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Intraspecific piracy in Ospreys.—Piracy is a common foraging tactic in birds. By stealing prey, pirates avoid incurring time and energy cost of locating, handling, and transporting prey but may risk injury if the owner defends the contested resource (Brockmann and Barnard 1979, Hansen 1986). Ospreys (*Pandion haliaetus*) are frequent victims of interspecific piracy (Bent 1937, Prevost 1979), since their conspicuous mode of prey transport and reduced flight agility when carrying prey make them easy targets, but intraspecific piracy is heretofore unreported.

I studied Ospreys in the Creston Valley of southeastern British Columbia particularly at a nest with two chicks on a bridge at the mouth of the Kootenay River (49°15'N, 116°41'W). On 13 July 1987, the chicks (28 and 24 days old) were nearly identical in mass (1205 vs 1180 g), and at feeding bouts that day received similar portions of food. A severe 3-day rainstorm began on 16 July, during which time no observations could be made at the nest. Strong winds and thunderstorms occurred continuously throughout this period. Nest-watches resumed on 19 July, when the storm had abated. At 1008 h the parent male delivered a black bullhead (*Ictalurus melas*) which the female fed to the chicks. Although no aggression occurred, the older chick ate 78% of the 83 bites eaten by the chicks. The younger chick appeared weakened, and by 1305 h was lying on its back making only feeble movements. At that time, the female parent left the nest and flew toward a second male from an adjacent nests which was standing on the riverbank with a live largescale sucker *Catostomus macrocheilus*; estimated mass 600 g). The female grabbed the caudal peduncle of the sucker, and a prolonged tug-of-war with the male ensued. The male resisted the female's attempts to take the fish until the female released the fish and attacked the male, biting his bill and head. The female then flew with the sucker to a site about 300 m north of the bridge. During this flight, she was attacked and struck twice by the victimized male. The male returned to its nest 300 m south of the bridge and the female ate the anterior portion of the fish over the next 31 min. At 1351 h she returned to the nest with the fish, and over the next 2 h and 27 min, at two feeding bouts, fed the older chick 544 bites. The hunger of the female

and older chick was clearly evident. The 472 bites the chick ate at the first of these feeding bouts exceeded by $26\times$ the mean amount eaten ($\bar{x} = 17.8$, range = 0–54 bites) at six feeding bouts immediately prior to the rainstorm (13–15 July). Similarly, the 109 bites the female ate before delivering the sucker to the nest exceeded by $8\times$ the mean amount ($\bar{x} = 13.5$, range = 2–57 bites) she ate at six feeding bouts on 13–15 July.

The younger chick became weaker and by 1600 h had died. At no time during these feeding bouts did the female offer it food. The carcass was recovered and was found to be severely emaciated (mass = 915 g, a decline of 265 g from 13 July). There were no indications of physical abuse, and I assume starvation was the cause of death. The older chick subsequently survived to fledge from this nest.

This case of piracy by the female Osprey apparently was not just an opportunistic theft of an unusually large prey item; large suckers were taken frequently by Ospreys from the three nests (the focal nest and two adjacent nests) at the mouth of the Kootenay River, thus she had many opportunities to steal similar prey but did not do so. Moreover, female foraging during brood-rearing is itself unusual; male Ospreys normally deliver virtually all of the prey to the family from the onset of incubation until late in the nestling period (Stinson 1978, Levenson 1979, Jamieson et al. 1982, Stinson et al. 1988).

The extreme hunger of the female and/or her chicks appears to have driven her to seek food by piracy. Presumably the food deliveries of the male during the rainstorm were insufficient to meet the food needs of the family, as Osprey hunting success may be severely depressed during heavy winds and rain (Poole 1984, 1989). I suspect that the prospect of escalated fighting (as occurred here) normally deters Ospreys from intraspecific piracy.

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