

Clark's Grebe

Aechmophorus clarkii

FRENCH: *Le Grèbe de Clark*

SPANISH (NAHUATL): *Achichilique, Acitli*

Clark's Grebe closely resembles the Western Grebe and was long considered a color morph of it. The nomenclatural history of the two is included in the introduction to the Western Grebe. Evidence for the renewed specific status of Clark's Grebe began with finding that Western (*Aechmophorus occidentalis*) and Clark's grebes mated assortatively (Storer 1965). A detailed study of the relationships between the two species was made by Ratti (1979), who also provided material for an analysis of DNA-DNA hybridization (Ahlquist et al. 1987). This analysis indicated that the median DNA sequence distance between the species was "comparable to such distances between other closely related congeneric species," although it was less than the distance between the pair subspecies on their table. Nuechterlein (1981d) demonstrated that a difference in the number of notes in the Advertising call was important in reproductive isolation of the two species.

Because the two species were not separated in the earlier literature, the accounts covering both species are given in the biography of the Western Grebe. Only accounts applying to Clark's Grebe and to observed differences between the species are given here.

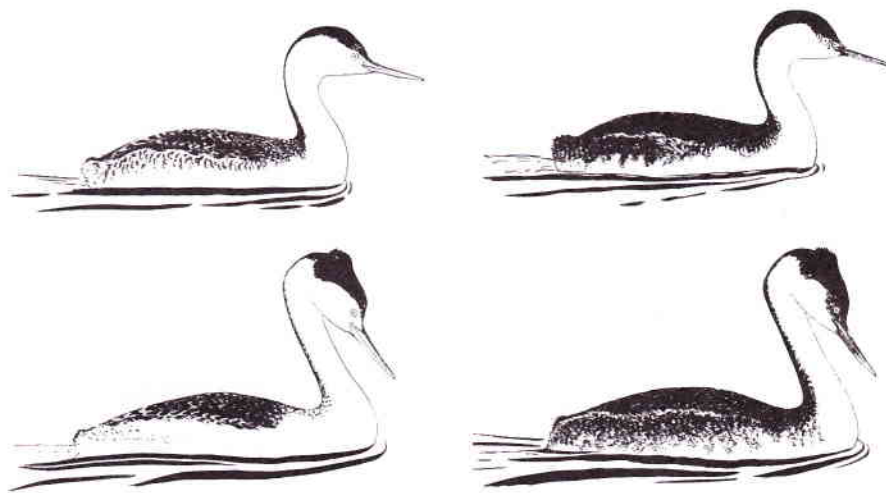


Figure 9.

Clark's Grebe (left) and Western Grebe (right); females above, males below.
Males in Arch display. By J. Tottenham, from Storer (1965).

DISTINGUISHING CHARACTERISTICS

Similar to the Western Grebe, but differs in having an orange yellow bill with a more sharply defined black culmen. In breeding plumage, white of sides of head extends above eyes, and lores white. Some wintering birds show intermediacy in plumage of the head, especially on lores (Storer and Nuechterlein 1985).

DISTRIBUTION

Northern race, *transitionalis*, widely sympatric with *A. o. occidentalis*, but becoming less common to north and east. Nesting colonies reported north to e. Washington (Grant County) and North Dakota (Kidder County). Single birds or small groups reported from widely scattered localities in Canadian part of the range of *occidentalis*, and may be becoming increasingly common (Eichhorst and Parkin 1991). Mexican race, *A. c. clarkii*, sympatric with *A. o. ephemeris* in Nayarit, Jalisco, Puebla, and Guerrero; also known from Chihuahua, Durango, Zacatecas, Michoacan, Guanajuato, and San Luis Potosi (Williams 1982). Not recorded outside AOU check-list region.

SYSTEMATICS

GEOGRAPHIC VARIATION

Resident birds of the Mexican Plateau smaller than those from the rest of the range (Table 4). Variation within range of northern subspecies not reported.

SUBSPECIES

Aechmophorus clarkii transitionalis breeding from Canada south through the western United States to n. Baja California, and *A. c. clarkii* breeding on the Mexican Plateau.

RELATED SPECIES

Aechmophorus occidentalis, Western Grebe. Intermediates (i.e. suspected hybrids) between the two species are relatively uncommon. Except in facial pattern, relative amounts of black and white in plumage overlap greatly.

