

Sighting of the Bornean Ferret Badger *Melogale everetti* in the Kinabatangan floodplains, and implications of its lowland distribution

Ramesh BOONRATANA

Abstract

I report a sighting of the Bornean Ferret Badger *Melogale everetti* in the Kinabatangan floodplains of north Borneo. Supported by another sighting in the same general area and the discovery of subfossil remains in the Niah Caves in southwestern Borneo, this extremely rare observation in the lowlands challenges known distribution of the species, which reportedly occurs between 1,070 m and 3,000 m, and is known only from Mount Kinabalu and its environs. I describe the two sightings made in the Kinabatangan floodplains and discuss possible reasons for the species's rarity in the lowlands.

Keywords: altitudinal range, rarity, Sabah, sight-record, Sukau

Pemerhatian Bornean Ferret Badger *Melogale everetti* di dataran banjir Kinabatangan, dan implikasi terhadap pengedarannya di dataran rendah

Abstrak

Saya melaporkan satu pemerhatian keatas Bornean Ferret Badger *Melogale everetti* dari dataran banjir Kinabatangan di bahagian utara Borneo. Pemerhatian spesies ini di dataran rendah merupakan satu cabaran kepada edaran semasa spesies ini, yang setakat ini terhad di antara 1,070 m dan 3,000 m, dan hanya di kenali dari Gunung Kinabalu dan sekitarnya. Walaubagaimanapun, ianya di dukungi dengan pemerhatian lain di kawasan yang sama dan juga penemuan fosil separa di Gua Niah di barat daya Borneo. Dalam naskah ini, saya melaporkan kedua-dua pemerhatian di dataran banjir Kinabatangan, dan membincangkan beberapa kemungkinan sebab-sebabnya mengapa spesies ini langka di dataran rendah.

Kata-kata kunci: jarak ketinggian dari paras laut, kelangkaan, rekod pemerhatian, Sabah, Sukau

The Bornean Ferret Badger *Melogale everetti*, also known as Kinabalu Ferret Badger and Everett's Ferret Badger, was described as *Helictis everetti* by Thomas in 1895 (Schreiber *et al.* 1989). Sometimes considered a subspecies of the Javan Ferret Badger *M. orientalis* or of the Large-toothed Ferret Badger *M. personata* (e.g. Payne *et al.* 1985), most modern authors follow Long (1992) and treat it as a distinct species.

The Bornean Ferret Badger is reportedly known only from Mount Kinabalu in the Sabah state of Malaysian Borneo, occurring between 1,070 m and 3,000 m, with a note that it might also occur on Mount Tambayukon to the north of Mount Kinabalu (Payne *et al.* 1985). Schreiber *et al.* (1989) found this restricted distribution difficult to explain given that other ferret badger species are widespread and use a variety of habitats. In addition, museum specimens reportedly from Penampang (spelt Penem Pang in Duckworth & Azlan 2008) and Tuaran (Majuakim 1999) are perhaps from lower-lying areas that would be atypical (Duckworth & Azlan 2008). A. Wilting (*in litt.* 2009) visited the Sabah Museum collection in late 2009 and found that Bornean Ferret Badger was the most numerous small carnivore there, with 57 skins, one collected in 1969 and the others between June and December 1971 (the period when most of the collection's mammal specimens were collected). All are from Penampang and Tuaran districts, and have village names or road-mile numbers as localities. They do not have details neither altitudes nor methods of collection. The two districts lie in western Sabah and run from the coast inland to over 1,000 m, making it difficult to infer likely altitudes from which the specimens came without locating the individual villages. These are, in Penampang district, Bambang (5 specimens),

Mile 30 Sunsuran (Sunsuron) Road (7), Mile 28 Sunsuran Road (2), Togudon (18), Kalanggaan (Kalangaan) (2), Kambau (2) and Penampang district without further information (1); and in Tuaran District, Lebodon (16) and Mangkaladong (4).

