

Notes on two unusual *Circus* harriers in Perth, Western Australia, and implications for identification of Swamp and Eastern Marsh Harriers in Australasia

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Abstract. A long-staying *Circus* harrier with features atypical for the locally common Swamp Harrier *C. approximans* was present between 2014 and 2023 at Herdsman Lake, Western Australia. These plumage features are not recorded in any reference literature for the Swamp Harrier, thus leading to speculation as to the identification of this bird. Several under- and upperwing features more consistent with Eastern Marsh Harrier *C. spilonotus* are noted; however, other plumage features are more typical of Swamp Harrier, a species with highly variable plumage. This paper documents the atypical features of this and a similar individual from the Eric Singleton Bird Sanctuary, Western Australia, and briefly discusses related identification issues.

Introduction

There are 16 species in the genus *Circus*, nine of which regularly occur in the Indo–Malayan and Australasian regions (Gill *et al.* 2022). The only ‘marsh’ harrier known to occur in Australia is the Swamp Harrier *C. approximans*, widely distributed across Australasia and the south-west Pacific, which inhabits terrestrial wetlands and swamps (Marchant & Higgins 1993). Swamp Harriers have numerous plumage stages across sexes and ages, with older adult males being the palest. These mature males are characterised by pale underwings and underbody (Marchant & Higgins 1993) and (usually) the underside of the wingtips are greyish barred black (Menkhorst *et al.* 2017).

An unusually plumaged *Circus* harrier was first recorded at Herdsman Lake, near Perth, Western Australia (31°55'12"S, 115°48'18"E) on 30 October 2014. This individual was subsequently recorded every year until the time of writing (April 2023), most frequently between the months of September and December.

This individual exhibited almost wholly black underwing primary tips, as well as lacking barring on both the primary and secondary feathers. There were suggestions made by some field observers that this bird may be an Eastern Marsh Harrier *C. spilonotus* because of these unusual plumage features; this will be explored further.

These features of the Herdsman Lake individual (hereafter ‘Herdsman harrier’) are not typical of Swamp Harriers and are not described in any Australian bird-identification field guides, nor the major reference, *Handbook of Australian, New Zealand & Antarctic Birds* (commonly referred to as HANZAB; Marchant & Higgins 1993). The main feature that does not align with the descriptions in these guides is the lack of barring on the underside of the outer primary feathers. Other individuals, including an adult male photographed at the Eric Singleton Bird Sanctuary, near Perth, Western Australia (31°55'38"S, 115°55'23"E; 12 November 2020), ~11 km from Herdsman Lake, also exhibit similar atypical or rare features. These primarily include a lack of barring on the underwing tips; the Eric Singleton Bird Sanctuary individual (hereafter ‘Eric

Singleton harrier’) has pale, unbarred underwing primary tips, as well as very limited barring on the secondaries and a much-reduced dark trailing edge along the inner primaries.

This paper aims to document and describe the features of the Herdsman harrier and to discuss related identification issues.

Descriptions of the harriers

Description of the Herdsman harrier

The Herdsman harrier was first sighted on 30 October 2014 (I. Wallace pers. obs.) and has been sighted every year to April 2023 (Figure 1a–b). It had black and unbarred primaries (P6–10), with minimally black-tipped P4 and P5 primaries. The predominantly black undersides of the primaries became mottled and finely spotted towards their bases, with the strongest diffusion in P7, P8 and P9. This was consistent across both the left and right wings. The underwing had a diffuse dark trailing edge.

The upperparts were generally dark in coloration. The tertials, median coverts and lesser coverts were dark brown, and the greater primary coverts, secondary coverts, and primary feathers P1–5 were grey, with dark tips on P3–5. The dark tips gradually became darker and more extensive from P6 outwards. The uppersides of P6–10 were almost completely black, with small grey spots on P8–10. This individual had a dark brown to blackish hood and a brown nape with pale-straw vertical streaking. The upper breast was streaked brown, with similar streaking or spotting also present on the underwing coverts. The underside of the tail was pale, becoming gradually greyer towards the tip.

This harrier was determined to be climax-plumaged because of the very minimal plumage development over the almost 9 years that it was observed. Photographs from 2014 appear to show primary feather P10 exhibiting some barring, albeit minimal, whereas after 2014 this feature was no longer present.



