

Field identification of Mantled Hawk *Leucopternis polionotus*

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Mantled Hawk *Leucopternis polionotus* is a largish buteonine considered Near Threatened³ that inhabits humid forests, second growth and Paraná Pine *Araucaria angustifolia* mixed woodland, from sea level to at least 1,500 m, recorded from Alagoas to Rio Grande do Sul in eastern and southern Brazil²⁰, north-east Argentina^{6,16}, east Paraguay^{5,8} and, perhaps, northern Uruguay¹⁰. However, there are no documented records from Argentina, Uruguay or Paraguay. Of four sight records in north-east Argentina since 1975¹⁴, one involved a misidentified pair of White-tailed Hawks *Buteo albicaudatus* (C. Saibene pers. comm.) and no published details are available for the others. One was reportedly observed along the lower río Carapá, eastern Paraguay⁹ in 1989, but no details were given.

The species reportedly replaces White-necked Hawk *L. lacernulatus* above 500 m^{1,2,5,8,13}, but Mantled Hawks are observed from sea level, and White-necked Hawks have been seen as high as 900 m (R. Fadini & R. Parrini pers. comm.; SHS & DK pers. obs.). Habitat use and relative abundance along altitudinal gradients are poorly understood for Mantled Hawk.

Though several field guides depict and describe this hawk, none of these permits swift and confident identification in the field, and some are inaccurate in iris and facial skin coloration, relative proportions, the position of the wingtips relative to the tail tip, and flight silhouette. Accurate field identification is necessary to produce better information on its distribution, ecology and habitat requirements, which in turn are required to develop an appropriate conservation strategy⁴.

Methods

Plumage descriptions, illustrations and behavioural patterns reported here are from field observations, careful notes taken while observing birds through binoculars and telescopes, and

photographs and video taken in the wild. Adults were studied on more than 20 occasions at Urubici, Santa Catarina, Brazil, in July 2003 and June 2006, and a juvenile was observed, by DK, at General Carneiro, Paraná, Brazil, on 25 May 2003. I. Accordi recorded bare-parts coloration for three wild individuals, two adults and one of unknown age, in Rio Grande do Sul, Brazil, and G. S. Cabanne photographed an adult held at São Paulo zoo, Brazil. Though we have studied specimens, we report only plumage details observable in the field. We also provide information to distinguish other raptors sympatric with Mantled Hawk.

Descriptions

Perched adult (Plate 1, Figs. 1d,f,g; 3) Appears chunky, with broad 'shoulders' relative to total length. White head looks large, round and conspicuous; markings around eyes afford a masked appearance. Cere and lores ash-grey to dull yellow; bill has paler grey base grading to black at tip. Irides brown in good light, otherwise appear black. Underparts unmarked white. Mantle, scapulars and tertials slaty grey with broad white tips affording a somewhat scaled pattern. Slate-black upperwing-coverts appear darker than scapulars. Secondaries dark lead grey with 3–4 narrow darker bands (in good views) and broad white tips form a shallow U if seen from behind. Secondaries reach halfway to tail tip, concealing rump and base of tail. Primaries black with greyer bases and thin white tips reach or slightly exceed tail tip, sometimes forming a small dark triangle below tail. Usually only the white part of the tail is visible, but in some individuals one, rarely two, dark bands are just visible at the tail base. Tail tip square. Tarsi yellow and usually partially concealed; toes strong and orangish yellow.

Perched juvenile (Plate 1, Fig. 1e) Very much like adult but dark streaks on crown and nape visible at distance. Upperwing-coverts fringed whitish.

Cere whitish to dull yellow. Somewhat marbled dark bars at base of tail more numerous and noticeable than in adults.

Flying birds (Plate 1, Figs. 1a,b; 4) Very unique silhouette with long, very broad, rounded wings and short tail. White head appears bulky and sometimes (in females?) projects further than tail. Wings longer than body and tail-length in soaring birds (wingspan 2.6× total length). Broad white trailing edge to wings conspicuous in good light (especially if backlit, but not obvious in cloudy conditions). All-white tail appears squarish if folded, slightly wedged when partially fanned, and rounded when fully fanned. Dark base of tail seldom noticeable. Seen from behind or if tail fully fanned, wings and tail form continuous trailing edge. Dark distal half of remiges contrasts with rest of underside, but border ill-defined, especially on secondaries. Leading edge to wings noticeably white. Legs not very apparent.

