

# Field Identification of the Grey Falcon *Falco hypoleucos*

JONNY SCHOENJAHN

1 Elimatta Way, City Beach, Western Australia 6015  
(Email: jonnybird@bigpond.com)

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## Summary

When scrutinising historical and recent observational reports for a current field study on the species, it became evident that the Grey Falcon *Falco hypoleucos* is not easy to identify in the field. This paper gives hints on identifying the species in the field quickly and accurately. The raptor species most likely to be confused with the Grey Falcon are named, the relevant field-marks are pointed out, and its vocalisations are discussed. Published erroneous records that are referable to other species are reviewed.

## Introduction

The important contribution by birdwatchers to ornithological research has often and rightfully been emphasised. The Grey Falcon *Falco hypoleucos* is a fine example of that ‘symbiosis’ between scientists and amateurs. Much of what little has been published about the species’ biology and ecology is an accumulation of information obtained by lay birdwatchers, see e.g. Blakers *et al.* (1984), and wildlife photographers, e.g. Cupper & Cupper (1981) and Hollands (1984). The Grey Falcon has not been the focus of a specific study in the past. In some instances the species was included by chance in a broader study; see e.g. Aumann (2001). Other results were obtained from brief encounters or observations, e.g. Debus & Rose (2000).

During a field study of the species conducted by the author since 2004, it became apparent that published and unpublished sight records claiming to be of Grey Falcons were often incorrect. That finding is contrary to Marchant & Higgins (1993, p. 292), who stated that the Grey Falcon ‘ought not to be confused with other raptors’.

Record data of questionable quality potentially falsify our understanding of basic ecological features of the species, such as distribution (e.g. Blakers *et al.* 1984), movements (e.g. Olsen & Olsen 1986), and population size (P. Olsen in Brouwer & Garnett 1990). To improve the reliability of observational records, this paper aims to provide observers with tools to identify the species in the field more reliably.

## Field-marks for quick identification

In adults, the bright orange-yellow of all bare parts can be seen even at a distance and in flight. From underneath, this is a very pale falcon; the wings are broad, in most flight situations rather pointed, with the wingtips not necessarily dark; the short tail has no obvious terminal or subterminal tail-band. From above, the bird is mid grey with the outerwings near-black. When perched, its distinct white ‘trousers’ (tibial feathers) cover and thus hide half of the bare lower legs.

Juveniles lack the bright orange-yellow of the bare parts; only the legs and feet are mid yellow. In general their plumage has more contrast than in adults, darker

grey above and near-white below with prominent dusky markings (streaks and 'arrowheads') especially on the flanks and on the underwings. Other plumages are not well studied; age-related changes of plumage and bare-part colouration are the subject of an ongoing project.

Grey Falcons are silent away from the nest or their nocturnal roost.

### General appearance

The Grey Falcon is of medium size, between the two small species (Nankeen Kestrel *Falco cenchroides* and Australian Hobby *F. longipennis*) and the three larger species (Brown *F. berigora*, Black *F. subniger* and Peregrine *F. peregrinus*). The general impression is of a robust, rather thickset falcon, with broad wings and a comparatively short tail.

The outstanding field-mark of the adult Grey Falcon is the bright orange-yellow colour of all bare parts, i.e. the area around each eye, the cere and basal part of the bill, and the legs and feet. This most conspicuous colour feature stands out even at some distance and under difficult light conditions (Plate 10). The observer should pay utmost attention to this feature. Sight reports that do not mention the bright orange-yellow of the area around the eyes must be treated with care.

The adult plumage, unless seen at a very close range, contains no colours other than shades of grey from near-white (e.g. the underwings) to near-black (the upper side of the primaries). In particular, there is no brown or rufous as in the Brown Falcon, or grey-backed (adult) individuals of the Brown Goshawk *Accipiter fasciatus* or Collared Sparrowhawk *A. cirrocephalus*.

One particular feature seems to be responsible for many misidentifications: the black wingtips. Although the upperwings are conspicuously tipped black, the underwings may show hardly any dark tips. Many raptors have black wingtips when seen from underneath, notably the Brown Falcon in most colour variants, and the Black-shouldered Kite *Elanus axillaris*. If black wingtips are the only characteristic observed, it is not sufficient for identification as a Grey Falcon.

### Flight identification

#### *Silhouette*

The wings are broad with a broad base, pointed but not acutely. That, together with a short tail, gives the impression of a solid, almost heavy falcon relative to the smaller Australian Hobby and Nankeen Kestrel. The latter two have narrower and proportionally longer wings that appear to be positioned closer to the front of the silhouette. The wings of the Grey Falcon seem to be positioned more in the middle of the flight silhouette, closer to the centre of gravity. The tail of the Grey Falcon is rounded when spread, and when folded it may appear either slightly rounded or square.

