

## A Breeding Record of the Rufous-bellied Eagle *Lopotrionchis (Hieraetus) kienerii* in Sumatra

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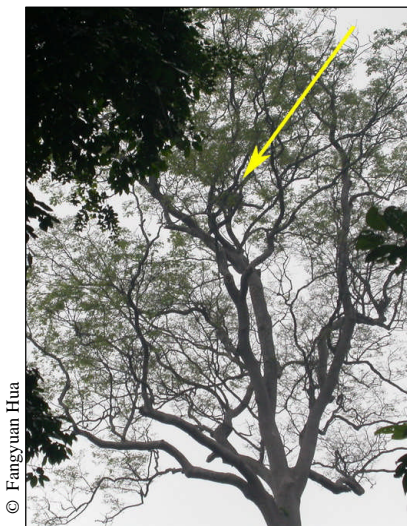
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**Ringkasan.** Tidak ada catatan yang pasti sebelumnya mengenai catatan berbiak dari Elang Perut-karat *Lopotrionchis (Hieraetus) kienerii* di Sumatera. Keberadaan burung muda bersama sarang yang teramati pada tanggal 29-31 Juli 2007 di Hutan Harapan Rainforest (Propinsi Jambi) dan pengamatan seekor burung muda di areal PT Musi Hutan Persada (Propinsi Sumatera Selatan) pada tanggal 8 November 2007 menunjukkan bukti bahwa Elang Perut-karat berbiak di Sumatera. Hubungan taksonomi Elang Perut-karat dengan burung pemangsa lainnya masih belum diketahui, tetapi berdasarkan bukti DNA dan morfologi, maka jenis ini sepertinya lebih dekat ke marga *Nisaetus (Spizaetus)*.

The Rufous-bellied Eagle *Lopotrionchis (Hieraetus) kienerii* is a resident species of southern Asia, from India through southern Myanmar and Peninsular Malaysia to the Philippines and Indonesia, to as far east as Flores in the Lesser Sundas (Thiollay 1994; Coates & Bishop 2000). In the Greater Sundas it is regarded as an uncommon forest resident extending up to 1,500 m asl (MacKinnon *et al.* 1998). In Sumatra, the species is probably resident, but there has been no definite breeding record (Marle & Voous 1988; Holmes 1996). However, during September and October 1998, Buij *et al.* (2006) observed a juvenile Rufous-bellied Eagle circling together with adult birds above the Ketambe lowland area, Leuser National Park, Aceh province, on the western tip of Sumatra, suggesting that this species might breed in the Park.

On 29 and 31 July 2007 three of the authors (FH, DM and BZ) observed an adult and a juvenile bird beside a raptor nest near the Kapas River (2°15'09.5"S; 103°14'31.7"E), Harapan Rainforest, Musi Banyuasin District, South Sumatra. The nest was situated approximately 20-30 m above the ground in a high tree, and was composed of dead branches and sticks (Plate 1). The surrounding habitat was regenerating secondary lowland forest that had been selectively logged, but never completely cleared. During the observation we saw an adult foraging and feeding the juvenile, which stayed 1-5 m from the nest. Based on its begging behaviour and its wing-flapping (without flying) movements we concluded that the juvenile had just recently fledged.



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**Plate 1.** Presumed nest of Rufous-bellied Eagle on 29 July 2007 in Harapan Rainforest, S Sumatra.



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**Plate 2.** Juvenile Rufous-bellied Eagle observed in *Acacia mangium* plantation in Musi Hutan Persada (MHP) Forest Concession, S Sumatra.

On 8 November 2007 one of us (MF) observed a juvenile perched in an *Acacia mangium* plantation at Teras area, Muara Enim District, in Musi Hutan Persada (MHP) Forest Concession, South Sumatra. The bird had brown upperparts, a blackish eye patch, whitish eyebrow and whitish underparts (Plate 2), consistent with descriptions for juvenile Rufous-bellied Eagle (Clark & Schmitt 1993; MacKinnon *et al.* 1998; Robson 2000). An adult had been observed in flight at the same location on 29 October 2007 (Plate 3).

