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ECOLOGY OF AMERICAN KESTRELS WINTERING ON SOCORRO ISLAND, MEXICO

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Although American Kestrels (*Falco sparverius*) are not known to breed on the Revillagigedo Islands in the Mexican Pacific, they have been observed there in increasing numbers in recent years (Wehtje et al. 1993). I had the opportunity to observe a wintering population on Socorro Island in December 1992. This note reports on its territorial and foraging behavior as a contribution to the limited literature on the ecology of nonbreeding American Kestrels in the Neotropics.

Socorro Island lies 460 km south of Baja California's Cabo San Lucas. The main study site on Socorro (area = 140 km^2, highest elevation 1040 m above sea level) consisted of a 300 × 100 m grassy field at an elevation of about 450 m that was covered with grasses and weedy forbs <0.5 m in height and surrounded by low trees. Several snags (up to 2.5 m in height) of shrubby *Psidium* trees were dispersed across the open field. Nearby, there were eroded slopes, woodland patches and low scrub.

For 5 d, from the evening of 30 November to the morning of 5 December 1992, I observed the main study site and the area immediately around it for kestrels during morning and predusk hours. I observed kestrels from a distance of 40–80 m so as not to disturb them. I distinguished individual birds by their plumage and feather condition and by recording kestrels that repeatedly used and defended perch sites in hunting areas. Kestrels could not be aged with certainty. Kestrels were also seen but not monitored in other parts of the island. I did not notice any kestrels that flew to and from the island.

I counted at least 14 different kestrels in the southeast quarter of Socorro Island. Only two of them were males. The kestrels that I monitored closely showed a high degree of site fidelity. The six kestrels regularly monitored near my campsite occupied the same area day after day. One female kestrel that had its night roost in the dense foliage of a small *Bumelia* tree about 8 m away appeared to spend the entire observation time in the open, weedy field foraging in an area approximately 3 ha in size. After a few days of observations, I could accurately predict the whereabouts of this kestrel. It left its roost each morning before sunrise (0630–0645 H) and flew to one of the low snags where it hunted. Its daily routine appeared to require a minimum of energy. It would hover occasionally, then grab a small prey item from the ground and fly up to a snag to eat it. It would stay for a few min on one snag but would then fly to another, gradually covering the entire 3 ha area. In the afternoon this female was less active. It rarely foraged in the afternoon but typically preened or soared above its territory and roost. From 1–4 December, it roosted in dense evergreen foliage at 1753, 1752, 1735 and 1722 H. Once (2 December), it roosted in the early afternoon from 1315–1720 H when it began to rain.

I observed neighboring kestrels on all sides of this kestrel. These kestrels behaved similarly and spent very little time in flight. Mostly, they perched on elevated vegetation from dawn to dusk and <10% of their time was spent in flight and foraging. All of the kestrels appeared to use their own foraging areas and I seldom observed intraspecific agonistic interactions with the exception of two birds which occasionally soared, dived and playfully chased each other in the updraft of a precipitous slope.

I observed another kestrel on 6 December from 0900–1400 H within the residential Mexican Navy compound at the southern tip of the island. It perched on metal antennas, lampposts and treetops during multiple foraging and resting periods. This bird hunted an area about 6–8 ha in size that consisted mostly of grass-covered, park-like habitat between buildings. It behaved similarly spending little time in flight.

The kestrels were obviously territorial toward other species. They aggressively defended their perches against resident Red-tailed Hawks (*Buteo jamaicensis socorroensis*) and passing Sharp-shinned Hawks (*Accipiter striatus*).

Although there were numerous small songbirds and house mice (*Mus musculus*) within the kestrel territories and the surrounding areas, I never observed a kestrel taking a bird or mammal. On several occasions, however, they captured and ate arthropod prey. The most common items were crickets, small grasshoppers, and large locusts which were abundant all over the island. Kestrels usually spotted arthropods on the ground from perches or from a low hovering position and pounced on them. No pellets were found (possibly because of the presence of large scavenging land crabs, *Gecarcinus planatus*) but I found dismembered legs of large grasshoppers or locusts at some of the perches. The apparent insectivorous diet of this population is not unexpected since breeding populations and juveniles have also been reported to be insectivorous (Balgooyen 1976, Varland et al. 1993).

Socorro Island's tropical latitude makes it a likely mi-

gration and wintering location for American Kestrels, particularly for female and juvenile birds (del Hoyo et al. 1994). The sizes of the two winter territories I observed (3 and 6–8 ha) were small compared to those observed in the northern U.S. (Craighead & Craighead 1969, Enderson 1960, Mills 1975). In California, Cade (1955) observed similarly small winter territories (e.g., a vacant lot 100 × 130 m in size). It may be that Mediterranean-type and tropical winter habitats with their mild or warm climates offer higher densities of prey biomass for wintering kestrels than do habitats in temperate and boreal climates.

RESUMEN.—Y observe lo minimo de 14 diferente *Falco sparverius* en la isla de Socorro en el pacifico de México en 1992. Los *Falco sparverius* parecieron ocupar y defender territorios de presa en areas herbosas en la isla donde primeramente cazaban grillos, saltamontes y langostas. Estos territorios de cazar varian en tamaño de 3–8 ha y estaban notable mas pequenos que eso antes descubridos para *Falco sparverius*.

[Traducción de Raúl De La Garza, Jr.]

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DIET OF THE SPECTACLED OWL (*PULSATRIX PERSPICILLATA*) DURING THE RAINY SEASON IN NORTHERN OAXACA, MEXICO

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The Spectacled Owl (*Pulsatrix perspicillata*) is the largest owl in humid tropical forests of the New World, averaging 750 g in mass (Stiles and Skutch 1989). Based on its size, it is likely that it preys on the largest potential prey species in tropical forests (Emerson et al. 1994) and it is known take mammals up to the size of agoutis (*Dasyprocta* spp.), skunks (Mephitinae) and opossums (Didelphidae). It also preys on birds as large as oropendolas (*Psar-*