

Notes on live ferret badger *Melogale* trade in Java

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Abstract

A ferret badger *Melogale* was photographed for sale at Jatinegara animal market, Jakarta, Java, Indonesia, on 16 July 2011. This trade observation is supported by internet evidence of recent Javan trade in the genus, and raises a number of unforeseen questions concerning the conservation status of the Javan Ferret Badger *M. orientalis*, which is endemic to Java and Bali. Further investigation is needed to determine the species being traded in Indonesia, and to identify potential conservation needs, because intervention options rapidly decrease the longer such trade continues.

Keywords: hybridisation risk, Jatinegara animal market, *Melogale moschata*, *Melogale orientalis*, pet trade

Perdagangan Teledu *Melogale* di Pulau Jawa

Abstrak

Teledu *Melogale* terfoto dijual di pasar burung Jatinegara, Jakarta, Jawa, Indonesia, pada tanggal 16 Juli 2011. Adanya perdagangan marga *Melogale* ini didukung dengan bukti perdagangan terbaru di internet, dan menimbulkan keprihatinan akan status konservasi teledu Jawa *Melogale orientalis*, satwa endemik Jawa dan Bali. Penelitian lebih lanjut diperlukan untuk mengetahui spesies *Melogale* apa saja yang diperdagangkan, dan untuk menentukan kebutuhan konservasinya, karena opsi intervensi konservasi akan semakin sedikit dengan makin lamanya perdagangan berlanjut.

Kata kunci: ancamana hibridisasi, pasar burung Jatinegara, *Melogale moschata*, *Melogale orientalis*, perdagangan hewan peliharaan

The four* species of ferret badgers *Melogale* resemble each other closely in external appearance, and inhabit mainland and insular South-east Asia and adjacent parts of South Asia and China (Corbet & Hill 1992). Their conservation status is poorly known, and all four species are recorded as Data Deficient on *The IUCN Red List of Threatened Species* (IUCN 2011) with the exception of the Small-toothed Ferret Badger *M. moschata*, which is listed as Least Concern. Conventional mammal surveys tend to generate few records of ferret badgers (e.g. Than Zaw *et al.* 2008, Robichaud 2010, Wong *et al.* 2011), and the still-frequent reports that extend the known range of this genus suggest that their actual range may yet be underestimated (e.g. Bali: Riffel 1991; Bangladesh: Islam *et al.* 2008; Cambodia: Schank *et al.* 2009; central Lao PDR: Robichaud 2010).

The only ferret badger known from Indonesia is the Javan Ferret Badger *M. orientalis*, of Java and Bali (Riffel 1991), although the Bornean Ferret Badger *M. everetti*, known only from Sabah, Malaysian Borneo, may yet be found in the highlands of Indonesian Borneo (Wong *et al.* 2011). The limited information available on the conservation status of Javan Ferret Badger suggests that it may occur both within and outside tall forest ecosystems, including some areas of heavy human use (e.g. Schreiber *et al.* 1989, Riffel 1991, Duckworth *et al.* 2008); however, the possibility remains that the paucity of data available reflects genuine scarcity and thus perhaps a threatened status for this species. Therefore, any information about the Javan Ferret Badger may help clarify its conservation status

and identify potential conservation needs.

During a casual visit to the large, longstanding Jatinegara animal market, Jakarta, Java, on 16 July 2011, an apparently immature, single, caged ferret badger was photographed (Fig. 1). The animal's calm disposition suggested that it had not been taken from the wild as an adult. It may have been hand-raised having been taken as a wild cub (as frequently occurs with



Fig. 1. Ferret badger *Melogale* sp. for sale, Jatinegara animal market, Jakarta, Java, Indonesia, 16 July 2011 (M. Kim).

*After this observation a fifth species of ferret badger, Cuc Phuong Ferret Badger *Melogale cucphuongensis*, was proposed by Nadler *et al.* (2011).