Figure 1. Flight views of a male *Circus* harrier from Herdsman Lake, Perth, Western Australia, identified here as *C. approximans*. (a) dorsal view, 11 October 2020, (b) latero-ventral view, 22 October 2020. Photos: (a) Drew W. Davison, (b) Laurence Harden

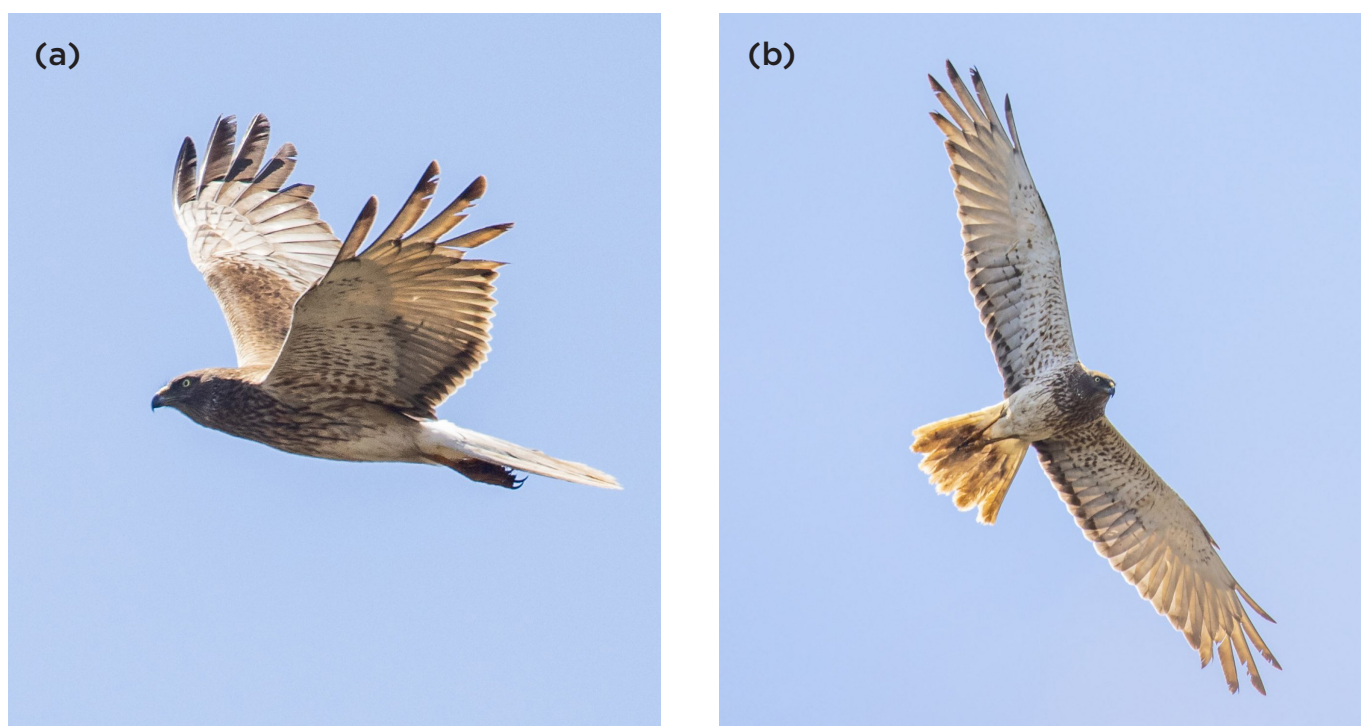


Figure 2. Flight views of male *Circus* harrier from Eric Singleton Bird Sanctuary, Perth, Western Australia, identified here as *C. approximans*. (a) lateral view, (b) ventral view. Photos: Kaylene Taylor

Description of the Eric Singleton harrier

A second harrier exhibiting atypical plumage was photographed at the Eric Singleton Bird Sanctuary, in Perth. Images, taken on 12 November 2020 (Figure 2a–b), depict an older male Swamp Harrier bearing some resemblance to the Herdsman harrier, albeit with some key differences.

The underside of this individual was mostly pale, and the underwing primaries were pale and unbarred, with dark

tips. The greater primary underwing coverts had minimal dark tips and were otherwise pale. The outermost primaries appear quite worn in the photographs, with P6, P7 and P9 showing notable wear on the right wing and P6–9 on the left wing showing even more significant damage. The dark underwing trailing edge was unbroken across the secondaries before becoming significantly fainter across the inner primaries (P1–5). The secondaries showed remnant barring on the bases of S1–4, but the balance were unbarred.

