebe *Aechmophorus [occidentalis] "clarkii"* with downy young on Lake Havasu, Arizona/California border. Below: Adult "dark phase" Western Grebe *A. occidentalis* with downy young at Bear River Migratory Bird Refuge, Utah. Note that the downy young dark phase bird already appears to be developing a dark-capped appearance. Both photos by Kenneth V. Rosenberg.

presented with an opportunity unique in this era: here we have two species which are widespread, conspicuous, rather easily identified — yet their comparative distributions are not known in any detail at all. Rather than waiting to see if these grebes are to be formally “split” by the A.O.U.’s Committee on Classification and Nomenclature, the perceptive observer will want to start now to clarify the ranges of the two forms by identifying them carefully, photographing any extralimital birds, and making separate entries for the two in daily field notes.

In the comments on identification below we continue to refer to these two forms simply as dark phase and light phase birds, since no “official” English names for the two have been proposed. Oddly enough, Latin names are already available: G.N. Lawrence (in Baird 1858) originally described the Western Grebe to science as two species, calling the dark birds *occidentalis* and the light birds *clarkii*, and if the two are formally re-split these are the names that will probably be used.

Both of the forms, obviously, are black-and-white in pattern, and can be called “dark” or “light” only in a comparative sense. The face-pattern is the most diagnostic point of difference: in dark phase birds the black of the crown extends down to below the eye and lores, while the light birds have white extending up onto the lores and to above the eye. This difference is accentuated by the bill color, dull greenish yellow in the dark birds and rather bright yellow-orange in the light ones. Both forms are deep black on the crown and on the stripe down the nape, but light birds have narrower nape stripes (thus appearing more extensively white on the sides of the neck) and tend to be paler (i.e., grayer, less blackish) on the back and more extensively white on the flanks. According to Ratti’s study the light birds also average slightly smaller, but the differences were not statistically significant for most measurements so they would hardly be noticeable in the field.

A small minority of the population shows yet another pattern, with an appearance typical of the dark phase except that the lores are whitish. Ratti (op. cit.) came to the tentative conclusion that this was merely a matter of individual or seasonal variation, and that these individuals should be classified with the dark phase. Another potential source of confusion is that some light phase birds have only very narrow white margins above the eye, so that when the feathers are relaxed the black of the crown may appear to extend down to (but not below) the eye; these birds might at first be taken for intermediate or hybrid individuals.

Observers should keep in mind, of course, that a small part of the population (perhaps one per cent) is in fact composed of hybrids, so that not all individuals will be identifiable to one of the two categories.

The scanty information currently available indicates that the great majority of the Western Grebes breeding as far north as Canada are of the dark form, while light phase birds are evidently in the majority in the Mexican population; but the change-over between these two extremes apparently is not accomplished smoothly and gradually, so local situations will have to be figured out one by one. Because the dark form has the more northerly distribution of the two, we might guess that dark birds would be more likely to figure in the vagrant records in the East, especially in the Northeast. However, in the case of recent sightings where no detailed notes were taken, it may be impossible to assign some records to one form or the other (and if the two are officially designated as separate species, this may cause some consternation among state- and province-listers!). Many questions remain unanswered. Elucidating the comparative distributions, migrations, and vagrancy patterns of the two forms should be an exciting project for the 1980’s. —K. K.

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Identifying "Myrtle" and "Audubon's" warblers out of Breeding Plumage

KENN KAUFMAN

*These two subspecies groups
still deserve recognition;
here's how to do it*



Within the last couple of decades it has been proven (see Hubbard 1969) that the two birds formerly known as the Myrtle Warbler *Dendroica coronata* and Audubon's Warbler *D. auduboni* interbreed freely where their ranges come in contact. Because of this, they have been officially (A.O.U. 1973) "lumped" into one species under the name of Yellow-rumped Warbler *D. coronata*. However, their hybrid zone is relatively small, so the vast majority of all the Yellow-rumped Warblers on the continent can be clearly referred to either the Myrtle or Audubon's group, and can be identified as such in the field. For this reason, most observers continue to be aware of the two as distinct taxonomic entities (which they are), and, for convenience, to refer to the two subspecies groups by their former specific names.

The differences between breeding-plumaged adult male Myrtle and Audubon's warblers are obvious, and are pictured and described adequately in all the standard bird guides. There are also a number of characters helpful in separating dull-plumaged birds (females, immatures, winter-plumaged males) of the two forms; the bird guides generally fail to discuss these. In my conversations with birdwatchers from around the