

## MATE FEEDING IN WINTERING WESTERN GREBES

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**Abstract.**—Mate feeding was observed twice in pairs of wintering Western Grebe (*Aechmophorus occidentalis*). Such behavior among wintering grebes has not been described previously. These data suggest that pair bonds are either established or maintained on the wintering range, that male parental quality is being assessed, or both.

### ALIMENTACIÓN DE LA PAREJA ENTRE INDIVIDUOS INVERNALES DE *AECHMOPHORUS OCCIDENTALIS*

**Resumen.**—En dos ocasiones se observó a individuos machos del zaramagullón *Aechmophorus occidentalis* alimentar a su pareja en el área en donde estas aves estaban pasando el invierno. Este tipo de conducta no había sido informado en aves invernales. Se puede inferir que el vínculo de la pareja se forma o se mantiene durante el invierno o que el macho está demostrando su calidad parental, o ambas cosas.

Mate feeding has been described for many avian species (Lack 1940). However, for Western Grebes (*Aechmophorus occidentalis*) this behavior has only been reported on the breeding grounds (Nuechterlein and Storer 1989, Palmer 1962). I describe the first observations of mate feeding by wintering Western Grebes and suggest possible explanations. Since the term "mate feeding" is considered a more accurate description of the behavior when it appears to be directed solely towards feeding the individual's mate and is not associated with earlier ritualized courtship activity (Nuechterlein, pers. comm.), I refer to the behavior I observed as such.

Western Grebes were observed at Bolsa Chica Lagoon State Reserve, Huntington Beach, California, USA, between 18 Nov. 1987 and 26 Jan. 1988, using 7 × 50 binoculars.

On 18 Nov. 1987 at 1651 h (PST) I observed a female Western Grebe swim towards a male of that species. She vocalized with her head held near the water with mandibles open until the male dived. When the male surfaced the female swam over and repeated the behavior 29 times. The male caught nine small (approximately 4 cm long) fish in the course of these dives and fed them to the female. After these dives it became too dark to continue making observations.

On 7 Dec. 1987 at 0710 h (PST) I observed a similar interaction. Additionally, after the male's 24th dive (three dives had been successful and the fish were fed to the female), the female began to dive. When the pair moved within 5 m of another Western Grebe, they were chased away and stopped diving.

There are only three records of Western Grebes breeding in Southern California (reviewed by Lee, 1967). This includes the only record of

winter nesting there. Given this and the fact that I did not observe a nest or young, I believe it unlikely that these grebes were breeding.

Possible hypotheses for mate feeding by non-breeding birds include (1) to establish, strengthen, and maintain the pair bond (Lack 1940), (2) to assess male parental quality based on mate feeding rates (Nisbet 1973, Wiggins and Morris 1986), and (3) rare and aberrant behavior. I address the last hypothesis first. I do not believe that this behavior is rare since I observed all of the elements of the behavior (except for the actual feeding) in the Western Grebe several additional times during the period of observation. Warter (pers. comm.) has also observed and photographed similar behavior in Clark's Grebe (*Aechmophorus clarkii*) on the wintering grounds. Furthermore, Western Grebes are seen often in pairs on the winter range and such pairs perform courtship behavior (as described by Nuechterlein and Storer 1982; Warter, pers. comm.). For example, I have observed the "greeting ceremony," which is performed by a reunited pair. "Weed dancing" and feather presentation have been observed locally (Warter, pers. comm.).

Previous studies of mate feeding rates (Nisbet 1973, Wiggins and Morris 1986) have been done during the breeding season. However, if mate feeding occurs in the winter range, it seems reasonable that male parental quality could be assessed.

Evidence for the importance of mate feeding comes from Tasker and Mills (1981), who reported that among pairs of Red-billed Gulls (*Larus novaehollandiae scopulinus*) the two males with the highest rates of mate feeding retained the pair bond the next breeding season, but the male with the lowest rate did not.

The presence of mate feeding in wintering Western Grebes suggests that new pairs are formed, or old ones are maintained, and/or male parental quality is being assessed, otherwise this behavior should be selected against. Further study on marked pairs would give insight into the possible importance of this behavior.

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