

MOUNTAIN SERPENT-EAGLE

Spilornis kinabaluensis

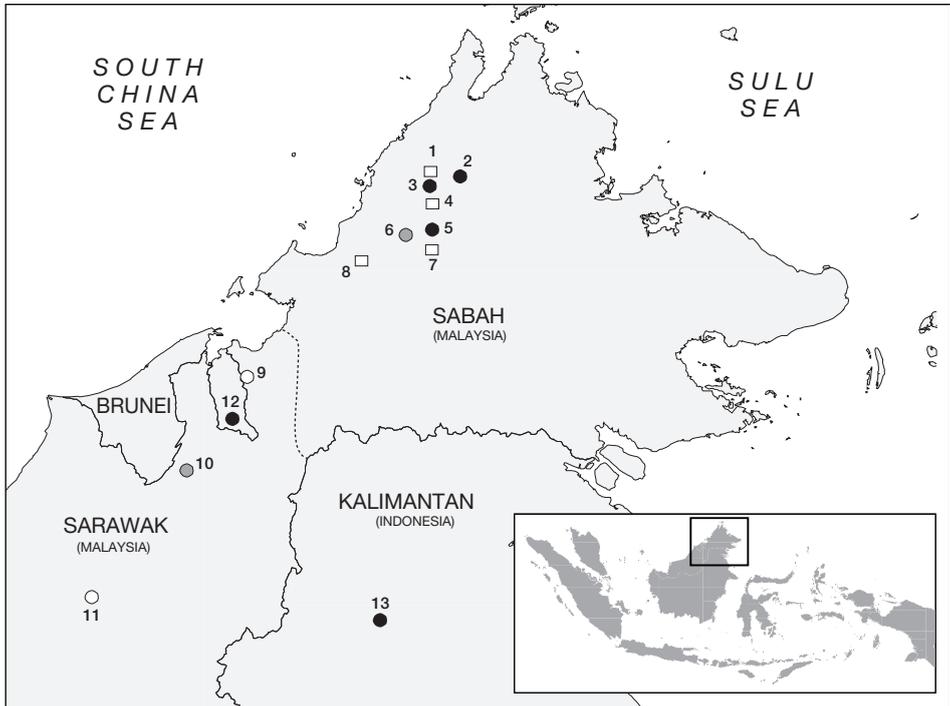
Critical —
Endangered —
Vulnerable C2b



Given the small range and relative mobility of this species, it is judged to comprise a single small population that is decreasing numerically as a result of continuing habitat loss and degradation at lower altitudes. For these reasons it qualifies as Vulnerable.

DISTRIBUTION The Mountain Serpent-eagle (see Remarks 1) is known only from the northern and central mountains of Borneo. Records are from:

■ **MALAYSIA** ■ **Sabah Kenakok**, undated (Sheldon *et al.* in press); **Poring hot springs** on the waterfall trail, August 1998 (H. Hendriks *in litt.* 1999); Gunung Kinabalu, presumably in what is today **Kinabalu Park**, 900 m, March 1888 (specimen in BMNH), and in the national park, November 1980 (J. P. Croxall *in litt.* 1999) and subsequently with elevation range of 1,500–2,500 m (Thiollay 1983, Lomosse and Lomosse 1987, Collar and Andrew 1988, many observers *in litt.* 1999), with an upper limit of 2,900 m (Mann *in prep.*); **Tenompok**, undated



The distribution of Mountain Serpent-eagle *Spilornis kinabaluensis*: (1) Kenakok; (2) Poring hot springs; (3) Kinabalu Park; (4) Tenompok; (5) Tambunan; (6) Crocker range; (7) Gunung Trus Madi; (8) Rinangisan; (9) Murud; (10) Gunung Mulu National Park; (11) Gunung Dulit; (12) Ulu Temburong National Park; (13) Long Kipah.

○ Historical (pre-1950) ● Fairly recent (1950–1979) ● Recent (1980–present) □ Undated

(Sheldon *et al.* in press); **Tambunan**, October 1991 (A. C. Sebastian *in litt.* 1999); Sinsuran road in the **Crocker range**, November 1968 (Phillipps 1970); **Gunung Trus Madi** at Kaingaran, 750–2,100 m, undated (Sheldon and Francis 1985, Sheldon *et al.* in press; see Remarks 2); **Rinangisan**, undated (Sheldon *et al.* in press);

■ **Sarawak Murud**, 1922 (Banks 1937b); **Gunung Mulu National Park**, 1974 (B. F. King verbally 1998), June 1978 (Smythies 1981, J. P. Croxall *in litt.* 1999); **Gunung Dulit**, 1,200–1,500 m, January 1897 and December 1898 (two males in BMNH; also Smythies 1981);

■ **BRUNEI Ulu Temburong National Park**, at Bukit Tudal, January 1984 (Bennett *et al.* undated, Mann 1987) and Gunung Pagon, Ulu Temburong, undated (M. Wong in Mann in prep.);

■ **INDONESIA Kalimantan** ■ **East Kalimantan** above **Long Kipah**, 850–950 m, November 1997 (van Balen 1998).

