

AERIAL TALON-GRAPPLING IN NORTHERN HARRIERS

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Aerial talon-grappling (Ellis, Wildl. Monogr. 70, 1979) between conspecifics has been described for some falconiforms (Brown and Amadon, Eagles, hawks, and falcons of the world, McGraw-Hill, New York, 1968; Ellis 1979; Newton, Population ecology of raptors, Buteo Books, Vermillion, SD, 1979). These researchers reported that the birds locked one or both feet and somersaulted together, releasing their grip while still in the air. In some *Haliaeetus* eagles, kites (*Haliaeetus* and *Milvus*) and Upland Buzzards (*Buteo hemilasius*), talon-grappling is thought to function in courtship between mated birds (Brown and Amadon 1968). Newton (1979) believed that in some kestrels (*Falco*), Peregrine Falcons (*F. peregrinus*) and Golden Eagles (*Aquila chrysaetos*), talon-grappling is an agonistic behavior related to territorial defense.

Northern Harriers, or Marsh Hawks (*Circus cyaneus*) have been observed to lock talons in the air during prey transfers (F. Hamerstrom, pers. comm.), but this has rarely been seen in other circumstances. Geroudet (*in* Watson, The hen harrier, T. & A. D. Poyser, Berkhamsted, England, 1977) reported aerial talon-grappling by two male harriers engaged in agonistic interactions. We describe here three cases of aerial talon-grappling by Northern Harriers involved in agonistic behavior in the Snake River Birds of Prey Area, southwestern Idaho.

On 26 June 1978, at 11:10, JSM observed two female harriers calling and flying over a nesting area where one of the females had young. The other female, an intruder, was of unknown origin. Within 5 min the birds flew together and grabbed at each other with their feet. Next, they locked talons in the air and spiraled (both birds circling each other in the same plane) downward to the ground where they separated and faced each other. The intruder soon flew up and soared over the canyon while the resident female remained on the ground. Six minutes later an adult male appeared with prey. The resident female flew to him, received prey, landed, and began to feed. The intruding female continued to soar and call for a few minutes and then flew out of sight.

On 29 March 1981, beginning at 17:30, THC and EHC watched two adult male and two brown harriers (one of which was thought to be an adult female because of the pale, streaked breast and pale plumage) fly around and around over a small drainage. After a short time, one of the adult males flew away. The brown harrier of unknown

sex and age, which had a distinctly darker head and dorsum than the adult female, chased and was chased by the remaining adult male. During the chases both birds dived at each other and they usually presented talons (see Ellis 1979) as they passed. During one chase, when the adult male was behind and below the dark-backed harrier, they presented talons and locked both feet together. The birds fell about 5 m to the ground after making at least three spirals. They remained close together for 4 min, but because they were behind a shrub only their heads and wing tips were visible as they thrashed about. The birds faced each other and it appeared that either their feet were still locked together or they were striking each other with their feet. Afterward, the dark-backed harrier flew rapidly away with the adult male following behind. Both birds presented talons twice more before the dark-backed harrier flew out of sight. The adult male and female remained in the drainage.

A few minutes later a dark-backed harrier (presumably the bird seen earlier) flew into the drainage, and the adult male began to chase or follow it. Both birds presented talons several times before locking talons and falling about 3 m to the ground, spiraling twice. Again, the birds were partially obscured by a shrub, but it appeared that their feet were still locked together when they hit the ground. While on the ground they faced each other and engaged in much wing-flapping and head-bobbing. Less than a minute later the adult female flew toward the perched birds and landed between them, appearing to force the birds apart. All three birds stood motionlessly on the ground for a moment, after which the dark-backed harrier flew away.

The following day, Leon Powers and Mike Smith (pers. comm.) watched an adult male and female, and a dark-backed harrier in the drainage. They determined from size and plumage that the dark-backed harrier was a subadult male. The adult male and subadult male chased each other and presented talons, but no talon-grappling was seen. We suspect that this dark-backed harrier was the same one observed talon-grappling with the adult male on the previous day.

Because prey or prey transfers were not associated with the behavior we observed we believe that talon-grappling in Northern Harriers is an agonistic behavior that occurs between adults of either sex and an intruder that may be an adult or subadult.

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