#### *From underneath*

From underneath, the adult is very pale and may be difficult to detect against the pale midday sky. The near-white of the underwings forms a slight contrast with the pale grey of the underbody. That particular feature is depicted correctly by Marchant & Higgins (1993), Pizzey & Knight (1997) and Debus (1998, line-

drawing p. 118). It is, however, depicted incorrectly in the majority of the field-identification books, in particular Pizzey (1980), Simpson & Day (1984), Slater *et al.* (1986) and Morcombe (2000). Further, in Debus & Olsen (2001: photograph, p. 14) the caption to the photograph incorrectly states the underwings to be grey (instead of 'grey-barred').

When seen from below, the black wingtips may not be obvious (Plate 10), especially when the sun is shining through the wings; only the outermost primary feathers may appear narrowly darker-tipped.

The tail is barred dark grey on a pale-grey background and tipped off-white, although the whitish tip might be worn off. The undertail-coverts are near-white; their fine black streaking being visible only at very close range. The bright orange-yellow feet contrast with the near-white 'trousers' and undertail-coverts.

When seen at very close range, the primaries and secondaries are barred dark grey. Underwing-coverts show the faint black streaking typical of most contour feathers of the adult Grey Falcon's plumage.

On the head, the bright orange-yellow facial features (i.e. bare part around each eye, cere and base of bill) stand out against the white and grey tones of the plumage (Plate 11). The teardrop markings (malar stripes) are diffuse and not conspicuous.

#### *From above*

The upperparts of the adult bird are mid grey all over, with near-black outerwings. The barring of tail- and wing-feathers and the off-white fringes of the dorsal feathers give the upperparts a mottled appearance.

#### *Head-on profile*

When soaring and gliding, the wings are held either flat with slightly upswept tips of the longest primaries, or the wings are held in a very shallow V.

#### *Flight*

The active flight of the Grey Falcon can vary from rapid, shallow beats of rather stiff wings to powerful deep beats of slightly elastic wings. Grey Falcons are capable of soaring over long periods without wing-beats and gaining great height, presumably more than 2000 m, until lost against the pale-blue sky. On one occasion I observed a family of three disappearing at eye-level over a ridge 1560 m away (distance measured using a hand-held GPS device), and the birds still appeared larger than other individuals I have observed soaring into the sky.

I have not seen the Grey Falcon hover, and have not found convincing reports of it hovering. Hovering Black-shouldered Kites may have been confused with the Grey Falcon, and probably Brown Falcons as well (e.g. Weston 1982); see p. 53. The explorer Captain Charles Sturt, however, should be forgiven for reporting two Grey Falcons 'hovering very high in the air' (Sturt 1849, p. 13); he most probably was not familiar with the correct meaning of the term. The two birds are in a museum drawer today (Academy of Natural Sciences, Philadelphia, USA).

## Perched

The feature to concentrate on, especially from a distance, is the ‘trousers’; i.e. the tibial feathers that cover the lower, bare parts of the tarsometatarsus (conventionally called the tarsus), even in strong wind. In Grey Falcons the trousers are white and extend below the tarsal joint, covering about half of the lower leg and in some positions almost reaching the toes (Plates 11–12). That single field-mark quickly eliminates the three accipiters and the Brown Falcon, in my experience the species most likely to cause confusion when seen perched. The Australian accipiters’ and the Brown Falcon’s trousers are shorter, only just reaching the tarsal joint and thus leaving much more of the lower legs exposed. Furthermore, the legs and feet of Brown Falcons are blue-grey (McDonald 2003) or pale grey, or rarely yellow, and even the palest birds have brown trousers (Marchant & Higgins 1993). If the entire lower leg is exposed, the bird under observation is almost certainly not a Grey Falcon.

Only the two *Elanus* kites (Black-shouldered Kite and Letter-winged Kite *E. scriptus*) can have much of the legs covered by feathers when perched. However, their legs are shorter and often ‘disappear’ within the contour feathers of the body, rather than being visible and covered by trousers. The Black-shouldered Kite’s legs and feet are yellow, but not the intense, bright orange-yellow of the Grey Falcon. The Letter-winged Kite’s legs and feet are whitish or flesh-coloured (Marchant & Higgins 1993) and unlikely to be confused. In general, however, the two *Elanus* species, when observed perched, are unlikely to be confused with the Grey Falcon.

In the adult Grey Falcon, when perched, the tips of the folded wings protrude slightly but noticeably beyond the tip of the tail (Plate 9, front cover).

## Juveniles and immatures

Marchant & Higgins (1993) described a juvenile but no immature plumage of the Grey Falcon, and no more recent publications are available on that matter. Further, it has been assumed that birds acquire adult plumage and bare-part colouration at about 1 year of age. However, data collected during the present study suggest that birds at 1 year of age are distinctly different from adults. The age-related changes of plumage and bare-part colouration are not well understood yet, and will be dealt with elsewhere.

