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**Ages of mated pairs of California gulls.**—Several studies of long-lived seabirds have shown that mated pairs are usually the same or nearly the same age. For example, Coulson and Horobin (1976) report ages of 29 pairs of Arctic terns ranging in age from 3 to 18 years old. Eighty-three percent of mated pairs differed in age by no more than 2 years. Mating of similar-aged individuals has been reported for a number of other species (e.g., Yellow-eyed Penguin [*Megadyptes antipodes*], Richdale 1957; Kittiwake [*Rissa tridactyla*], Coulson 1966; Red-billed Gull [*Larus novaehollandiae scopulinus*], Mills 1973; Fulmar [*Fulmarus glacialis*], Ollason and Dunnet 1978; White-fronted Tern [*Sterna striata*], Mills and Shaw 1980; Common Tern [*Sterna hirundo*], Nisbet et al. 1984). Here we describe ages of mated pairs of California Gulls (*Larus californicus*) and discuss possible explanations that may account for high correlation in ages of mated pairs.

**Methods.**—Data were gathered in 1979 and 1980 on California gulls breeding on an island on Bamforth Lake, Wyoming. Detailed descriptions of the breeding colony and nesting habitat are in Pugsek and Diem (1983).

Gulls from the Bamforth colony have been banded and wing-marked as nearly fledged chicks almost every year since 1958. Gulls were watched on the breeding island in 1979 and 1980 as they defended nesting territories. Their leg band or wing marker numbers were

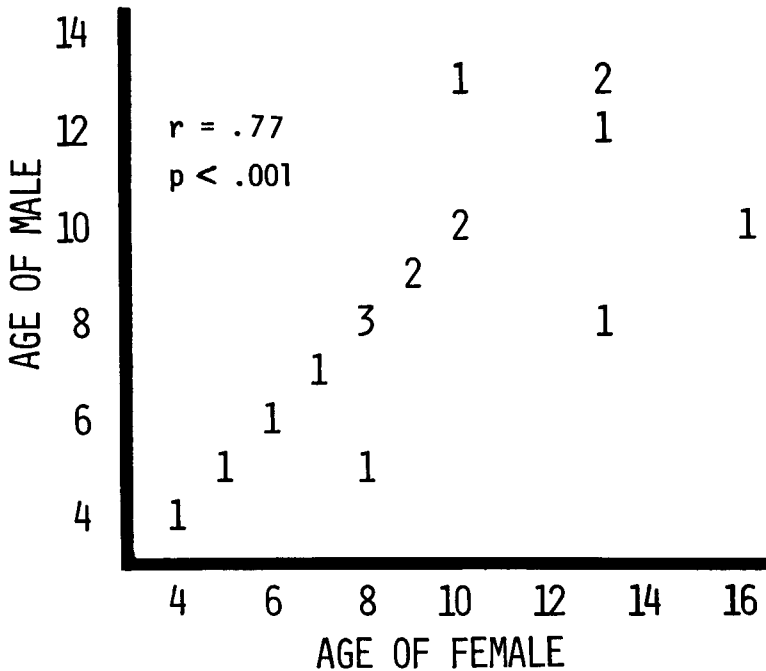


FIG. 1. Age of male and female mated California Gulls with Pearson's Correlation Coefficient and significance level. Numbers designate pairs found with a particular age combination (N = 18 pairs).

read with the aid of a spotting scope and the nesting territory marked with a coded stake ( $8 \times 2 \times 40$  cm). We returned to staked nest sites at various intervals to determine whether mates were also banded. Gulls were aged by banding records. Sex was determined by bill characteristics (bill length, head-bill length, and bill depth) (Fox et al. 1981, Diem, unpubl. data) recorded at the time of banding. Gender was further verified by visual comparisons of mates at the nest site. Males are usually larger than females and can be distinguished from females in side-by-side comparison of bill characteristics. In all cases, gender, as determined by such comparisons, agreed with that determined by previous bill measurements.

*Results and Discussion.*—Breeding adults in the Bamforth colony range in age from 3 to 20 years old (Pugesek and Diem, unpubl. data). Despite the wide variation in ages of potential mates, gulls nearly always mated with individuals of the same age (Fig. 1). In 13 of 18 pairs (72%), mates were born in the same year. Mates were within 3 years of age in 16 of 18 pairs (89%). Results, therefore, are consistent with those reported for other seabird species.

The similarities in ages of mates could occur for a number of reasons. In gulls, timing of reproductive readiness varies with age. For example Mills (1973) found that older Red-billed Gulls come into reproductive condition before younger gulls. A similar condition is likely in the California Gulls at Bamforth Lake as oldest members of the population are first to arrive in the breeding area, and establish nesting territories (Pugesek 1983). Thus if variation in the date at which gulls are physiologically ready to accept mates differs between age-classes, gulls would only find mates of the same age. The process of pairing similar-aged individuals may be further augmented by retention of mates from year to year (Coulson 1966).

It is unlikely, however, that timing of reproduction and retention of mates are sufficient to explain the high degree of correlation in ages of mated pairs observed during our study. Considerable variation occurs within age classes in behavior and timing of reproductive events (Pugesek 1983). Many young gulls establish territories, incubate, and hatch eggs before older gulls. For example, mean hatching date of the youngest gulls (3–6 years old) was only 4 days later than that of gulls 11 years and older. Standard deviations in hatching dates were 5.0 and 5.5 days, respectively, indicating a high degree of overlap between age groups. Presumably, a similar amount of overlap occurs between age groups in the date of pair formation. Nisbet et al. (1984) came to a similar conclusion that timing of reproduction was not sufficient to explain high correlation in mate ages. In addition, frequency of mate retention is low on the Bamforth colony. For example, only one of 5 banded pairs observed in 1979 was with the same mate in the following year. Had individuals paired at sexual maturity and remained together for life, mate retention would result in high correlations in mate ages. However, as mate retention is not life-long, its tendency to produce correlation in mate ages is greatly reduced.

Considerable age-related variation occurs among California gulls in parental behavior. Reproductive effort and fledging success increase with age (Pugesek 1981, 1983; Pugesek and Diem 1983). Consequently, mate selection may also be based on age. Individuals may actively select mates (after Parker 1983) based on their age and potential for reproductive investment. Further investigation is required to determine the mechanism(s) which result in a high correlation in ages of mates.

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**Aerial rain bathing by Common Nighthawks.**—Both Slessers (Auk 87:91–99, 1970) and Simmons (pp. 101–104 in *A Dictionary of Birds*, B. Campbell and E. Lack, eds., Buteo Books, Vermillion, South Dakota, 1985) classified methods of bathing in water by birds, but neither mentioned a method we observed in the Common Nighthawk (*Chordeiles minor*), and here named “aerial rain bathing.”

At about 12:00 EDST on 10 August 1985 a thunderstorm with heavy rains passed over the Archbold Biological Station in Highlands County, Florida. During the next 45 minutes, 43 mm of rain fell locally and west winds gusted up to 37 km/h. From inside the laboratory building we watched a flock of about 15 nighthawks flying in the heaviest downpour. They flew about 10 to 35 m above oak scrub and among and above scattered slash pines (*Pinus elliotii*), where we think they had been roosting before taking flight.

The flight of the birds was different than usual: they often glided in place as they all faced into the wind, with their body plumage ruffled and tails slightly spread. They appeared to fly with slower wing beats than normal, but several times gave short series of quick beats.