

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Aechmophorus clarkii*

COMMON NAME: Clark's Grebe

SYNONYMS: *Podiceps clarkii*

FAMILY: Podicipedidae

AUTHOR, PLACE OF PUBLICATION: Lawrence, *In* Baird, Cassin, and Lawrence, Rep. Expl. And Surv. R.R. Pac. 9: LIV, 895, 1858.

TYPE LOCALITY: Laguna de Santa Maria, Chihuahua, Mexico. J.H. Clark, 18-- , Pacific Railroad Survey, California Line.

TYPE SPECIMEN: USNM A09930, Adult female (complete skin), J.H. Clark (field no. 30), 18--.

Other Cotypes include: USNM A04498, Immature female (complete skin), J.S. Newberry, Nov. 1855 (San Pablo Bay, Solano Co., California, U.S.A., Pacific Railroad Survey, California Line). USNM A09931, Immature male (complete skin), A.L. Heermann, 18—(Santa Barbara, Santa Barbara Co., California, U.S.A., Pac. Railroad Surv., CA. Line).

TAXONOMIC UNIQUENESS: There are 20 species in this family with 6 being in North America. They have no known relatives but were once thought to be related to loons. *Aechmophorus clarkii* was formerly included in *A. occidentalis* (AOU 1985, 1998 *in* NatureServe), where they were considered to be a single species with different color forms. The two species are difficult to separate, but differ in both maculation and their calls. Hybrids between the two species do occur, although both species commonly breed side by side with little interbreeding. Biological and distribution information about the two species is mixed in the literature.

DESCRIPTION: Clark's Grebe is 25 in (63.5cm) tall with the sexes being similar. Their wingspan is 24 in (61cm) and they weigh 3.1lbs. (1,400 g). This grebe is large and long necked, with a long yellow to orange yellow bill and a red eye. They have a black crown and nape with a white chin, throat, face and belly. The white face includes the eye. There is a narrow black stripe on their hind neck. Their bills have tooth-like or saw-like edges as in ducks. They have a dark blackish-brown back and wings with white secondaries. Their feet are set far back on their body, and their lobed toes are partially webbed. In flight, grebes resemble small ducks but have very short tail feathers and steer by extending their feet behind them. Grebes fly with a dip in their slender necks.

AIDS TO IDENTIFICATION: The Western Grebe (*A. occidentalis*) and the Clark's Grebe are identical in their summer form. On the Western Grebe, the black of the crown extends down and through the eye, but does not reach the top of the eye in Clark's Grebe. The bill of the Western Grebe has a green tinge that is absent in Clark's Grebe. Loons (*Gavia*) are larger with longer bodies and larger, darker bills. Horned Grebes (*Podiceps auritus*) and Eared Grebes (*P. nigricollis*) are smaller with much shorter bills that are never yellow. Red-necked Grebe (*P. grisegena*) is smaller without the bold black and white neck pattern.

ILLUSTRATIONS:

Color photo (Weber in <http://birding.about.com/library/fg/blfg-aechmophorusclarkii.htm>)

Color photo (Danzenbaker in <http://www.avesphoto.com/website/NA/species/GRBCLK-1.htm>)

Color photo (LaTourrette in <http://www.birdphotography.com/species/clgr.html>)

Color photo (Nearctica. In <http://www.nearctica.com/birds/loons/Aocci.htm>)

Color picture (National Geographic Society 1987)

TOTAL RANGE: Breeds from Washington to Wyoming, south to California, Arizona, New Mexico and Mexico (south to Guerrero and Puebla). Rarely across southern Canada and the northern tier states, from British Columbia and Montana west to Manitoba and Minnesota. Rare in north, equally common as Western Grebe in south. Winters along the Pacific coast from central California, south to Mexico; sometimes inland in California, Arizona and New Mexico. A resident in interior Mexico, and parts of California, Arizona and New Mexico.

