

in China and neighbouring countries, particularly focused in the Tien Shan and Pamir Mountain region.

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Increasing concern over trade in bat souvenirs from South-east Asia

Wildlife species are harvested and traded in many forms, including as souvenirs such as claws, ivory jewellery, marine shells and preserved specimens of insects and other small animals. During a visit to Vietnam's Ho Chi Minh City with South-east Asian bat researchers in December 2014 we encountered mounted specimens of bats alongside specimens of insects and other invertebrates for sale in souvenir shops. Although such trade is known in South-east Asia, one particular species, the woolly painted bat *Kerivoula picta*, stood out. *K. picta* is a distinctive orange-coloured bat with patches of black on the wing membrane. It occurs from South Asia, southern China and mainland South-east Asia to Sumatra, Java and the Moluccas, although there are few recent records for its eastern range. The asking price for a mounted specimen was c. USD 22, and one mounted with a tube-nosed bat (*Murina* sp.) was c. USD 21 (USD 14 after discussion) in another shop. Other mounted bat species for sale included pipistrelles (labelled 'Pipistrel') for c. USD 12 each, and fruit bats (*Macroglossus* sp.), labelled 'dog bats'. SJR has also observed many mounted bats, typically *Tylonycteris* sp., for sale in tourist markets in China.

The trade in bat specimens goes beyond tourist shops; a search on e-commerce site eBay, on 15 December 2014, using the term 'bat taxidermy' revealed mounted and osteological specimens of several South-east Asian bat species. These included frugivorous species labelled as *Cynopterus* sp., *Macroglossus minimus* and *Rousettus leschenaultii*, and the

insectivorous species *Hipposideros bicolor*, *Hipposideros larvatus*, *K. picta*, *Miniopterus medius*, *Otomops formosus*, *Pipistrellus javanicus*, *Rhinolophus lepidus*, *Scotophilus kuhlii* and *Tylonycteris robustula* (although the identification of some specimens may be incorrect). Most sellers were based in the USA, and the others in Indonesia, Thailand and Vietnam. Apart from *O. formosus*, categorized as Data Deficient on the IUCN Red List, the other species are categorized as Least Concern. Although these sales do not involve threatened species, the legality of the procurement and sale of bat specimens is questionable. In Vietnam, for example, the Law on Forest Protection and Development (2004) affords protection to all wildlife species. It is illegal to hunt, transport, keep, advertise, sell or consume wildlife without a permit; we do not know if the souvenir suppliers and sellers have the necessary permits. One eBay seller based in Vietnam had sold 84 framed *K. picta* at the time of our search and still had available stock. The prices of *K. picta* specimens on eBay were USD 18.50–169.20, typically more expensive than those we observed in Vietnam. Other websites that retail mounted bats include Amazon, Etsy, Oddities Store and the Evolution Store.

The potential unsustainability of harvesting bats for the souvenir trade is of concern given that we know little of wild bat populations and offtakes. Bats are long-lived and slowly reproducing, with many species already declining and facing future threats as a result of habitat loss. For example, the range-restricted Kitt's hog-nosed bat *Craseonycteris thonglongyai*—the world's smallest mammal—was threatened by collection for the souvenir trade shortly after its description in 1974 (Hutson et al., 2001, *Microchiropteran Bats: Global Status Survey and Conservation Action Plan*, IUCN). Although the harvest of bats for bushmeat has been reviewed at a global scale (Mickleburgh et al., 2009, *Oryx*, 43, 217–234), almost nothing is known of the potential impacts of the souvenir trade on bats. We call for socio-ecological studies on this trade, especially in range countries, to understand the extent of exploitation and the commodity chain. This information is urgently needed to determine whether the trade is sustainable and whether interventions are necessary to curb the trade of such wildlife souvenirs.

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