Behaviour Perches on exposed branches or bare snags in upper half of living trees, but also on dead ones¹⁵ (I. Roesler pers. comm.). In hilly areas, we usually found it on the upper half of forested slopes. Perches quite straight with tarsi barely visible. Tail often held vertical or slightly forwards. Soars in circles, usually on level wings—but might hold wings above the horizontal in full soar—frequently and for long periods, low over forest or, mostly, high from mid morning until late afternoon. Once height attained, usually glides long distances on somewhat ‘cupped’ wings. Long broad wings give species a very conspicuous flight as birds seem to float in midair. Flapping shallow and ‘flexible.’ Birds flap very infrequently when soaring. One was observed hunting a lizard (15–20-cm long) from a perch; the bird glided and caught it on the ground, immediately passed the prey to the bill, then took off and soared in wide circles; the prey was consumed on the wing, before perching and still-hunting again. We observed flocks of Chopi Blackbird *Gnorimopsar chopi*, Golden-winged Cacique *Cacicus chrysopterus* and Epaulet Oriole *Icterus cayennensis* near to hawks, even on the same perch, without mobbing or chasing the raptor.

Field marks and other useful characters

In flight Look for the **broad, white trailing edge to the wings and tail** (Plate 1, Figs. 1a, 4), which appears translucent against the sun. Long secondaries make the tail appear very short (Plate

1, Figs. 1a–b). Note, dark tail base seldom visible. Note ill-defined two-toned underwing pattern and white leading edge to wings. Wings held either level, on a shallow dihedral, or slightly cupped (Plate 1, Figs. 1c, 4).

Perched **White square tail** and **white U** formed by secondary tips unique and eliminate other raptors. Wingtips reach or slightly exceed tail tip (Fig. 3). White tips to dorsal feathers very noticeable and make birds, especially juveniles, appear scaled from behind (Plate 1, Figs. 1d–e). Front on, look for the **white tail** (Plate 1, Fig. 1g). These field marks are noticeable at long distance and suffice to separate all sympatric raptors, perched or in flight.

Similar species

Several other ‘black-and-white’ raptors in south-east Brazil, north-east Argentina and eastern Paraguay could be confused with Mantled Hawk. Silhouette shape, and tail and trailing edge coloration are the most important characters to note in flying birds, whereas tail and secondary tip coloration should be noted in perched birds.

White-necked Hawk (Plate 1, Figs. 2a, 5, 6) is not always easily separated from Mantled Hawk and is sympatric at several localities^{5,8,10,13}. This species also perches exposed on conspicuous perches and soars above the forest like Mantled Hawk. The white head, dark dorsum, mainly white tail and rounded wings make it overall similar to Mantled Hawk. In flight White-necked Hawk is relatively shorter winged and has a noticeable black subterminal band on the longer tail (Plate 1, Figs. 2a, 6). It soars with wings held above the horizontal (dihedral) resembling a pale-morph adult Variable Hawk *Buteo polyosoma*. The white head projects less from the body than the tail. Though the underwing pattern is two-toned, as in Mantled Hawk, the dark terminal band to the secondaries is well defined, forming a dark (not white) trailing edge to the wing. The dorsal surface lacks the white U on the secondaries in perched birds. The whitish bases (not tips) to the mantle, back and scapulars make them appear blotched (rather than scaled) from behind; tertials are dark-tipped. White-necked Hawks might also show a masked appearance, but lores are whitish or creamy, the cere and gape dull yellow, resulting in an overall paler face pattern. Wingtips fall short of tail tip when perched. The dark bands at the base of the undertail are usually concealed by the long coverts in perched birds, and not easy to



Plate 1. Mantled Hawk *Leucopternis polionotus* (1) in comparison to adult White-necked Hawk *L. lacernulatus* (2) (not to scale). Arrowheads denote important field marks, long arrows subsidiary characters useful in the field (Aldo Chiappe)

Figure 1a. Soaring bird against blue sky. Short all-white tail and white trailing edge to wings diagnostic. Short tail barely projects beyond trailing edge to wings. Greyish parts to remiges somewhat contrast with rest of underwing. Chunky body. Note smooth curve to leading edge of wings.