RANGE WITHIN ARIZONA: Mohave and La Paz counties. Along the Colorado River year-round, and breeds at Topock Marsh and Topock Gorge in Havasu National Wildlife Refuge.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Diurnal. Their call is a *kr-r-rick*. The call is doubled in the Western Grebe, but single in Clark's Grebe. Mink is a predator of nesting adults in some areas. Raccoons also take adults and eggs. Eggs may be taken by other birds (e.g. crows, ravens) from the nest after human interference.

REPRODUCTION: The breeding season begins mid-May and usually ends by late August. The mating ritual is distinctive. The members of the couple paddle in an upright posture side by side across the lake with the neck bent at a distinctive angle. Both parents share in the nest building, which is a part of their courtship. Nest is a floating platform of rotten vegetation built up from the bottom in tall plants, tule, and reeds, growing in water on the edge of large stretches of open water and is anchored to vegetation. It is usually well concealed by growing plants. Nests on dry land where water has receded after breeding began. Colonies include tens to hundreds of nests. There are usually 3-4 eggs and they are long elliptical to sub elliptical, smooth but not glossy. They are greenish or buffish when first laid, becoming white, then nest stained. 58x39 mm. The

eggs are laid at daily intervals. The incubating is done by both sexes beginning with the first egg, and lasts 23 days. The nestling is like the Western Grebe at hatching, though feet are pink in some individuals, and between 20-50 days feathering appears snow white. Bare skin patch on head of young flushed, is dark red when begging or in distress. The young leave the nest at hatching, carried on parent's back and tended by both parents. They may even dive with them on their back when alarmed. At nests on dry land, the young are transported to water under the wings of the female.

FOOD HABITS: Their diet consists of fish, aquatic insects, amphibians, crustaceans and mollusks. Grebes dive and swim rapidly below the surface as they chase aquatic insects and small fish. Their pointed bill is thrust forward in feeding. Grebes usually dive about 20 ft below the surface and stay underwater about 30 seconds. Grebes do not regurgitate pellets of indigestible food parts, as do most meat eating birds. Feathers are molted on the flanks and breasts year round and swallowed during preening to replenish the stomach lining. Parents begin feeding feathers to their chicks within three days of hatching.

HABITAT: Marshes, lakes and bays. In migration and winter also sheltered seacoasts, less frequently along rivers. Nests among tall plants growing in water on edge of large areas of open water.

ELEVATION: 440 - 480 ft (134-146m).

PLANT COMMUNITY: Unknown

POPULATION TRENDS: Unknown

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	WSC (AGFD, WSCA in prep) [State Candidate AGFD, TNW 1988]
OTHER STATUS:	None, USDA FS Region 3, 2013 Not BLM Sensitive (USDI, BLM AZ 2010) [Bureau of Land Management Sensitive (USDI, BLM AZ 2008)] [Forest Service Sensitive USDA, FS Region 3 2007] Group 4 (NNDFW, NESL 2001, 2005, 2008)

MANAGEMENT FACTORS: Gregarious behavior makes it highly susceptible to oiling mortality in wintering areas. Vulnerable to disturbance of nesting colonies. They are threatened by

habitat degradation from seasonal recreational use of backwaters and coves used for breeding. The nests are relatively fragile and are unable to withstand the repeated assault by waves produced by fast moving boats. Small chicks are frequently separated from parents and die from exposure if adults crash-dive to avoid motorboats or other sources of sudden disturbance. If the colony is approached suddenly, fewer nests are covered before parents depart, which may cause overheating of eggs on hot, sunny days.

PROTECTIVE MEASURES TAKEN: Havasu National Wildlife Refuge (NWR) has instituted a 15-mile no-wake zone for boats in the Topock Gorge area. They can also be found on the Bill Williams NWR.

SUGGESTED PROJECTS: Surveys to determine the number of Clark's grebes in Arizona needs to be performed.

LAND MANAGEMENT/OWNERSHIP: USFWS – Bill Williams and Havasu National Wildlife Refuges.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Grebe breast feathers were once used in the millinery trade to decorate women's hats, a practice long ago discontinued when law protected grebes.

Aechmophorus clarkii: from the Greek *aichme*, meaning spear, and *phorus*, meaning thrower (the pointed bill is thrust forward in feeding). The specific epithet *clarkii* honors J. H. Clark, who collected the type specimen.

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