

of a small tree at 3 to 6 m. On each occasion the female's wings were audibly hitting the leaves as she hovered amongst them.

While Skutch (op. cit.) has described the nesting of the Mountain Gem and once observed a young male, still being fed by his mother, who was persistently singing a very faint song, he has never heard song from adult males or observed any other courtship activity. During my observations both male and female Mountain Gems were usually silent except for occasional flight notes uttered during longer flights between nectar sources. But on 11 June I observed a male briefly uttering an insect-like song from a perch beside a *Palicourea* shrub at which it was periodically feeding. Another observation suggested that there may at times be a sharing of nectar resources between the sexes. Between 11:40 and 12:00 on 13 June I watched a male Mountain Gem which held a feeding territory over 3 flowering *Palicourea* shrubs. During this time he was observed both feeding at the shrubs and chasing off a female from them; then at 12:00 a female came to one of the *Palicourea* shrubs and began to feed, and between each probe she uttered a short call which I transcribed as *trrrt*. While she fed, the male was perched immediately below her on the same perch he had been using the previous 20 min. He remained perched there throughout the female's feed and once uttered an answering *trrrt*. The only other occasion when this call was heard was earlier on the same day when a female, feeding at the same *Palicourea*, was noted as uttering the call between each feeding probe.

Interpretation of this behavior on a single observation would be premature, but it suggests that males may have a special relationship with particular females, and may allow them to share the nectar in their feeding territories. Wolf and Stiles (Evolution 24:759-773, 1970) found that male Fiery-throated Hummingbirds allowed females with whom they mated to feed within their defended territory.

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Black-legged Kittiwakes nesting on snowbank.—On 4 July 1975 we found 20 nests of the Black-legged Kittiwake (*Rissa tridactyla*) being built on a snowbank at St. Paul Island, Pribilof Islands, Alaska (Fig. 1). The snowbank, approximately 10 m high, 100 m long and sloping at an angle of 75°, was blocking access to an area of south-facing cliff just east of Southwest Point. More Black-legged Kittiwakes and several other species of seabirds were nesting on the cliffs on either end of the snowbank.

The nests on the snowbank were not noted on 28 June, the date of the previous visit to the area. During the next 10 days after 4 July, the nests disintegrated and fell as the snow melted. No eggs were seen nor were the adults noted incubating. These nests were built relatively late in the breeding season, as the first eggs of this species on the island were seen on 27 June. On 7 July 85% of the Black-legged Kittiwake nests in a nearby study area were being incubated.

It is unclear whether this use of a snowbank as a nest substrate was the result of site tenacity on the part of the kittiwakes or of the lack of suitable alternative nest sites. Sealy (Auk 92:528-538, 1975) discusses a similar situation in which Least Auklets (*Aethia pusilla*) and Crested Auklets (*A. cristatella*) on St. Lawrence Island laid eggs on snow. Snow nesting of the auklets was restricted to those birds faithful to nesting habitat that remained snow covered until mid-July. Belopol'skii (Translated from Russian book *Akademiya Nauk SSSR, Karelskii filial*. U.S. Dept. of Commerce 61-11487, p. 118, 1957) states that Herring and Great Black-backed gulls (*Larus argentatus* and *L. marinus*)

