J. Raptor Res. 29(2):146–147

Lesser Kestrels or Not—A Response to Hiraldo et al.

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The value and limitations of roadside surveys and abundance indexes for raptors have been well documented (Kochert 1986, Fuller and Mosher 1987, Millsap and LeFranc 1988), and need not be repeated again here. Suffice it to say that most indexes of raptor relative abundance should be used with caution because of variable species detectability and other inherent biases associated with road counts.

Hiraldo et al. (1995) believed that the results of my roadside surveys in Turkey and Greece (Eakle 1994) are unreliable. Their objections were that various modes of transport were used (train, bus, car, and on foot), distances traveled were unspecified, and the difficulty of separating the lesser kestrel (*Falco naumanni*) and Eurasian kestrel (*Falco tinnunculus*).

Contrary to Hiraldo et al.'s first assertion, Table 1 of Eakle (1994) clearly specifies the distance of each survey route. Four surveys were accomplished by train, nine by bus, five on foot, eight by bus and foot, and one by car and foot. The distances for the nine surveys conducted by bus/foot and car/foot were combined, but all foot surveys were less than 15 km and most were 5–10 km in length.

Hiraldo et al. further note that vehicle speeds were not checked during the surveys, an unfortunate circumstance clearly stated in my article. However, vehicle speeds can easily be estimated by knowing the approximate distance traveled and approximate traveling time for each survey—data included in Table 1 of Eakle (1994). For example, the average speed for train surveys was calculated to be 68 km/hr (range 60–81 km/hr); 42 km/hr for bus surveys (range 16–69 km/hr); 1.5 km/hr for foot surveys (range 1–2 km/hr); 12 km/hr for the bus/foot surveys (range 2–30 km/hr); and 8 km/hr for the car/foot survey. For comparative purposes, Donázar et al. (1993) reported driving speeds of 60-70 km/hr during their survey of Argentinean Patagonia, and Ellis et al. (1990) reported speeds of 70–80 km/hr on paved roads and 50 km/hr on unpaved roads during their survey in South America. Andersen and Rongstad (1989) drove at slower speeds of 25–40 km/hr, and Bauer (1982) reported an average speed of 48 km/hr. Therefore, the speeds of the various modes of transport that I used are probably well within the ranges reported by other researchers.

Employing more than one survey method (vehicle type) is not unprecedented in the literature. Howard et al. (1976) used three survey methods in various combinations in southern Idaho, including ground surveys on foot and with vehicles, as well as fixed-wing and rotary-wing aircraft. Clearly, it is desirable to standardize survey methods when conducting roadside counts, including the type of survey vehicle and driving speeds. However, planning and conducting the surveys in Turkey and Greece presented numerous logistical challenges which were best overcome by employing public transport to the maximum extent practicable. The survey results obviously represent a single count (Bortolotti 1992), but the routes could be repeated by other researchers. Also as noted in Eakle (1994), visibility was outstanding and comparable between trains and buses, and actually seemed superior to viewing opportunities from cars (Eakle unpubl. data).

As mentioned above, Hiraldo et al. (1995) assert that it is extremely difficult if not impossible to distinguish between Eurasian kestrels and lesser kestrels, particularly flying birds and especially females in flight. I wholeheartedly agree that well-developed observational skills and experience are prerequisite to correctly identify these small falcons in the field, particularly when conducting a survey with limited opportunities to stop and identify distant birds. However, despite Hiraldo et al.'s assertion, I found several key field characters useful for distinguishing between these two species—both males and females.

In flight and perched, adult male lesser kestrels are easily distinguished from adult male Eurasian kestrels by the blue-grey panel on the larger wing coverts (Wallace 1983); by the lack of dark spots on the chestnut back (Brown and Amadon 1968, Cade 1982, Steyn 1982, Peterson et al. 1983, Hosking et al. 1987); by the cleaner, whiter underparts with white underwings contrasting with the creamy buff body and black wingtips (Porter et al. 1978, Handrinos and Demetropoulos 1983, Tarboton 1989, Steyn and Arnott 1990); by the lack of moustachial stripes (Porter et al. 1978, Burton 1989); and by the slimmer build, narrower wings, and more slender tail (Wallace 1983, Gensbol 1987).

Adult male Eurasian kestrels show a distinctly spotted back and inner wing (Wallace 1983), and are easily told from adult male lesser kestrels by their black spotted chestnut upperparts, chestnut instead of blue-grey greater co-

verts, flight feathers which are more barred, black moustachial stripe, buffish underparts which are more heavily streaked, and lack of black wing-tips (Porter et al. 1978).

The adult female lesser kestrel is less heavily marked than the adult female Eurasian kestrel (Wallace 1983); has paler and less streaked underparts, especially the underwings and undertail coverts (Cade 1982); is smaller in size (Grossman and Hamlett 1964); and often has a wedge-shaped tail (Porter et al. 1978).

Adult female Eurasian kestrels show heavy moustaches and heavy body streaks (Wallace 1983); are larger in size than lesser kestrels; have more heavily streaked underparts, particularly in the underwing coverts; and clearly have more barring on flight feathers when viewed from below (Porter et al. 1978).

Juvenile lesser kestrels are like adult female lesser kestrels (Cade 1982), and juvenile Eurasian kestrels are like adult female Eurasian kestrels (Tarboton 1989). In the case of juveniles and females, the lesser kestrel has a more pointed tail center than the Eurasian kestrel (Wallace 1983, Gensbol 1987) which is more heavily spotted and streaked on the undersurface (Weick 1980).

As discussed in Eakle (1994), I observed several small flocks of lesser kestrels in Turkey and Greece. Most flocks consisted of six or fewer individuals. However, three larger flocks were observed, composed of nine, 10 and 19 individuals, respectively. The largest flock appeared to be three smaller subgroups, with seven individuals in the largest subgroup. Using the above described field characters, I was able to successfully identify all individuals to the species level. I did not observe any mixed flocks of lesser and Eurasian kestrels during my surveys as mentioned by Hiraldo et al. (1995) and did not make species identifications based on behavior alone as Hiraldo et al. seem to imply.

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