In general, juveniles show greater contrast of darker upperparts, and all-white underparts with prominent black markings, the latter especially obvious on the flanks and underwings (Plates 9, 12, 13). Some of those black markings may be present on the flanks until older than 1 year of age, then forming a readily recognisable field-character that reveals the immaturity of the individual. The juveniles’ facial bare parts are grey and the legs and feet are pale yellow, all bare parts acquiring the bright orange-yellow colour later but not necessarily simultaneously.

Juveniles in the first few months after fledging show a buff half-collar on the hind-neck; see Marchant & Higgins (1993, illustration 4, plate 22).

## Voice

The typical call of the Grey Falcon has been correctly described as ‘a loud, slow “kek-kek-kek” or “kak-ak-ak-ak”, similar to the call of the Peregrine Falcon but slower, deeper, harsher’ (Morcombe 2000, p. 94). Either partner may give that call,

e.g. when the male returns to the brooding female, often before the observer can see the incoming bird. However, even at the nest the adults are often silent.

That most commonly heard call is profoundly different from any call of the Brown Falcon. Conversely, the recording by the late N. Robinson in *A Field Guide to Australian Birdsong* (Buckingham & Jackson 1985), cassette 2, is not from a Grey Falcon as stated, but most probably from a Brown Falcon. S. Debus and P. McDonald (pers. comm.) agree that the recorded call is very similar to that of a Brown Falcon.

If a (suspected) Grey Falcon is heard calling, a short search may reveal its nest or roost and its mate or young, or may prove that the species was misidentified.

### **Species commonly confused with the Grey Falcon**

Since working on the Grey Falcon, I have received numerous written and verbal reports directly from observers, and I have studied many published reports. Some of the reports, including nesting reports, I followed up in the field.

The species typically confused with the Grey Falcon are foremost the palest (white-breasted) individuals of the Brown Falcon, and then the three accipiters, i.e. the grey morph of the Grey Goshawk *Accipiter novaehollandiae*, adult (i.e. grey-backed) Collared Sparrowhawks and Brown Goshawks, and also the Black-shouldered Kite. Less frequently confused are the Australian Hobby and Peregrine Falcon, and probably the male Nankeen Kestrel.

The Brown Falcon's plumage is very variable and some individuals are near-white when seen from underneath. More than one active nest reported to me turned out to be of a Brown Falcon. Further, the Brown Falcon is far more vocal than the Grey Falcon. I have not heard a Grey Falcon calling away from its nest or regular roost, and then only when the mate or young are in the immediate vicinity.

The three Australian accipiters also cause much confusion. In flight, all these accipiters have rounded wingtips with the individual primary feathers visible. Further, the trailing edge of the accipiter wing is convex, i.e. the silhouette of the wing tapers towards the base. In the Grey Falcon, the wing is at its broadest at the base, if only marginally. When perched, the accipiters' lower legs are long and exposed. No accipiter has any yellow skin around the eyes.

The Grey Goshawk causes, and has caused, particular identification problems (see e.g. Banfield 1906 and Austin 1950; also Roubin 2005). Although both the grey and the white morphs of that species have bright orange-yellow cere, legs and feet, the bill is black (Marchant & Higgins 1993). Further, they lack the bright orange-yellow skin around the eyes, and have no yellow base to the bill. And again, their legs are long and not covered by trousers, and their wings are short, broad and rounded, falling well short of the tail-tip when perched. The different habitat may be the first indication for identification, however, with Grey Falcons most unlikely in humid coastal, escarpment and riverine forests, whereas these are the preferred habitats of the Grey Goshawk.

The Nankeen Kestrel is easily identified in all plumages by a distinct black subterminal tail-band, both when seen in flight and when perched.

The Black-shouldered Kite has underwings that may cause confusion. However, in that species when seen from below, the innerwings are more-or-less pure white, in contrast with the extensive black of the outerwings. That appearance is different



**Adult Grey Falcon, April, Corner Country (NSW/Qld/SA)**

Plate 10

Photo: John Barkla



**Adult male Grey Falcon, April, central southern Queensland**

Plate 11

Photo: Dean Portelli



**Juvenile Grey Falcon, December, central Queensland**

Plate 12

Photo: Jon King



**Juvenile Grey Falcon, October, north-eastern South Australia**

Plate 13

Photo: Pete Morris, Birdquest

from the Grey Falcon, which has different shades of grey and white, much less extensive black wingtips, and a barred tail.

Although the Peregrine Falcon has a silhouette somewhat similar to the Grey Falcon, my experience is that the two species are not typically confused, although misidentifications can occur (even at the nest, e.g. see Ramsay 2004, 2005). Although the adult Peregrine Falcon can appear near-grey dorsally, it is much darker than the Grey Falcon. Further, the Peregrine's wings are longer, not quite as broad and appear more acutely pointed, and its tail appears comparatively longer.