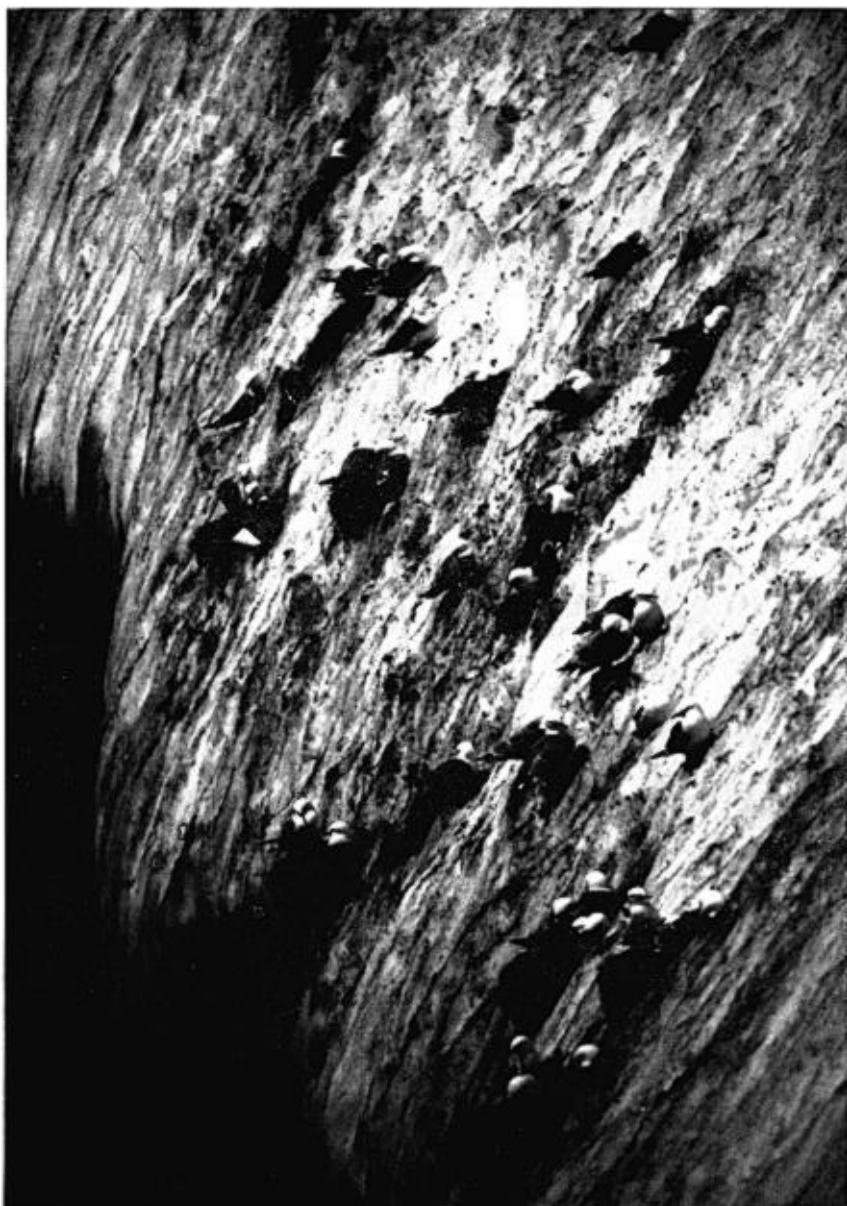


FIG. 1. Black-legged Kittiwakes building nests on a snowbank, St. Paul Island, Alaska, 4 July 1975.

nesting on Kharlov Island in the Barents Sea occasionally build nests on snow, although the majority of pairs wait until the snow has melted.

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Evidence of double brooding by American Kestrels in the Colorado high plains.

—Double brooding, although considered uncommon in the Falconiformes, has been reported in the Harris Hawk (*Parabuteo unicinctus*) in southern Arizona (Mader, *Living Bird* 14: 59–85, 1975), Caracara (*Caracara cheriway*; Bent, U.S. Natl. Mus. Bull. 170, 1937), and the American Kestrel (*Falco sparverius*) in Florida (Howell, *Florida Bird Life*, Coward-McMann, New York, 1932). Captive American Kestrels have also produced second clutches after fledging the first brood (Porter and Wiemeyer, *Condor* 74:46–53, 1972). Observations at 2 nest boxes in southeastern Colorado during 1975 and 1976 breeding seasons suggest that double brooding also occurs in American Kestrels under natural conditions in a temperate climate.

The boxes, 2 of 25 attached to wooden H-frame towers of a 230 kV transmission line, were approximately 13 km SSE of Ellicott, El Paso County, Colorado. The terrain is rolling sandhills vegetated with yucca (*Yucca glauca*), sand sagebrush (*Artemisia filifolia*), and a variety of herbs and grasses. Insects (Orthoptera, Coleoptera), small lizards, and Horned Larks (*Eremophila alpestris*) were available and used as prey items.

An adult female American Kestrel was flushed from 5 eggs in Box A on 19 April 1975. She was brooding 3 recently hatched chicks on 14 May, and on 5 June, three 3½-week-old young were banded. Two infertile eggs were also removed. The empty box and its heavily muted top on 17 June suggested successful fledging; 1 kestrel was heard but not seen. On 8 August, 4 infertile eggs and a 2-week-old nestling were found in the box.

Four 2½-week-old young were banded on 25 May 1976 at Box B, 7 km northeast of Box A. On 24 June an ASY female, aged according to Parkes (*Wilson Bull.* 67:194–199, 1955), was captured on 5 warm eggs. A male escaped from the box while the female was being removed for banding. Another male and female were perched on the tower above Box B. The latter male aggressively defended the nest box suggesting that it was the mate of the incubating female. The other 2 kestrels were passive and less wary than the occupying adults, remaining perched throughout the nest visit. Young kestrels tend to remain in the breeding territory of their parents until fall migration (Balgooyen, *Univ. Cal. Publ. Zool.* 103, 1976). Since the nesting pair tolerated the extra kestrels in and near the nest, we believe that they were progeny of the first nesting attempt by the occupying pair. The 5 eggs were warm on 16 July but cool on 7 August and showed no development when opened. Handling the female during early incubation may have caused a temporary abandonment, killing the embryos, or all eggs may have been infertile.

We realize that our evidence is circumstantial. The 2 passive kestrels at Box B could have been members of an adjacent breeding pair. Nests of American Kestrels have been reported within 34 m of each other (Nagy, *Wilson Bull.* 75:93, 1963) and no territorial defense was observed between pairs nesting within 60 m (Smith et al., *Southwestern Nat.* 17:73–83, 1972). However, Balgooyen (op. cit.) found that Kestrels defended their territories from other Kestrels primarily by mutual avoidance rather than repeated defense