POPULATION From observations in the 1980s and 1990s, the Mountain Serpent-eagle appears to be a genuinely rare species (D. Yong verbally 1997, B. F. King verbally 1998), with a small total population (Collar and Andrew 1988); one regular visitor (K. D. Bishop *in litt.* 2000) sees it only once in every three visits to the park and agrees with this assessment. Single birds were seen on four occasions in Kinabalu Park in a relatively short period, July 1982 (Thiollay 1983). It must be considered, however, that its ecology may be sufficiently different from the very familiar Crested Serpent-eagle *Spilornis cheela* that it employs a different hunting strategy and therefore shows itself in flight above the canopy much less frequently.

ECOLOGY Habitat The species has been found at 1,000–2,000 m, and even 2,400 m on Kinabalu (Banks 1937b). In July 1982 records were from 1,400–2,900 m (Thiollay 1983); subsequently the elevation range has been generalised as 800–2,900 m (Sheldon *et al.* in press). Although on Trus Madi the species abuts the elevation range of the lowland Crested Serpent-eagle (Sheldon and Francis 1985), there is a gap between the two species on Gunung Mulu (Smythies and Davison 1999) and at a site on the Brunei frontier in January 1984 they were found to separate vertically by about 400 m and horizontally by about 750 m, with hunting and displaying birds (Mountain Serpent-eagles) hugging ridges (Bennett *et al.* undated); this latter behaviour was also noted in Kalimantan, where the habitat was submontane evergreen forest (van Balen 1998).

Food “Snakes and lizards (Whitehead)” have been reported (Smythies 1981), including the anglehead lizard *Gonyocephalus* (Smythies and Davison 1999).

Breeding The only information appears to be an observation of adults with two flying young at c.900 m, November, in the Crocker Range (Phillipps 1970).

THREATS It has been assumed that this bird would be particularly sensitive to minor degradation of its habitat (Collar and Andrew 1988). Destruction of submontane habitats in Sabah has been intensifying in recent years in response to rising timber prices and the prospects of growing temperate vegetables, and all of the state’s submontane areas are now accessible owing to the systematic development of a logging road network (R. G. Moyle *in litt.* 1999); logging operations on Trus Madi recently reached 1,800 m (R. Stuebing *per* R. G. Moyle *in litt.* 1999). The ongoing clearance and degradation of forest on the southern slopes of Gunung Kinabalu were exacerbated by the extensive fires during the ENSO event in 1997–1998, and must have had a considerable impact on the species; even a new tourist lodge on forested slopes further to the east may have had a detrimental effect on it (K. D. Bishop *in litt.* 2000).

The Mountain Serpent-eagle is a threatened member of the suite of 24 bird species that are entirely restricted to the “Bornean Mountains Endemic Bird Area”, threats and conservation measures in which are profiled by Sujatnika *et al.* (1995) and Stattersfield *et al.* (1998).

MEASURES TAKEN The species is protected in Sarawak (Smythies and Davison 1999) and occurs in Kinabalu Park, Sabah, and Gunung Mulu National Park, Sarawak.

MEASURES PROPOSED Concerted fieldwork is needed to determine the range and numbers of this species along with the degree of threat from habitat destruction. When the distribution of certain relatively rare montane endemics in Borneo, building on the compilation in Stattersfield *et al.* (1998), is sorted into key sites under the BirdLife Important Bird Area programme, Gunung Dulit will clearly emerge as one of the most crucial areas, possessing as it does Mountain Serpent-eagle and several Near Threatened species such as Rajah Scops-owl *Otus brookii* and Dulit Frogmouth *Batrachostomus harterti*; yet Dulit currently remains outside the Sarawak protected area system (E. L. Bennett *in litt.* 2000), a situation which clearly needs to be rectified as rapidly and completely as possible.

REMARKS (1) The plumage, flight silhouette and different calls of this bird all support the notion that it is distinct from Crested Serpent-eagle *Spilornis cheela* (Thiollay 1983), and indeed it is sympatric with *S. cheela* at lower levels on Trus Madi (Sheldon and Francis 1985). (2) Collar and Andrew (1988) mistakenly gave the citation of this record as Smythies (1981).