The following examples of questionable or false Grey Falcon identifications may highlight the problems. Some of the recent ones were accompanied by photographs (by the observer) of the birds concerned, and thus their identity should have been self-evident, but the photographs required re-identification.

**Banfield (1906)**, at Dunk Island (Qld): pertains to Grey Goshawk; evidently a confusion of names (a lapse of 'falcon' for 'goshawk') rather than a true misidentification.

**Tarr (1948)**, at Dunk Island (Qld): undoubtedly Grey Goshawk; see Austin (1950) and Olsen & Olsen (1986). A particularly notorious record, the author claiming to be certain about the species and having ruled out Grey Goshawk, the latter not figuring on the list of birds encountered.

**Hando (1971)**, at Chinchilla (Qld): although possibly correct, the statements that 'there is absolutely no doubt as to the identity of this bird' and that 'the underwing pattern was clearly seen', without saying what actually has been seen, render such a record questionable and consequently unusable.

**Weston (1982)**, in south-western New South Wales: a raptor hovering ~1 m above a 1-m-long goanna, most probably was a pale Brown Falcon. Grey Falcons are not known to hover; see 'Flight', p. 51. Secondly, although they are known to prey on small lizards, it is unlikely that a Grey Falcon would contemplate tackling a goanna of that size and weight. Considering it was October and thus the breeding season, the behaviour might be interpreted as an attempt to drive a potential nest-robber away from the vicinity of a nest. However, Grey Falcons are reported to attack animal and human intruders by stooping, not by hovering at close range (Olsen & Olsen 1980; Cupper & Cupper 1981; JS pers. obs.).

**B. Shanks** (in Ramsay 2004), near Wagga Wagga (NSW): a purported pair nesting, later re-identified from the observer's photographs as Peregrine Falcons (S. Debus in Ramsay 2005).

**Roubin (2005)**, at Fraser Island (Qld): no doubt pertaining to Grey Goshawk. The lack of a yellow area around the eyes was interpreted as an age characteristic of maturing juvenile Grey Falcons. That, in consequence, was interpreted as a possible extralimital wandering by subadult Grey Falcons. A fine example of what impact one false record can have.

**A. Walker** (in Ramsay 2009a), at Lawn Hill National Park (Qld): a purported 'immature male'; observer's photographs later re-identified as a Collared Sparrowhawk (J. Schoenjahr in Ramsay 2009b). Although the species had been previously reported from that national park, to my knowledge there is no confirmed record, e.g. by photographs, of the Grey Falcon for the area.

The more recent of those erroneous identifications were made despite the existence of modern field-identification guides and photographic books, e.g. those mentioned on pp. 50–51, further specialist guides (Debus 1998; Czechura & Field 2007), and a popular article on identification of the Grey Falcon and other grey raptors in a birding magazine (Debus & Olsen 2001).

## Discussion

Because of the scarceness of the Grey Falcon and the typically accidental nature of encounters, many observers have little or no experience with this species. It is highly sought-after by birdwatchers, and the excitement and temptation to 'tick off' the species may win over the evidence. Porter *et al.* (1978, p. 12) have pointed out that 'no one should ever expect to identify every bird of prey'. They went on to emphasise that 'trying to be too ambitious will lead to mistakes and to inaccurate documentation that may take years to rectify'. Misidentification may have more implications than just becoming a false record on the observer's personal list. In the case of a rare and understudied species such as the Grey Falcon, one observation represents a greater percentage of the data than for a common species, and thus has a greater impact on results and conclusions derived from the data. False records may lead to an overestimation of both the population size and the distribution area. Population size is an important factor when classifying taxa into conservation categories. Thus, a simple false record may eventually have an impact on the species as a whole, e.g. if, as a consequence, it is not assigned the conservation status that it deserves.

It is a good practice in the field to take immediate and comprehensive written notes of one's observation. Photographs, even of poor quality, have proven to be very helpful. Observers are strongly encouraged to leave the observed bird unidentified if the slightest doubts remain.

## Acknowledgements

One difficulty of the present study is to find the birds, owing to the scarcity of the studied species and the remoteness and inaccessibility of its preferred habitat. The study would not be possible without the kind help that I was, and still am, privileged to receive from many people across Australia. The following list is most probably not comprehensive, so to those omitted here, my sincere apologies.

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**Editor's note:** This paper is, hopefully, in time to encourage accurate reports of Grey Falcons to the author by the coming breeding season. Inaccurate reports and false leads, as well as being highly consuming of valuable time and resources (e.g. extended 4-WD travel in remote areas), must be extremely frustrating for a voluntary, self-funded conservation-biology project on a rare species.