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Food Piracy Between European Kestrel and Short-eared Owl

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I studied a raptor community of the large field plain of Alajoki in Southern Ostrobothnia, western Finland (63° 05' N, 22° 55' E), from 1977 through 1982 (see Korpimäki, et al. 1977, 1979). The most numerous raptor on the study area was the Short-eared Owl (*Asio flammeus*) (315 total pairs, 39.4%), followed by European Kestrel (*Falco tinnunculus*) (36.2%), Long-eared Owl (*A. otus*) (20.0%), Northern Harrier (*Circus cyaneus*) (2.5%), Boreal Owl (*Aegolius funereus*) (1.6%) and Sparrow Hawk (*Accipiter nisus*) (0.3%); for addition details see Korpimäki

1984a). Although the 4 most common species comprise the guild of open-terrain hunting birds of prey in the study area (Korpimäki 1978, 1981), inter- and intra-specific food piracy or kleptoparasitism (see Brockmann and Barnard [21979] for additional details on the terms) was observed only once. Consequently this case may be of some interest.

On 16 May 1982 at 2130 H, I saw a Short-eared Owl in the northern part of Alajoki flying over the field at the height of about 120 m and carrying a vole in its talons. The

owl passed a male European Kestrel sitting on the roof of a barn. The kestrel chased the owl and struck it in the back. It attacked 3 times and the owl took shelter in high vegetation near a ditch. The kestrel stopped attacking and returned to the roof of the same barn. The owl waited for a few minutes on the ground and then started to fly and hunt again. When I examined the location where the owl took shelter, I found a whole Common Vole (*Microtus arvalis*), which was still warm, but no owl nest. The nest in this territory was found on 5 June, when the young were just hatching. Consequently the female was incubating in the middle of May, and the owl observed was probably the hunting male. The kestrel does not breed in the vicinity and was apparently not defending a nest.

The proportion of *Microtus* voles (*M. agrestis* and *M. arvalis*) in the diets of raptors was studied in 1977, when it was 95.5% for Long-eared Owl, 97.6% for Short-eared Owl and 87.7% for European Kestrel (Korpimäki et al. 1977). As rodents are central also in the diet of Northern Harrier (in Norway 57%, Hagen 1952), voles are the most important prey item for raptors of Alajoki, although there are also some alternative prey groups available (e.g., shrews, mice, birds, lizards, frogs and insects; Korpimäki 1984b). Consequently, one might expect a keen inter- and intraspecific competition for food among these birds, especially when voles are scarce. Vole populations crashed in 1980-81 and were in the increase phase in 1982 (Korpimäki 1984a), wherefore a lack of food may have been the reason for piratical behaviour of the kestrel. Also, Brockmann and Barnard (1979) pointed out that kleptoparasitism occurs more frequently during years of a food shortage. The hunting Short-eared Owl flies near the ground and locates its prey by hearing and sight. The hunting technique of the owl is adapted to catching of prey animals in the high grass (for example in uncultivated fields) better than that of the kestrel, which flies or hovers high in the air over the field (Korpimäki 1978). The Short-eared Owl is a vole specialist, while the kestrel preys opportunistically on shrews, birds, lizards, frogs and insects when voles are scarce (Korpimäki 1984b). Thus the Short-eared Owl can probably catch voles of lower densities compared with the kestrel, and it may be advantageous for the kestrel to rob food from Short-eared Owl, which is quite a slow flyer.

Food piracy between the European Kestrel and Short-eared Owl is quite rare. I have found only 6 earlier cases described in literature (from Sweden, Mascher 1963, Nilsson 1975 and from Great Britain, Balfour 1973, Reese and Balfour 1973, Boyle 1974, Clegg and Henderson 1974). Dickson (1971) has described also an interaction of Short-eared Owl, European Kestrel and Northern Harrier on same pipit prey. All above mentioned cases were observed from the end of winter to the beginning of summer when vole populations were at their lowest and the competition for food may have been keenest. Food shortage enhances kleptoparasitism among birds, espe-

cially in falconiforms and charadriiforms (Brockmann and Barnard 1979).

Food piracy is more general between open-country predators in central and western Europe than in my northern study area, because harriers can also take prey from Short-eared Owls (11 cases in Great Britain, Watson 1977 and in the United States, Berger 1958, Clark 1975). On the other hand, Short-eared Owl may sometimes adopt piratical behaviour. Wood (1976) has observed that the owl tried to take a small rodent from a Stoat (*Mustela erminea*); Bildstein and Ashby (1975) saw the owl robbing prey from Northern Harrier and Gordon Riddell (according to Mikkola 1983) described a Short-eared Owl attempting to take prey from a kestrel. This apparent difference in frequency of piratical behaviour between regions may be due to the cyclic fluctuations of the vole populations in northern Europe causing a higher degree of nomadism among raptors compared with a more stable food production in more southern areas where raptors tend to be resident. Most raptors migrate from my study area when voles are scarce (Korpimäki 1984a), and this behaviour decreases the competition for food.

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An Unusual Observation of 'Homing' To Prey By A Migrating Immature Peregrine Falcon

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On 6 October 1981 at 10:05 EST, while operating a raptor banding station on the Long Island, New York barrier beach, I saw a hatching year female Peregrine Falcon (*Falco peregrinus*) land approximately 50 m from my blind and begin eating a small passerine (probably a White-throated Sparrow (*Zonotrichia albicollis*, based on feathers). The falcon was on a low, beach heather (*Hudsonia*) covered rise in a broad, open rolling area. Soon after the falcon began eating, an Osprey (*Pandion haliaetus*), carrying a fish, came over the falcon, vocalizing. The Peregrine flew up and chased the Osprey over the bay to the north, stooping repeatedly at it before flying out of sight. Within 5 min the falcon reappeared on its kill. As the prey was small, cryptically colored, and in a broad, non-descript area of the beach, and since the Peregrine was not seen searching for it, apparently the falcon remembered exactly where it had left its kill and was able to return there from a point out of sight.

Falcons frequently return to cached prey. What is interesting about this incident is that the falcon was a first year migrant and the topography was almost certainly not familiar (the banding station had been manned daily for 3 w prior, and no Peregrines appeared to have been staying in the area). Enderson (Auk. 81:332-352, 1964) described wintering Prairie Falcons (*Falco mexicanus*) leaving their prey on the ground and driving off other rapors in a similar manner. His falcons seldom had difficulty relocating the prey, but this is not surprising because they were familiar with the area.

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Errata - Raptor Research 18(2)

Page 44 (Table 1 concluded), 0.420^g should appear in the column for shell thickness, 0.49^h should appear in the column for HE and 0.27^h should appear in the column for DDE; page 47, paragraph 3, line 6, > 8 ppm should appear as ≥ 8 ppm; page 61, Literature Cited, the Sawby et al. reference appeared in *Condor* 76:479-481; page 70, photographs are reversed.