Figure 1b. Gliding against cloudy sky. Appears darker. White trailing edge inconspicuous. Long secondaries almost conceal short squarish tail. Note smooth curves formed by 'wrists.'

Figure 1c. Tail view silhouettes. Glides with wings somewhat cupped, and soars with wings level or slightly upheld.

Figure 1d. Perched adult (yellowish cere). White head and neck conspicuous. Chunky body. Secondary tips reach halfway to tail tip and form noticeable white U. Note white tips to body feathers on dorsal surface. Primaries reach or slightly exceed tail tip. Dark base of white tail seldom visible.

Figure 1e. Juvenile. Upperwing-coverts fringed buff or whitish. Bands on tail base noticeable. Note dark streaks on top of head and lower hindneck. White tips to secondaries diagnostic.

Figure 1f. Head. Dark eyes, greyish facial skin and grey to black bill afford 'masked' appearance (some individuals have yellowish cere).

Figure 1g. Detail of tail and wingtips in front view. Note orangish toes.

Figure 2a. Soaring White-necked Hawk. Wings relatively shorter and more rounded than Mantled Hawk. Black bands to trailing edge of wings and on tail diagnostic. Head projects from body less than the tail.



Figure 3. Adult Mantled Hawk *Leucopternis polionotus*, Santa Catarina, Brazil, July 2006; note white tips to secondaries and wingtip reaching beyond tail tip, but dark tail base is seldom visible (Sergio H. Seipke)



Figure 4. Adult Mantled Hawk *Leucopternis polionotus*, Santa Catarina, Brazil, July 2006; white trailing edge to wings and tail diagnostic, and note ill-defined two-toned underwing pattern and white leading edge to wing (Sergio H. Seipke)



Figure 5. Adult White-necked Hawk *Leucopternis lacernulatus*, São Paulo, Brazil, July 2006; note dark (not white) tips to secondaries, primaries fall short of tail tip, tail is white and has conspicuous black subterminal band (Sergio H. Seipke)



Figure 6. Adult White-necked Hawk *Leucopternis lacernulatus*, São Paulo, Brazil, July 2006; wings held above the horizontal (dihedral), whilst white leading edge and sharply defined trailing edge to wings and subterminal black tail band are diagnostic; dark base of tail hard to see in the field (Sergio H. Seipke)



Figure 7. Pale-morph adult Short-tailed Hawk *Buteo brachyurus*, Misiones, Argentina, June 2006; wings are held level when soaring, and note relatively pointed wings, barred tail and, most importantly, dark cheeks (Sergio H. Seipke)

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distinguish from the dark trailing edge on a moving bird, although obvious in flight pictures (Fig. 6). An all-white head, dark and sharply defined trailing edge to the wings and subterminal dark tail band are diagnostic.

Gliding or seen from behind, Mantled Hawk resembles Black-chested Buzzard-eagle *Geranoaetus melanoleucus* or a King Vulture *Sarcoramphus papa*, but if followed for some period the pointed wings and wedge-shaped tail of the buzzard-eagle, or the black tail and noticeable 'fingers' of the vulture will become apparent. Both species have dark heads. The vulture even soars on flat wings—or on a very shallow dihedral—but the primaries are much more curved upwards, and the underwing pattern sharply defined.

Adult White-tailed Hawks have ill-defined two-toned underwings but soar with the wings held in a strong dihedral, have long pointed wings and, most importantly, a dark subterminal band on the tail. The head- and neck-sides are dark grey, and the rufous lesser upperwing-coverts, white uppertail-coverts, rump and lower back are easily seen from above in adult White-tailed Hawk (but absent in Mantled Hawk). Immature White-tailed is marked below and / or black-hooded.

Short-tailed Hawk *Buteo brachyurus* (pale morph) soars on flat wings⁷, has two-toned underwings but a much longer, dark-tipped tail, and conspicuous dark cheeks (Fig. 7).