FOOD HABITS

FEEDING

Microhabitat for foraging. At Upper Klamath Lake and Lake Ewauna, OR, tends to forage farther from shore and in deeper water than Western Grebe (Nuechterlein 1981, Nuechterlein and Buitron 1989d). This relationship less clear in artificially flooded refuges where the shallowest areas are often far from shore (Ratti 1985).

SOUNDS

VOCALIZATIONS

Vocal array. (Fig. 10). Advertising call: Given in bouts similar to those of the Western Grebe but each individual call comprised of a single note. Highly variable among individuals. Where Western and Clark's grebes are sympatric, males respond selectively to playbacks of Advertising calls of their own species, and male Western Grebes respond to calls of Clark's Grebes when blank tape is spliced into the middle of the single note. At Delta, Manitoba, where only Western Grebes are common, males showed poorer discrimination between the playbacks of the two species than did males of a widely sympatric population in Oregon (Nuechterlein 1981d and orig. data).

BEHAVIOR

LOCOMOTION

Swimming and diving. Tends to use springing dives more frequently and level dives less frequently than Western Grebe. Difference correlated with tendency to forage in deeper water than Western Grebe (Nuechterlein and Buitron 1989).

SOCIAL AND INTERSPECIFIC BEHAVIOR

Interactions other than predation with members of other species. Associates significantly more frequently with own species than with Western Grebe on the breeding grounds (Ratti 1979) and in winter (Ratti 1981), but mixed colonies and flocks common.

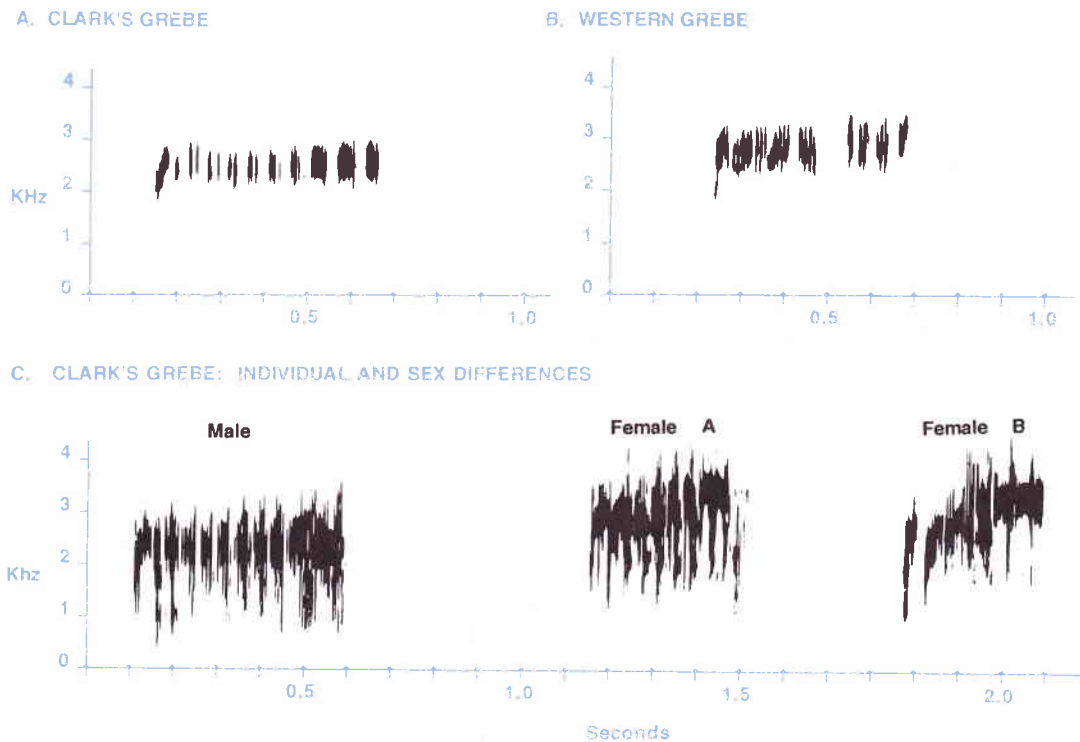
Populations of neighboring lakes surveyed within regions of Oregon, California, and Mexico vary widely in relative proportions of the two species. In mixed populations, males of the two species frequently engage one another in joint Rushing Ceremonies, apparently to attract females (Nuechterlein 1981d and orig data). Male-female

Table 4. Linear measurements (mm) and mass (g) of Clark's Grebes (RWS orig data).

