Hunting behaviour of Black Falcons

S.J.S. Debus

Honorary Associate, Division of Zoology, University of New England, Armidale NSW 2351, Australia
Email: sdebus@une.edu.au

Summary. This note describes six foraging episodes by solitary Black Falcons *Falco subniger* near Tamworth in northern inland New South Wales. All involved high aerial searching (soaring, quartering or transect-flying) before, in some cases, launching a stoop that became a low-level attack on flocking, ground-feeding birds in the open.

This note presents some additional observations on the hunting behaviour of the Black Falcon *Falco subniger*, as a supplement to the partial study by Debus & Tsang (2011). During a further abortive attempt to watch Black Falcons through a breeding cycle (June–September) in 2011, near Tamworth in northern inland New South Wales, solitary hunting Black Falcons were observed (by 8 × 40 binoculars) on six occasions (representing at least two individual Falcons). The foraging in these episodes differed from the common low-level flight patterns, often involving a pair of Falcons, previously described for the area (see Debus & Tsang 2011). The first five observations were in the vicinity of the Falcons' nest woodland (Nest C of Debus & Tsang 2011), although the nest was not used in 2011, no alternative nest was found, and two Falcons were seen singly (not hunting together) on only two occasions in August. (The two or three other pairs formerly in the Peel Valley were not seen at all in winter 2011.)

Figure 1. Black Falcon in stoop, Monto, Qld, September 2001. Photo: C.P. Barnes

1. Early June, late afternoon (~1600 h): male (?) Falcon in direct flapping and gliding flight high over the nest patch, from east to far west (~1 km); made a short, aborted stoop *en route* then continued on, beyond binocular range. Interpreted as high transect hunting.
2. Mid June, late morning (~1100 h): male (?) Falcon soared high over the nest patch and adjacent open paddocks, made a long glide east ~1 km, resumed soaring, then glided out of binocular range south-east, as if questing for prey. Interpreted as soaring and prospecting, interspersed with glides to sequential high aerial hunting 'stations'.
3. Mid June, late morning (~1100 h): male (?) Falcon high over the nest patch in a fast glide north to south; when beyond the nest woodland, over open paddocks, it steepened and quickened with its wings drawn in, levelled off, then made a sweeping, descending turn with wing-beats, as if in a slanting stoop, but was lost to view below and beyond the trees.
4. Late August, late morning (~1100 h): male (?) Falcon in a high glide over the nest patch from the west, then slow high quartering, in a head-wind, over the patch; a sweeping arc over the eastern edge of the patch became a long, shallow stoop into the open paddock south of the patch (? at Common Starlings *Sturnus vulgaris*, which flushed from the ground and fled); outcome unseen.
5. Early September, mid afternoon (~1500 h): male (?) Falcon soared up to a high pitch over the general area, drifting in circles to ~1 km east, over paddocks; it made a long 45° stoop at an unidentified flock of birds (which bunched and swirled, apparently having flushed from the ground), missed, then resumed circling, made a long glide to high quarter along creekline woodland ~1 km south of the nest patch, until finally soaring again then gliding farther to the south, beyond binocular range. It had been in view, hunting, for 30 minutes, covering an area of >1 km^2.
6. Mid October, mid morning (~0830 h), ~40 km north-west of the study area (open paddocks with scattered woodland): female (?) Falcon soaring in circles with a Whistling Kite *Haliastur sphenurus,* as if both were a pair of one species (and initially taken to be possibly two Black Falcons at that distance). The Falcon broke away in a long descending glide and made a shallow stoop at two Galahs *Eolophus roseicapillus* (which were initially on the ground), unsuccessfully, before soaring again (alone) and lost to view.