The observations in Harapan Rainforest and the *Acacia mangium* plantation in the Teras Forest conservation area represent the first two records of this species for South Sumatra Province (Marle & Voous 1988; Holmes 1998). Both sites are in lowland rainforest. In particular, the observation of a juvenile in the Harapan Rainforest constitutes evidence of breeding of this species.

The breeding season of Rufous-bellied Eagles in other parts of Asia is said to be December to March (Sri Lanka and southern India) and February (Philippines) (Thiollay 1994; Robson 2000). There is no information available for the duration of incubation and nestling periods of the species (Thiollay 1994). On the Thai-Malay Peninsula, juveniles accompanied by adults (never more than one each) were recorded “during early October-mid March”, and lone juveniles from late February, but no nests have been recorded (Wells 1999).

Although the true affinities of the Rufous-bellied Eagle are not yet known, it appears to be similar in some respects (crest and long toes) to Asian ‘*Spizaetus*’ Hawk-eagles, which based on DNA evidence have recently been transferred to

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**Plate 3.** Adult Rufous-bellied Eagle in Forest Concession, South Sumatra.

*Nisaetus* (Gamauf *et al.* 2005; Helbig *et al.* 2005; Haring *et al.* 2007). Therefore comparison of the breeding biology (season, incubation and nestling periods) of Asian *Nisaetus* with Rufous-bellied Eagle could be instructive. On the Thai-Malay Peninsula, all three species of hawk-eagles for which breeding information is available (*N. cirrhatus*, *N. nanus* and *N. alboniger*) have active nests between November and February (but as late as April in *alboniger*) (Wells 1999). Similarly in both Sumatra and Borneo, eggs of the Changeable Hawk-eagle *N. cirrhatus* have been found from December to February (Smythies 1999; Marle & Voous 1988), but in Sumatra, chicks have been found in October 1913 (Marle & Voous 1988) and late August 2006 (Iqbal 2009). In Java, by contrast, *N. cirrhatus*

clutches have been recorded from April to August (Hellebrekers & Hoogerwerf 1967). The incubation and nestling periods of this species have been estimated as c. 40 and 68 days, respectively (Thiollay 1994). The Javan Hawk-eagle *N. bartelsi* mostly lays its eggs in the first half of the year (Birdlife International 2001). The incubation period is  $47 \pm 1$  days (Nijman *et al.* 2000), and fledging takes c.56-70 days (Hendarsah 2000; Prawiradilaga 2006).

Assuming that the nesting cycle of the Rufous-bellied Eagle is similar in length to that of the hawk-eagles above (3.5-4 months), our record of the presumed recent fledgling in late July 2007 in Harapan Rainforest, suggests that laying occurred in early April (or earlier). Observations of juvenile birds during September and October (Buij *et al.* 2006) and November (by the authors) coincide with the earliest months for sightings of juveniles in the Thai-Malay Peninsulas (see above), and suggest that Sumatran birds may lay early in the year like those on the Asian mainland. As the diet of the Rufous-bellied Eagle is known to include birds, such as pheasants and pigeons (Thiollay 1994; Wells 1999), this timing would ensure the availability of avian food for nesting adults and fledglings since the breeding seasons of most bird species in Sumatra occurs from January to June (G.W. Davison in Marle & Voous 1988).

Finally, although Thiollay (1996) claims that this species is strongly associated with mature forest habitat, and has a low tolerance towards forest degradation, our finding of a nest in an abandoned production forest, and observations of this species elsewhere (D Edwards, *in litt.*), suggest that the Rufous-bellied Eagle may be reasonably tolerant of forest disturbance, and regenerating secondary forest may have considerable conservation value for this species.

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**Plate 4.** Adult Rufous-bellied Eagle photographed in Ketapang, West Kalimantan.