	<i>A. c. transitionalis</i>					<i>A. c. clarkii</i>				
	Mean	s	n	Min	Max	Mmean	s	n	Min	Max
MALES										
Wing length (arc)	197.7	5.96	36	181	210	188.0	4.53	9	180	194
Tarsus length	77.7	3.02	38	69.5	84.0	73.0	3.73	9	63.7	75.6
Bill from nostril	60.2	2.93	32	54.8	65.8	54.4	2.48	9	49.2	56.9
Bill depth	12.8	0.61	32	10.8	13.9	11.7	0.47	10	11.0	12.3
Mass	1341	162	25	1001	1685	1029	128	7	815	1201
FEMALES										
Wing length (arc)	185.9	4.14	15	179	195	174.5	4.48	11	167	180
Tarsus length	71.8	1.50	15	69.6	73.8	66.0	2.03	13	62.3	70.2
Bill from nostril	50.8	2.44	14	46.0	54.0	46.8	2.95	12	42.8	53.0
Bill depth	10.1	0.59	15	9.0	11.0	9.4	0.50	11	8.8	10.5
Mass	1133	95	6	1006	1258	906	144	9	718	1251

Figure 10.

Advertising calls are given in bouts of 1-6 calls, spaced at least 0.5 sec apart. Clark's Grebes' calls (A) lack the 0.1 sec mid-call gap of Western Grebes (B). Calls of the females are higher in frequency and shorter than those of males, and pattern details of calls are individually distinct in both species.



mixed-species displays less common, particularly for later displays of the Weed Ceremony (see Western Grebe account for display descriptions). Mixed-species pairs uncommon (< 5%, Upper Klamath) but intermediate plumaged birds (presumably hybrids) present in most populations studied. Intermediates appear to be fertile, but are less likely to find mates early in courtship season (GLN and D. P. Buitron, orig data).

BREEDING

EGGS

Size. Eggs from two sets from San Francisco, CA, 8 Jun 1885 measured 55.9 x 39.5; 55.0 x 39.5 and 57.3 x 37.7; 56.6 x 37.7; 56.1 x 37.5 mm (data from Western Foundation of Vertebrate Zoology). Shelled eggs from oviducts of 2 females taken 15 and 16 May 1990 at Goose Lake, Modoc Co., CA, measure 58.6 x 40.9 and 58.9 x 39.9 mm. Presence of single collapsed follicle in ovary indicated these the first egg of each clutch (RWS). Mean size of 95 eggs from Utah 57.3 x 38.5 mm, slightly (0.3 mm in both dimensions), but not significantly, smaller than than 174 eggs of Western Grebes in Utah (Ratti 1977).

YOUNG BIRDS

Condition at hatching. Linear Measurements. Young from piped egg: wing, 12.4 mm; tarsus, 19.5 mm; culmen, 10.2; bill from nostril, 6.1 mm; bill depth, 4.4 mm. Color and pattern of down. Back and top of head paler gray than Western. Long down on trailing edge of wings white. Soft part colors. Like Western but feet pink in some. Later, covered by a long, rather coarse white down except on back and wings (Ratti 1979).

DEMOGRAPHY AND POPULATIONS

MEASURES OF BREEDING ACTIVITY

Clutch size. In Utah, mean of 105 clutches 2.42 (not significantly different from Western; Ratti 1977).

POPULATION STATUS

Numbers. In winter counts in California and Nevada 11.6% of 2,098 *Aechmophorus* were *clarkii*, and summer counts in n. California, s. Oregon, and Utah showed 49.2% of 1,584, *clarkii* (Ratti 1981).

APPEARANCE

FEATHERING

Description. Sexes alike. Plumage similar to that of the Western Grebe, but white of face extending above the eye and onto the lores. Back tends to be paler, flanks to have less extensive black, the black stripe down the back of the neck to be narrower, and the remiges to have less white, but much overlap in these characters, especially in wing pattern. Also feathers of the crown, neck, wing coverts, and scapulars more often tend to have white or pale gray bases. (Storer and Nuechterlein 1985). Skin under white feathers of throat, bright yellow.

BARE PARTS

Bill. Orange yellow, with well-defined black culmen.

Bare skin between eye and bill. Bright yellow.

Feet. No information.

MEASUREMENTS

Measurements of 10 fresh specimens of each sex of each species taken in Utah indicated *clarkii* smaller than *occidentalis* in most measurements (Ratti et al. 1983). Measurements of study skins of birds from throughout the breeding grounds in Table 4.

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