Collectively, these episodes support the view that, although many Black Falcon strikes at prey may occur near ground level, often flushing prospective prey (flocking birds) from the ground, they may be initiated from high in the air, in the classic soaring or high quartering then slanting stoop of other large bird-eating falcons (e.g. Marchant & Higgins 1993). In this respect, the Black Falcon resembles the Peregrine Falcon *Falco peregrinus* and, even more so, its ecological equivalents and close genetic relatives, the Saker *F. cherrug*, Laggar *F. jugger* and Lanner Falcons *F. biarmicus* (e.g. Cade 1982; Ferguson-Lees & Christie 2001; Debus & Olsen 2011). In the episodes summarised here, the attacking falcon was silent, and did not scream at its intended prey.

Episode 6 may have been a variation of the 'shadowing' of other raptor species, among the Black Falcon's extensive repertoire of hunting tactics (e.g. Marchant & Higgins 1993). However, the Falcon appeared neither to be controlling the Whistling Kite's flight nor waiting for it to flush or attack prey, and perhaps they were simply sharing a thermal.

In these episodes, and in other commuting flights in winter 2011, the Black Falcon(s) at Tamworth disappeared into the distance in all cardinal compass directions from the viewing point, to at least 2 km away (beyond binocular range). Such a radius gives

a minimum home-range of 13 km², but is probably much greater (at least 4 km from the nest: Debus *et al*. 2005) and potentially 50 km², a value likely to be exceeded by the findings of any future radio-tracking study. The Black Falcon's home-range use, and hunting methods and success, still remain to be studied and quantified: a mystery, given the Falcon's presence in the sheep–wheat belt and its similarity to the iconic Peregrine Falcon. It is also noted that, since 2009, an area of woodland on the Peel River used by a pair of Black Falcons (Debus & Tsang 2011) has been replaced by a large storage pond (~10 ha). This pond attracted a large waterfowl population and, in winter 2011, a well-fed female Peregrine Falcon (with crop bulge) was present. Also, a large storage dam (~30 ha) has replaced woodland and pasture formerly used for foraging by one of the subject Black Falcon pairs (e.g. Debus 2009); in 2011, a male Peregrine Falcon was twice seen hunting in the territory (Nest C) occupied by Black Falcons in 2010. Thus, if habitat change is favouring the Peregrine over the Black Falcon in the sheep–wheat belt, the need for a study of these falcons' comparative ecology and competition (niche overlap, potential conflict over nest-sites and foraging space) becomes more urgent.

I thank Greg and Mark Blaxland for permission to again watch falcons on their land, and Greg and Madelon Blaxland for their continued interest and exceptional hospitality. I also thank Leah Tsang (Australian Museum) for sharing some watches and searches for the falcons, and Tom Aumann and Jerry Olsen for comments on a draft. I gratefully acknowledge travel support from the Australian Bird Study Association's Fund for Avian Research and Birds Australia Northern New South Wales, and the facilities of the Division of Zoology, University of New England.

References

Cade, T.J. (1982). *The Falcons of the World*. Collins, London.

Debus, S. (2009). Black Falcon hunting Galahs. *Boobook* **27**, 45.

Debus, S.J.S. & Olsen, J. (2011). Some aspects of the biology of the Black Falcon *Falco subniger*. *Corella* **35**, 29–36.

Debus, S.J.S. & Tsang, L.R. (2011). Notes on Black Falcons *Falco subniger* breeding near Tamworth, New South Wales. *Australian Field Ornithology* **28**, 13–26.

Debus, S.J.S., Hatfield, T.S., Olde, G.S. & Rose, A.B. (2005). Breeding behaviour and diet of a pair of Black Falcons *Falco subniger* in northern New South Wales. *Australian Field Ornithology* **22**, 165–181.

Ferguson-Lees, J. & Christie, D.A. (2001). *Raptors of the World*. Helm, London.

Marchant, S. & Higgins, P.J. (Eds) (1993). *Handbook of Australian, New Zealand & Antarctic Birds, Volume 2: Raptors to Lapwings*. Oxford University Press, Melbourne.

Received 19 October 2011