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PEREGRINE FALCON TAKES BLACK-BELLIED PLOVER FROM SEA OFF KENYA

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At 0645 H on 8 January 1989 we noticed a Peregrine Falcon (*Falco peregrinus*) in flight ½ km from shore at Watamu, Kenya. The falcon was making rather slow, circling swoops between us ashore and a grassy, rocky islet about 1 km east of the former home of the late falconiform specialist Leslie Brown. We then observed a bird in the water around which the falcon flew. The bird in the sea attempted to fly and actually rose from the water for 1-2 m, then crashed down. The falcon increased its speed and swooped at the bird, which raised 1 or both wings and lowered its head at the approach of the falcon. The bird in the water appeared waterlogged and injured, but for 10 min or so it made movements (beating wings, head and neck thrust under water) to evade the Peregrine, whose stoops became more regular and in tighter circles.

At 0658 H we began counting the Peregrine's swoops, and noted that the prospective prey, which likely had been attacked by the falcon and injured before we arrived at the beach, was less active, only ducking its head and moving its wings on the water. By 0707 H we had counted 75 stoops of the Peregrine, the "circles" over the bird had become smaller, more elliptical, and from one side and then the other (instead of full swoops around and back from only one direction). At 0710 H the Peregrine adroitly lifted the bird from the sea, which was moderate but not rough in a light wind. The Peregrine made a half circle, clutching the bird, about 5 m over the water, then headed momentarily toward the islet before reversing and flying back (west) toward us, with the east (inshore) wind behind it. The falcon landed on a rock 100 m south of us, near the shore, and began plucking feathers from its prey. The Peregrine likely was a subadult, as it was mainly barred below with some streaking, and pale above.

We approached the falcon slowly at 0711 H. One min later it carried the prey 30 m farther south to a larger rock, where it continued plucking and began to feed. We had seen feathers fall at the first site, so we now left the beach, hoping the falcon would finish its meal and leave enough remains for us to identify the rather small bird it had taken. We returned about 20 minutes later at 0735 H, the Peregrine was gone. We sought remains of the prey, finding: a) at the first site body feathers and the head of a Black-bellied Plover (*Charadrius squatarola*); and, b) at the second, intestines, some tail and body feathers and the 2 wings, attached by some flesh, bearing the diagnostic black axillary feathers of the species. We surmise that the

plover, common at Watamu in the boreal winter, had been flying north or south parallel to the coast, where it was attacked by the Peregrine (likely hunting out from the islet). It must have been injured when struck, likely just over the sea (this plover usually flies close to the water), into which it fell before the Peregrine could retrieve it.

The actual kills of wild Peregrines are rarely witnessed (Ratcliffe 1980:128). It is clear (Brown 1976; Brown et al. 1982) that most prey of Peregrines is taken in the air. Experienced (adult) Peregrines are adept at shepherding prospective landbird prey out over the water (although they may pursue it toward land when the prey tires and becomes more vulnerable), and water birds, inland (Hunt et al. 1975; Treleven 1977; Sherrod 1983).

Beebe (1960) studied breeding Peregrines of the northwestern North American coast, and found that they preyed almost exclusively on small alcids and storm-petrels that were attacked mainly over land and the shoreline as the prey headed from ground nests toward the sea. His many observations include only *one* hunting episode over the sea itself. Peregrines are apt to avoid getting wet or plunging into the sea, especially after heavy prey that has fallen. Walter (1979:96), concerning the related Eleonora's Falcon (*Falco eleonora*) wrote that they mainly hunt small landbirds over the sea and "avoid touching the salt water." Prey, other than very small land birds that can be easily plucked from the surface, pose problems of the Peregrine getting wet, and attracting the attention of competitive large gulls (e.g., *Larus marinus*, or, in Kenya, *Larus hemprichii*) and sea eagles (in Kenya, the large, coastal African Fish-eagle, *Haliaeetus vocifer*) that can enter the water and might prey on the falcon (see Rudebeck 1953:212, cases 12 and 17). Actual accounts of "plucking" from water by the Peregrines are few. Rudebeck (1953:210) noted a dead starling (*Sturnus vulgaris*) taken from the sea; Cade's works (1960, 1982) mention only a jay (*Perisoreus canadensis*) taken from a river from which it was "floundering out" (Cade 1960:215), a longspur (*Calcarius* sp.) plucked from a river by a large female Peregrine, and a grayling fish (*Thymallus arcticus*) grasped by a Peregrine as it was "breaking the surface" of the water. Ratcliffe (1980:156) stated that British coastal breeding Peregrines "are mostly careful not to knock their prey into the sea."

The persistence of the Peregrine we observed is notable. Rudebeck (1953) gave no numbers, but mentioned that Peregrines rarely stooped at fleeing prey more than 50

times. Although some Peregrines may be persistent in actual chases, we have found no descriptions of repeated attacks on live prey that they have knocked into the sea.

It is well known that Peregrines may burst into a flock, e.g., of shorebirds, then select and pursue a single individual, but in one-on-one attacks many shorebirds dodge well and evade Peregrines (Hunt et al. 1975:121). Treleaven (1977) noted that young Peregrines in the autumn concentrate on snatching unsuspecting waders from the edges of flocks feeding on the shoreline.

Black-bellied Plovers in coastal Kenya tend to fly alone, and not high above the sea, into which they can go as a last resort (not diving directly, as, e.g., can alcids). The plover we observed, whether it had been wounded or driven into the sea by the Peregrine, never actually went beneath the surface, nor did it defend itself. Rather, all its movements were to evade the falcon by lowering its head and fluttering away when the falcon stooped, and to attempt to get airborne. It did not move any distance under its own power during the course of our observations. Our observations suggest that the killing and plucking of a 190–200 g (Cade 1960) Black-bellied Plover presented a major problem to the Peregrine. Its persistence, however, paid off.

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NORTHERN HARRIER (*Circus cyaneus*) PREDATION OF LESSER PRAIRIE-CHICKEN (*Tympanuchus pallidicinctus*)

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The Northern Harrier (*Circus cyaneus*) is not considered a significant predator of Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) (Palmer et al. 1988). However, Campbell (1950) reported that Northern Harriers will harass lekking Lesser Prairie-Chickens by repeated lek flushes and an occasional attack. The objective of this paper is to report and describe 5 cases of Northern Harrier predation on Lesser Prairie-Chicken in west Texas.

Throughout 2 spring lekking periods (1987 and 1988), we observed and recorded interactions of Northern Harriers with Lesser Prairie-Chickens during >750 hrs of lek observation (Haukos 1988). The study area was in Cochran and Yoakum Counties, Texas. The area has a sandy

duned topography supporting range cattle production; with dominant vegetation of sand shinnery oak (*Quercus havardii*), sand sagebrush (*Artemisia filifolia*), and bluestem (*Andropogon* spp.) plant communities. Other raptors in the area include Golden Eagle (*Aquila chrysaetos*), Cooper's Hawk (*Accipiter cooperii*), Red-tailed Hawk (*Buteo jamaicensis*), Swainson's Hawk (*B. swainsoni*), Rough-legged Hawk (*B. lagopus*), Ferruginous Hawk (*B. regalis*), and Prairie Falcon (*Falco mexicanus*). The number and composition of raptors on the study site fluctuates greatly during the lekking period as raptors migrate through the area. However, harriers have been observed ground-nesting on the study site (pers. obser.).