

Short Notes—

The Brown Falcon *Falco berigora* as a Predator of Snakes

Standard references, e.g. Calaby (1976) include snakes in their generalised prey lists for the Brown Falcon *Falco berigora*, but there are few published records of the snake species involved. While preparing a road-killed Brown Falcon from Boundary Bend (Vic.) as a study skin, CS found two snakes in its gut. The Falcon was collected in autumn (May 1979) and the snakes were juvenile Eastern Brown Snakes *Pseudonaja textilis* (Elapidae), 25 and 30 cm in length. In the Riverina of New South Wales, SD has observed a Brown Falcon fly up from the ground with a large snake dangling from both feet; it appeared to be an Eastern Brown Snake about 1 m in length. A Brown Falcon specimen in the South Australian Museum had eaten a Copperhead *Austrelaps superbis* (S.A. Parker, in litt.), and I. Pye (pers. comm. to SD) has observed a Brown Falcon carrying a live Red-bellied Black Snake *Pseudechis porphyriacus* at least 1 m in length.

Other published instances of snake predation by Brown Falcons have also involved members of the Elapidae (front-fanged snakes), some highly venomous. Fyfe (1981) recorded a Mulga Snake *Pseudechis australis* and a Western Brown Snake *Pseudonaja nuchalis* among several mostly adult-sized reptiles taken by Brown Falcons. Fletcher (1981) reported a Brown Falcon carrying a fully grown Mainland Tiger Snake *Notechis scutatus*, Mooney (1984) cited an instance of a Brown Falcon taking a Black Tiger Snake *Notechis ater* 1.8 m long, and Conole (1985) reported several Black Tiger Snakes as prey of Brown Falcons. Mooney also reported White-lipped Whip Snakes *Drysdalia coronoides* as common prey items at nests in Tasmania, and he considers that some Brown Falcons specialise in snakes. Baker-Gabb (1984a) recorded several elapid snakes among prey items at nests near Mildura (Vic.), but they were an insignificant dietary component. In coastal Victoria, Brown Falcons took significantly more snakes than similarly sized and larger sympatric raptors (Baker-Gabb 1984b).

On a continent where snakes abound, it is remarkable that there are no obvious Australian equivalents of the Old World snake-eagles *Circaetus* and *Spilornis*. Mooney (1984) and Cade (1982) pointed out that the Brown Falcon does indeed appear to possess adaptations for preying on venomous snakes: it has a densely feathered chest; legs and feet heavily 'armoured' with large, coarse scales; and thick, stubby toes, features associated with snake-eating raptors on other continents. The Brown Falcon appears to put such adaptations to good use: Mooney (1984) cited an observation of a Brown Falcon trying to take a large snake that successfully kept its very determined attacker at bay. In such situations, the ability to deflect a strike would have obvious survival value for the Falcon.

One could draw many parallels between Australian raptors and their ecological counterparts on other continents, and the field is ripe for further study and documentation.

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Diurnal Raptors Roosting on the Ground at Night

Harriers *Circus* spp. are well known throughout the world for their habit of roosting on the ground at night (Newton 1979). In Australia, Marsh Harriers *Circus aeruginosus* regularly roost on the ground in swampy areas with tall reeds and grass (Baker-Gabb 1984). Spotted Harriers *Circus assimilis* may roost on the ground at night (Brown & Amadon 1968), but they will also roost in trees (Baker-Gabb 1982). Conversely, it is uncommon for members of the genus *Falco* to roost on the ground at night within reach of ground predators (Newton 1979).

In May 1984 I was driving at night with Phil Maher across the vast plains of western Queensland near the Diamantina River, in search of Plains-wanderers *Pedionomus torquatus*. In one night we disturbed four Australian Kestrels *Falco cenchroides* and one Black Falcon *Falco subniger* from their roosts on small (20 cm high) boulders. Interestingly, Hall (1974) also recorded Kestrels roosting on the ground at night in this same area.

The reason for this habit was almost certainly the lack of trees in the general area, the nearest being perhaps 5 km away. Phil Maher remarked that he had also observed a Wedge-tailed Eagle *Aquila audax* roosting on the ground when he was driving at night in western New South Wales. This too was in treeless plains country.

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