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Flight identification of *Milvus migrans lineatus* 'Black-eared' Kite and *Milvus migrans govinda* 'Pariah' Kite in Nepal and Thailand

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Two subspecies of the Black Kite Milvus migrans occur in the Oriental Region: the Palearctic M. m. lineatus, frequently referred to as the 'Black-eared' Kite, which is mainly migratory in central and east Asia, south to the Himalayas and north Indochina, wintering in South Asia and regularly observed on migration each October moving north to south in Thailand as well as east to west in Nepal; and M. m. govinda, locally known as the 'Pariah' Kite, which is mainly sedentary in South Asia, Myanmar, Thailand and south Indochina, wandering south to Peninsular Malaysia (Ferguson-Lees & Christie 2001) but making shorter intra-regional movements in response to food availability, weather (seasonal rains), etc. (Wells 1999). Distinguishing between the two subspecies is difficult, particularly in the case of birds in flight. Here we describe differences that we have noted in the field and from images taken and analysed as part of our raptor migration studies at Khao Dinsor watch site, southern Thailand (DeCandido et al. 2013) and Thoolakharka, west-central Nepal (Subedi & DeCandido 2013). We hope this information is useful to conservationists concerned by the apparent decline in breeding populations of *M. m. govinda* and in migrant and overwintering *M. m. lineatus* (Wells 1999, Williams 2000, Round 2008).

At Khao Dinsor more than 95% of the birds seen are first calendar-year lineatus, most frequently in the first half of October (Table 1) and we have yet to see a migrant govinda here. However, north of Khao Dinsor, especially in the provinces of Ayutthaya, Nakhon Nayok, Pathum Thani and Phetchaburi (Mallalieu 2007), overwintering lineatus (common) and govinda (rare) are seen in the same habitat—harvested rice paddies-at the same time. Some govinda are resident breeders in Thailand, while a few are migrants from elsewhere. At the Thoolakharka watch site in Nepal, both subspecies move through in October, but it is unclear if govinda is simply searching the local area for food or if some individuals are making longer movements through the region. In Kathmandu, in late November and December at least, 200-400 Black Kites, mainly govinda, roost each evening at the Swayambhunath temple. The images in this article were taken at Khao Dinsor, Phetchaburi and Kathmandu.

Table 1. Biometric and migration data for 'Black-eared' Kite *Milvus migrans lineatus* and 'Pariah' Kite *M. m. govinda* in Thailand (T) and Nepal (N) (biometric data from Ferguson-Lees & Christie 2001). [m = adult male; f = adult female]

Black (Black-eared) Kite Milvus migrans lineatus

Length	Wing span	Peak migration period	Number seen/year 2011–2013	Comments
		T: 1 Oct–10 Oct N: 15 Sep–30 Sep	160–175 150–250	Thailand: juveniles make up 95% of birds seer on migration; peak daily migration count is 18 Thailand (6 Oct 2011) and 18 in Nepal (8 Oct 2012). In winter, in Nakhon Nayok province, Thailand, at least 1,617 <i>lineatus</i> were counted on 5 January 2013.

Black (Pariah) Kite Milvus migrans govinda

Length	Wing span	Peak migration period	Number seen/year 2011–2013	Comments
		T: not seen on migration N: 25 Sep–10 Nov	_ 200-400	Thailand: migrates moderate distances; found Nov–Feb in small numbers at known overwintering sites. Nepal: common at Swayambhunath temple in Kathmandu in Nov–Dec at least.

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Plate 1. Adult 'Black-eared' Kite *Milvus migrans lineatus* from above, Khao Dinsor, Thailand, 6 October 2011.

Plate 3. Juvenile *lineatus* from above, Khao Dinsor, Thailand, 5 October 2012.





Plate 2. Adult *lineatus* from below, Phetchaburi, Thailand, January 2013.

Plate 4. Juvenile lineatus from below, Khao Dinsor, Thailand, 7 October 2012.





Plate 5. Adult 'Pariah' Kite *Milvus migrans govinda* from above, Kathmandu, Nepal, 8 December 2012.



Plate 6. Adult *govinda* from below, Kathmandu, Nepal, December 2012.

M. m. lineatus is significantly (10–15%) larger than govinda (Table 2), while govinda has a more pronounced forked tail (Inskipp & Inskipp 1991, Wells 1999, Ferguson-Lees & Christie 2001, Robson 2002). However, these features are difficult to see in flight, particularly at a distance. In Table 2 we list several important features to aid identification of each subspecies. In our experience, the two most useful features to help identify flying birds are (a) the size of the white patch over the lower base of the primaries (see Wells 1999 for discussion) and (b) the colour of the vent compared to the upper chest/breast area (see discussion below).

Although there is overlap between the two subspecies in some of the plumage characteristics,

by selecting individuals toward the extremes we developed guidelines for identification. When looking up at these kites in all juvenile to adult plumages, note that for lineatus (a) the vent area is noticeably lighter (cream-coloured) than the darker breast/upper chest; (b) the white patch at the base of the primaries is usually large, and larger than in govinda; (c) lineatus, particularly juveniles, have an elongated, distinctive black smudge (the black 'ear') behind the eye on a light-coloured head; (d) in juvenile *lineatus*, the white streaking on the body is thicker, broader and more extensive than in juvenile govinda; and (e) in older birds (second calendar-year to adult), the feet and cere are greenish or light bluish rather than the deep yellow of subadult and adult govinda.

Table 2. Comparison of the distinguishing field-marks of adult and juvenile 'Black-eared' Kite *Milvus migrans lineatus* and 'Pariah' Kite *M. m. qovinda* in Thailand and Nepal.

	Adult lineatus	Juvenile lineatus	Adult govinda	Juvenile govinda
Ear-coverts	Extensive black	Extensive black	Dark smudge	Dark smudge
Cere	Bluish	Bluish	Yellow	Bluish
Body streaking	Some thin white	Broad white	None	Moderate white
Primary patch	Extensive	Extensive	Small	Small
Feet	Light bluish	Light bluish	Yellow	Light bluish
Vent	Tan/light brown	Light cream	Dark brown	Mid to dark brown

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Plate 7. Juvenile *govinda* from above, Kathmandu, Nepal, December 2012

By comparison, govinda kites show the following features in all plumages when seen or photographed in good, uniform light: (a) there is only a slight to no distinct colour difference between the upper half of the body and the vent area—usually uniformly darkish; (b) the white patch at the base of the primaries is small and often marked with barring or streaking; (c) govinda may show a slightly darker area behind the eye but it is not as distinct or extensive as lineatus; (d) the white streaking on the body of juveniles is thinner than on juvenile lineatus; (e) in older birds (second calendar-year and beyond), the feet, gape and cere are a lovely golden-yellow colour (juvenile birds of both subspecies have greenish or light bluish bare parts); and (f) in flight, govinda can show a more forked tail but, since kites twist and turn so often in flight, this is a less useful character. Also, juvenile kites of both species have tails that are less deeply forked than adults. See the accompanying photos for illustration of the characters described above.

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Plate 8. Juvenile *govinda* from below, Kathmandu, Nepal, December 2012

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