The greater primary coverts were grey with some dark spots, and the median and lesser coverts were brown. Primaries P5–10 were overall dark with minimal grey towards the bases of the feathers, and P3 and P4 were overall grey with dark tips. The photographs available did not reveal whether P1 and/or P2 also had dark tips, nor did they reveal the coloration of the tertials. The nape was a very similar colour to the median and lesser coverts, in contrast with the Herdsman harrier, which had a pale and brown-streaked nape.

This individual had a dark-brown hood, with extensive streaking on the upper breast. The brown streaking on the upper breast extending to brown spotting on the underwing coverts was notably more extensive than on the Herdsman harrier. Unlike the latter, no photographs over the longer term were available for the Eric Singleton harrier and thus it is uncertain whether this individual has attained a climax plumage stage.

Discussion

Many of these features exhibited by the Herdsman and Eric Singleton harriers are inconsistent with the descriptions, illustrations, and photographs in current Australian field and reference guides.

The key features of the Herdsman harrier that are the most inconsistent with the published literature are the dark underwing primary tips and the unbarred under-primaries and under-secondaries. These features are inconsistent with the features described in the most widely cited Australian guides (Table 1).

Some of the features of the Eric Singleton harrier are also somewhat inconsistent with the plumage described in the two guides listed in Table 1, notably the unbarred inner under-primaries and under-secondaries.

The Australian Bird Guide (Menkhorst *et al.* 2017) and the *Handbook of Australian, New Zealand & Antarctic Birds*,

Table 1. Comparison of selected features of the Herdsman harrier (HN; the first individual described) and Eric Singleton harrier (ES; the second individual described) with the plumage range published for adult male Swamp Harriers. The published plumage range is derived from text descriptions or illustrations in field guides and other accepted literature on the species. ABG = *The Australian Bird Guide* (Menkhorst *et al.* 2017), HANZAB = *Handbook of Australian, New Zealand & Antarctic Birds, Volume 2: Raptors to Lapwings* (Marchant & Higgins 1993).

Feature	HN	ES	ABG	HANZAB
P6–10 (underwing)	Black	Pale, dark tips	Grey, barred	Grey, barred
P3–5 (underwing)	Pale, dark tips	Pale, dark tips	Pale, barred, dark tips	Pale, barred, dark tips
P1–2 (underwing)	Pale, dark tips	Pale, dark tips	Pale, barred, dark tips	Pale, barred, dark tips
Secondary feathers (underwing)	Pale, dark tips	Pale, dark tips	Pale, barred, dark tips	Pale, barred, dark tips
Trailing edge to secondaries (underwing)	Faint, ill-defined	Dark, unbroken	Dark, unbroken	Dark, unbroken
Greater primary coverts (upperwing)	Grey, dark tips	Grey, minimal barring	Grey, dark tips	Grey, minimal barring
Secondary coverts (upperwing)	Grey-brown	Grey-brown	Grey-brown	Grey-brown
Median coverts (upperwing)	Dark brown	Brown	Brown	Brown
Lesser coverts (upperwing)	Dark brown	Brown	Brown	Brown
Uppertail coverts	White	White	White	White
Hood	Dark brown	Dark brown	Dark brown	Dark brown
Upper breast	Pale, brown-streaked	Dark, brown-streaked	Pale, brown-streaked	Pale, brown-streaked
Axillaries	Pale, brown bars	Pale, brown bars	Pale, brown bars	Pale, brown bars
Nape	Pale, dark streaks	Brown	Brown	Brown
Tail (underside)	Pale	Pale	Pale	Pale
Tail (upperside)	Grey, darker towards tip	Grey	Grey, some barring	Grey, minimal barring

Volume 2: Raptors to Lapwings (Marchant & Higgins 1993) are widely recognised and oft-referenced in ornithological literature throughout Australia. Menkhorst *et al.* (2017, p. 230) warned observers to “Beware oldest, palest birds... have been confused with ad ♂ [adult male] Papuan Harrier *Circus spilothorax*, a species not yet confirmed to occur in Aus; note that it has solidly black ‘fingers’, of alternating dark and white barring on underside of fingers of all Swamp Harriers.” Marchant & Higgins (1993, pp. 105–106) noted “In adult, combination of prominent white patch on upper tail-coverts, barred underside of primary fingers...”. Both the Herdsman and Eric Singleton harriers lack alternating dark-and-white barring on the underside of the primaries, and thus may lead to confusion when distinguishing from Papuan or Eastern Marsh Harriers. The Herdsman harrier also has an almost solid-black underside to the primary fingers, a feature that Menkhorst *et al.* (2017) further noted as indicative of Papuan Harrier.