civets in Java; C. R. Shepherd *in litt.* 2011) or, perhaps, was captive-bred. The vendor seemed unhappy about the animal being photographed and would not enter into discussion; this was not surprising as wildlife traders in this market operate largely outside the law (C. R. Shepherd *in litt.* 2011). This chance trade observation is supported by internet advertisements offering young ferret badgers in Java for sale as pets during 2010–2011 and ranging from 300,000 to 450,000 IDR (about USD 35–52; e.g.: <http://tokolaris.info/baby-biul-javan-ferret-badger/> ; <http://indopetshop.info/jual-baby-javan-ferret-badger-biul-imuut/> ; <http://www.reptilx.com/rxforum/viewtopic.php?f=13&t=3695> ; <http://www.kaskus.us/showthread.php?p=371134412>). Wildlife traders are extremely opportunistic and will sell anything they acquire, and these observations suggest the possibility that the trade might be at volumes significant to conservation. However, while two observers report never seeing a ferret badger in trade on Java, despite repeated visits to wildlife markets over many years in Indonesia (C. R. Shepherd *in litt.* 2011, N. W. Brickle *in litt.* 2011), a third (G. Semiadi *in litt.* 2011), has noted a low level of their trade in Jakarta and Surabaya, Java. Thus far, reports of ferret badgers for food or as pets in Indonesia have been unusual, with demand arising only from highly specialised wildlife-pet keepers. At present, there are no registered trade breeders or sellers (those with permits issued by the Department of Forestry) for ferret badgers (G. Semiadi *in litt.* 2011).

Because the four ferret badger species are quite similar in external appearance, the photographed captive animal cannot be objectively identified to species. Given the quantity and diversity of native wild vertebrate species found in the trade markets of Indonesia (e.g. Shepherd *et al.* 2004), the Javan Ferret Badger is an obvious plausible identity. Another possibility, if demand were sufficiently high, is the importation of the Small-toothed Ferret Badger *M. moschata* which is farmed and sold in large numbers in China (Lau *et al.* 2010). However, while numerous species of non-native birds and reptiles have been observed on trade in Indonesia, there are no known reports of non-native small carnivores to date (C. R. Shepherd *in litt.* 2011). Systematic surveys, such as have been carried out in pet markets in Medan, Sumatra (e.g. Shepherd *et al.* 2004, Shepherd 2008), would be helpful to understand the extent and diversity of small carnivore trade; such data are sparse for wildlife trade in Jakarta (e.g. Shepherd & Nijman 2007; C. R. Shepherd *in litt.* 2011).

These findings warrant fresh consideration of the potential conservation threats to the Javan Ferret Badger. If the native Javan Ferret Badger is at present being traded exclusively, hunting pressure may be higher than previously appreciated. If non-native Small-toothed Ferret Badgers were being traded, the native Javan Ferret Badger may face greater conservation risks from hybridisation, competitive exclusion and/or introduction of foreign disease through the inevitable escape or release of these animals. As a precedent among the Mustelidae, the introduction of farmed American Mink *Neovison vison* to Europe has driven major declines in the phenotypically similar native European Mink *Mustela lutreola*, which is now at high risk of extinction (e.g. Sidorovich *et al.* 1999). And locally, in Java, a free-living Masked Palm Civet *Paguma larvata* (not a native of Java) was observed in Cibodas Botanic Gardens adjacent to the Gunung Gede Pangrango National Park (Brooks &

Box 1. Morphological characteristics reported to distinguish the Javan Ferret Badger *Melogale orientalis* from the Small-toothed Ferret Badger *Melogale moschata*.

1. Dentition – the Javan Ferret Badger has massive teeth (similar to the Large-toothed Ferret Badger *M. personata* of mainland Asia), compared with the smaller dentition of the Small-toothed Ferret Badger (Long 1992);
2. The tail as a percentage of head-and-body length – this is 45–50%, with the tail darker and nearly always white-tipped for the Javan, compared with 40–45% in the Small-toothed which has lighter tail sometimes lacking a contrasting white tip (Corbet & Hill 1992); and
3. Lengthy pale ventral patch – distinctly narrows at the chest in the Javan but does not in the Small-toothed (Corbet & Hill 1992).

Note: while the tail and coat characteristics are often suggestive rather than diagnostic at the individual animal level, they are more readily obtainable for live animals in trade than either the dentition or genetics.

Dutson 1994). This was either Sumatran or Bornean in origin, based upon the published morphological description, and because significant trade exists between the islands of Indonesia and large quantities of wildlife have been documented on trade in Java from Sumatra (C. R. Shepherd *in litt.* 2011), it is likely that this civet was a trade escape or release. Unfortunately, there is too little information to date to assess these threats authoritatively towards the Javan Ferret Badger.

The actual threat that this trade represents to the Javan Ferret Badger remains unknown. Actions to determine the species's conservation needs are recommended, as intervention options rapidly dwindle the longer such trade continues. Several topics warrant investigation: 1) identification of the species of ferret badger being traded through genetic analysis and morphological examination (Box 1); 2) determination of the source of the animals being traded (e.g. whether cubs are wild-caught and hand-reared vs. captive-bred animals); and 3) evaluation of both the magnitude and target market of the trade.

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