Consistent with these potential lowland specimens, a Bornean Ferret Badger was observed and recorded along the Menanggul River on 22 August 1991. This river (a tributary of the Kinabatangan River) is located in the Sukau area on the east coast of Sabah. The brief observation (lasting no more than a minute) was made at 08h32, slightly over 2½ hours after dawn, at approximately 5°30'07"N, 118°16'23"E (Fig. 1) and about 14 m above msl in a logged-over flood-prone riverine forest. The observed animal had the distinctive blackish brown and white head pattern, and brownish body as described in Payne *et al.* (1985). However, the tail appeared to have a dull yellowish tinge instead of being entirely brown, but this could have been due to the strong morning light coming in through the rather open forest canopy. When first observed, the individual appeared to be foraging, but upon detecting the observer, it quickly moved away with a gait resembling a half-trot.

The principal forest types in the flood-prone areas of the Sukau area comprise riverine forest and freshwater swamp forest, with some open reed swamp. In the flood-free zone, there are remnants of pristine lowland dipterocarp forest, logged-over swamp forest and burnt lowland dipterocarp forest, and cocoa and oil palm plantations (Boonratana 1993, Boonratana & Sharma 1997). In terms of topography, Sukau and much of the east coast of Sabah comprise undulating lowland basins. The only significant area of land above 1,070 m is about 180 km to the west of Sukau: the

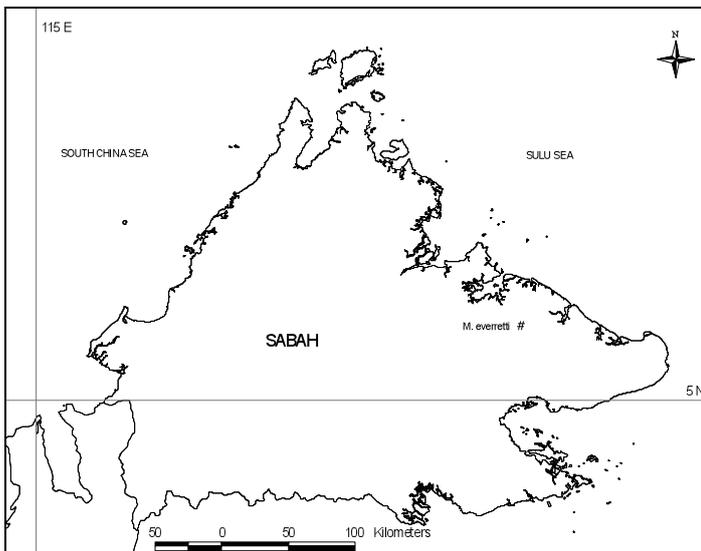


Fig. 1. Location of *Melogale everetti* sightings in lowland Sabah, Malaysia.

mountain range on the west coast of Sabah that runs from the north to the south-west.

This was the only sighting of the Bornean Ferret Badger I made during my two-year field study of Proboscis Monkey *Nasalis larvatus* in the Lower Kinabatangan area, carried out from January 1990 to December 1991 (Boonratana 1993). During the study, the presence of wild fauna was recorded both opportunistically (during full-day follows for Proboscis Monkeys, and during day and night river surveys) and systematically (during monthly wildlife surveys along ten 1-kilometer straight-line transects), and results were reported in Boonratana (1993) and Boonratana & Sharma (1997).

From 1994 to 1996, I carried out a field study at various locations and habitats throughout Sabah, but failed to record the species, although I covered 1,920 km of trails and 62 km of straight-line transects, and employed remote photography (Boonratana 1997). Likewise, extensive surveys and fieldwork by a number of specialists and naturalists within the last decade throughout many parts of Sabah did not reveal any record of the Bornean Ferret Badger, despite the fact that almost all the known lowland mammal species of this size-class were recorded using remote photography (Siew Te Wong *in litt.* 2009). Furthermore, enquiries by Marc Anrenaz (a long-term resident conservation worker at Sukau) with local villagers and others working in the area traced no reliable record of this species in Sukau or other parts of the Lower Kinabatangan (Siew Te Wong *in litt.* 2009).