In *Birds of Prey of Australia: A Field Guide*, Debus (2019, p. 48) noted for adult male Swamp Harriers that “Underwings and undertail [are] faintly barred”, as well as the grey tail being lightly barred. The Herdsman harrier lacks any barring on the underwing; the Eric Singleton harrier has remnant barring on the underwing secondaries. Both have an unbarred undertail and lack barring on the upperside of the grey tail. In *Australian Birds of Prey in Flight: A Photographic Guide*, Seaton *et al.* (2019) included photographs of adult Swamp Harriers that show barring on the underwing primaries and secondaries, and on both the under- and upper-tail, features that the Herdsman harrier lacks entirely and the Eric Singleton harrier lacks to some extent, potentially creating confusion when identifying similar individuals.

Western Marsh Harrier *C. aeruginosus*, Eastern Marsh Harrier and Papuan Harrier *C. spilothorax* could not be definitively ruled out as possibilities for the identification of the Herdsman harrier from plumage alone – indeed, Oatley *et al.* (2015) noted that plumage differences among the closely related Eastern Marsh Harrier, Papuan Harrier, Swamp Harrier and Malagasy Harrier *C. macroscelus* are not substantial, with all taxa sharing similar plumage patterns. However, it is considered highly unlikely that the Herdsman harrier is a Papuan Harrier (previously considered to be conspecific with the Eastern Marsh Harrier and now considered a subspecies of Swamp Harrier: Oatley *et al.* 2015), as the Papuan Harrier is non-migratory, with no confirmed records outside its core range (GBIF Secretariat 2023). Similarly, it is considered unlikely that the Herdsman harrier is an Eastern Marsh Harrier, with this supported by significant plumage differences between the Herdsman harrier and climax-plumaged male Eastern Marsh Harriers, with the latter typically exhibiting limited streaking on the upper breast, almost entirely pale and unstreaked underwing coverts, a notably pale leading edge to the upperwing, and almost-black greater, median, and lesser coverts. These features are inconsistent with those of the Herdsman harrier.

The Herdsman harrier also does not have brown plumage predominant on the underside and vent; features that are described as being the most distinctive field characters of adult male Western Marsh Harriers (Fefelov 2001). Hybrid Eastern × Western Marsh Harriers could perhaps show more extensive brown plumage on the underside than typical adult male Eastern Marsh Harriers but not to

the extent described as being typical for Western Marsh Harriers. The extent of brown streaking on the underside exhibited by the Herdsman harrier could be consistent with this expectation.

The Herdsman harrier is either an atypical individual, or an under-recorded mature adult male plumage stage, whose features do not entirely align with those of illustrated Swamp Harriers, nor Eastern Marsh Harriers or other *Circus* species. However, I consider it to most likely be a Swamp Harrier. This is primarily based upon the likelihood of occurrence of Swamp Harriers (rather than other *Circus* harriers) at Herdsman Lake, the notably different features of the Herdsman harrier from those of Eastern and Western Marsh Harriers, and the existence of other harriers in the Perth region that are broadly similar – the Eric Singleton harrier in particular, with the primary difference being the coloration of the underwing primary tips. Thus, it appears that plumage variation in older adult male Swamp Harriers is even wider than currently referred to in Australian field guides and literature, with the oldest adult males exhibiting the widest range of variation. These older males with dark unbarred under-primaries may be particularly problematic to distinguish from Eastern Marsh Harriers, and considerable detail would be required before claiming the latter species anywhere in Australasia.

Acknowledgements

I thank Laurence Harden and Kaylene Taylor for supplying images for use in this paper. I would also like to thank immensely Daniel Mantle and Plaxy Barratt, who provided comments on the manuscript. Stephen Debus and David Baker-Gabb are thanked for their review of the manuscript and the comments provided.

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