Swallow-tailed Kite *Elanoides forficatus*—with its forked tail—is unmistakable, but attention must be paid to perched birds as they show white on the scapulars, and the tail is often concealed by foliage. This species has grey toes and tarsus (seldom visible).

Discussion

Given our small sample size, the images presented here should not be considered as definitive of Mantled Hawk, but we believe that the illustrations and field marks highlighted above will permit swift and confident identification of the species.

We found some inconsistencies in the literature. Mantled Hawks glide on rather level wings (not forming a dihedral as in Narosky & Yzurieta¹⁶). Due to the long secondaries, the tail appears extremely short in flight (not as in Canevari *et al.*⁶, de la Peña & Rumboll¹⁸, Ferguson-Lees & Christie⁸ and Narosky & Yzurieta¹⁶). The secondaries contrast with the underwing-coverts, sometimes resembling a King Vulture or those *Buteo* species with two-toned underwings (*contra*

Canevari *et al.*⁶ and Ferguson-Lees & Christie⁸). Most we observed perched upright, but the tarsi were invisible or partially concealed; we consider that perched shapes resembling *Buteogallus* spp., as in de la Peña & Rumboll¹⁸ or Ferguson-Lees & Christie⁸, are inadequate, but Plate 88 in Brown & Amadon⁵ agrees well with our observations. The secondaries are broadly white-tipped and reach halfway along the tail (*contra* Brown & Amadon⁵, de la Peña & Rumboll¹⁸, del Hoyo *et al.*¹⁰ and Narosky & Yzurieta¹⁶). The dark bands at the base of tail were usually invisible, perched or in flight (not as in Brown & Amadon⁵, Canevari *et al.*⁶, Ferguson-Lees & Christie⁸, del Hoyo *et al.*¹⁰, Narosky & Yzurieta¹⁶, Olrog¹⁷ and de la Peña & Rumboll¹⁸), making it naïve to hope to identify Mantled Hawk using this character. The primaries reach or exceed the tail tip when perched (as in de la Peña & Rumboll¹⁸ and Olrog¹⁷, but *contra* Brown & Amadon⁵, del Hoyo *et al.*¹⁰ and Ferguson-Lees & Christie⁸). The irides of all adults we studied were dark brown (not yellow, as in de la Peña & Rumboll¹⁸ and Olrog¹⁷). We failed to note the often-mentioned blackish shaft-streaks on the head of adults, even in those observed at close range (<100 m) through scopes, but such streaking is noticeable in juveniles.

Brown & Amadon⁵, Canevari *et al.*⁶, de la Peña & Rumboll¹⁸, del Hoyo *et al.*¹⁰ and Narosky & Yzurieta¹⁶ mentioned or depicted the cere as being either yellow, yellowish or pale yellow. An adult in São Paulo zoo had the cere and upper half of the lores dull yellow in January and August 2005. Three caught in Rio Grande do Sul during the austral summer also had yellow ceres (I. Accordi pers. comm.). Ferguson-Lees & Christie⁸ stated that specimens they studied seemed to have grey ceres. All those we observed in winter at Urubici had greyish lores but a yellow cere above the nostrils. Some individual variation in facial skin colour is documented, but whether this relates to age, gender or geography is unknown. Season is unlikely to account for variation in cere coloration since the individual at the São Paulo zoo had a yellow cere throughout the year.

It seems unlikely that Mantled Hawk will be overlooked by trained observers surveying a suitable area for any length of time. Mañosa & Pedrocchi¹² reported this raptor as more frequently observed than any other in Fazenda Intervalles, São Paulo, Brazil, and we detected Mantled Hawks within 1–2 days at localities we surveyed. Birds soar frequently throughout the day and are easy to find when perched at distances over 1 km, as they usually select exposed

positions. Furthermore, birds can be quite vocal in human presence. In other words, Mantled Hawks are easily detected where present. The lack of recent records from well-watched areas in Misiones, Argentina^{11,19} (E. R. Krauckzuk pers. comm.) and Paraguay (J. Mazar Barnett pers. comm.) makes us suspect the species no longer occurs in either region.

Sight records based only on field marks listed in previous publications should be treated with caution. Detailed field notes, listing all observed field marks, should be published for sight records of this Near Threatened species.

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