The species's known restricted distribution and the low possibility, in this era of remote photography, that it might be common but overlooked initially raised my doubts as to the validity of the sighting. Yet the chances that I could have mistaken it for any other species are remote. The tail length, head pattern, and body pelage were nowhere close to the Sunda Stink-badger *Mydaus javanensis*, which I observed a number of times at the same site and in the later study. The animal sighted was too small, and its tail much too short, for a Masked Palm Civet *Paguma larvata*, with which I am familiar from field and zoo experience in Thailand, although it was not detected during the two-year Sukau study. Likewise, the Short-tailed Mongoose *Herpestes brachyurus*, also observed at Sukau, lacks the distinctive head markings shown by the Bornean Ferret Badger.

Moreover, Ikki Matsuda (*in litt.* 2009) reported another sighting of the Bornean Ferret Badger by his field assistant, Ahmad bin Arsih (a local resident), in January 2008, also along the Mennangul River. Ahmad spotted the species at about 08h00, approximately 6.4 km upriver, when he brought a group of tourists in with his boat. The individual was first spotted when it was apparently startled by the boat's engine, ran for a short distance, but stopped when Ahmad stopped the boat's engine. It fled into the forest as soon as Ahmad (at the tourists' insistence) tried to get the boat closer. Ahmad estimated that the observation lasted about five minutes. Further enquiries revealed that although Ahmad had never previously seen a Bornean Ferret Badger, he was confident that the animal was some sort of badger, and realised that it was the Bornean Ferret Badger upon being shown an illustration (Ikki Matsuda *in litt.* 2009). Ikki Matsuda (*in litt.* 2009) is confident of Ahmad's species identification skills, and that he (Ahmad) is familiar with the more common Sunda Stink-badger, remarking that it is common in the Menanggul area, to have mistaken it for the Bornean Ferret Badger.

Hence, despite these extremely few sightings, the species's distribution is apparently not as restricted as previously thought. Furthermore, the discovery of the species's bones associated with excavations of human settlements in the Niah Caves (3°48'N, 113°47'E) in eastern Sarawak (west Borneo), that date back to about 40,000 years ago (Harrison 1996), evince that the species was formerly more widely distributed. Harrison (1996), however, suggested that establishment of present-day climatic regime during the Holocene epoch and the development of ever-wet tropical rainforest might have caused the decline or extinctions of populations of the purportedly cooler early Quaternary. Wozencraft (2005) stated that the species inhabits Sarawak and Kalimantan, as well as Sabah, but cited no evidence for this, and I traced none, other than the above sub-fossil remains.

Thus, there are a few issues to consider. First, that the species's verifiable distribution is restricted to Mount Kinabalu and adjacent similarly high elevations. Second, the only significant area of land above 1,070 m is about 180 km to the west of Sukau, to a mountain range running from the north to the south-west of Sabah. Third, only two sight-records and some specimens of perhaps questionable locality of origin and no camera-trap photographs of the species in the lowlands exist, despite the survey efforts.

A possible explanation for the lack of other records is that the individuals sighted at Sukau might be some of the last Bornean Ferret Badgers occurring in the lowlands, i.e. before much of the lowland habitats were converted into oil palm plantations (Siew Te Wong *in litt.* 2009). Human modification of natural habitats is known to have directly resulted in rarity in some species, aggravating those with already restricted distributions, reducing those with already low population densities, and/or greatly reducing and isolating populations that were once widely distributed (Cody 1986). Modifications to natural habitats could also lead to the addition of one or more species previously not occurring in those communities, causing a decline in one or more of the native species (Cody 1986). The possibility that it was outcompeted or displaced by another species competing for the shared resources that were reduced by stochastic natural causes (Cody 1986), might explain the species's rarity prior to the habitat conversion and other modifications, or in other relatively intact lowland habitats.

Whatever the reasons, the Sukau records indicate that the

species is possibly not restricted to Mount Kinabalu and environs, but is also found in the lowlands. Any other lowland records would be of the greatest interest, and an investigation into the locality documentation of the lowland specimens is clearly a priority. However, it is important to bear in mind that any investigation relying on verbal enquiries from local residents should take into account that local residents might not know the species by the common name(s); might know the species by a different local name; or might collectively know the species by a name that applies to other members of the same taxonomic group or similar-looking species.

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**Mahidol University International College, 999
Buddhamonthon 4 Road, Salaya, Nakhon Pathom 73170,
Thailand.
E-mail: icramesh@mahidol.ac.th**

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