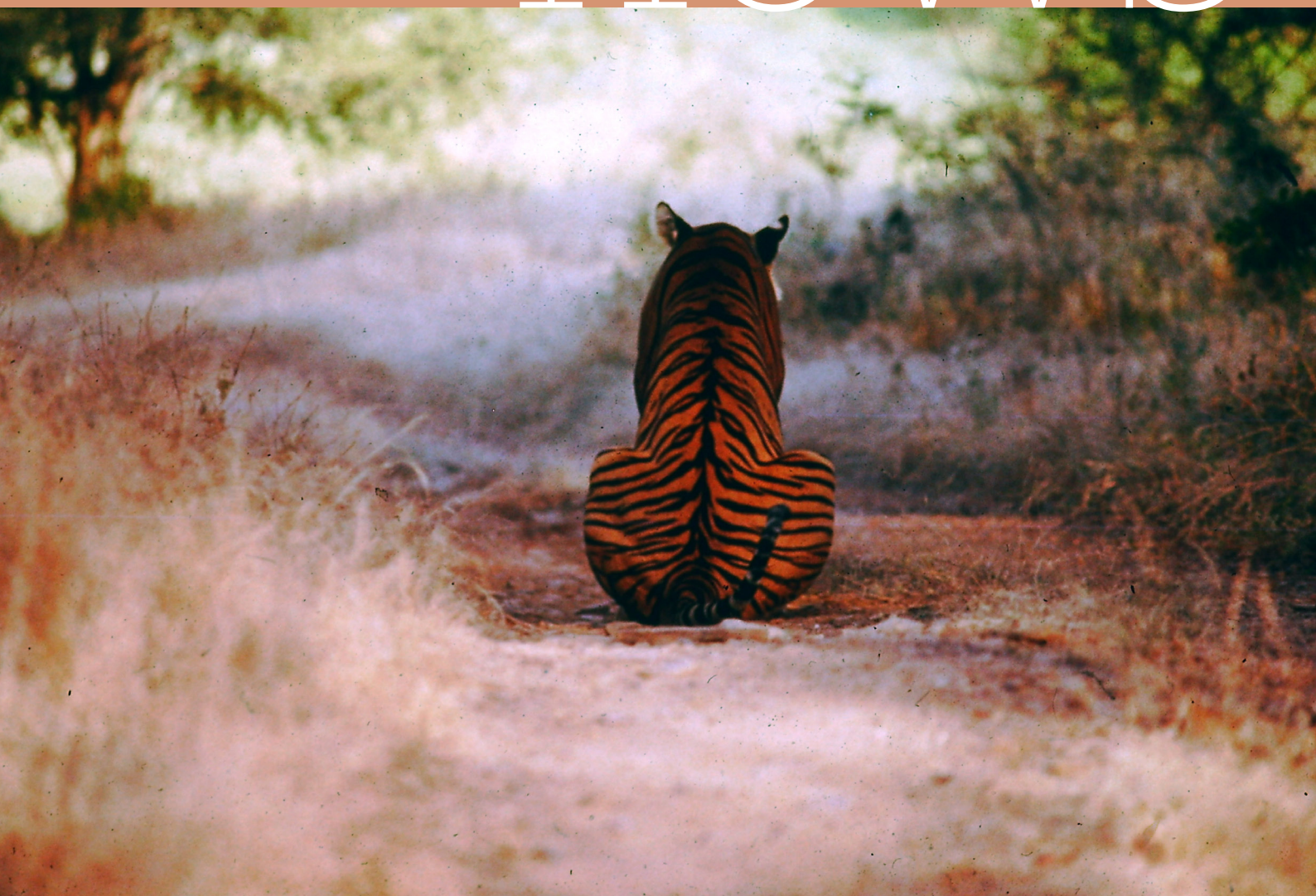


CAT news

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Original contributions and short notes about wild cats are welcome

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Guidelines for authors are available at www.catsg.org/catnews

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Cover Photo: Tiger in Ranthambhore National
Park, India
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Second record of a melanistic Asiatic golden cat in Sumatra

Asiatic golden cats *Catopuma temminckii* are currently listed as Near Threatened in the IUCN Red List with a declining population trend, largely due to habitat loss and poaching. As one of the most polymorphic felids, multiple pelage morphs have been recorded in the northern parts of its range, while in the southern parts, the reddish-brown coat is dominant. In central Sumatra, field teams conducted an ad-hoc camera trap study in Rimbang Baling Wildlife Reserve from March - June 2016. Seven videos of golden cats were recorded, including one melanistic individual. Although camera trapping efforts have taken place throughout Sumatra for years, this is only the second recorded melanistic individual, suggesting rare occurrence of the recessive mutation leading to melanism in Sumatra, despite more common occurrence elsewhere.

The Asiatic golden cat is listed as Near Threatened in the IUCN Red List of Threatened Species (McCarthy et al. 2016). This small cat, ranging from China through South-east and South Asia primarily found in tropical and subtropical moist evergreen forests (Nowell & Jackson 1996, McCarthy et al. 2016), is one of the most polymorphic felid species. Normal coat colouration is reddish-brown to tan, but grey, spotted "ocelot" and melanistic morphs have also been recorded. In China, the dominant coat colouration is the ocelot colouration and

this population has been considered a separate subspecies (Pocock 1939, Tan 1984, Jutzeler et al. 2010). Golden, black, ocelot, and grey individuals have been found in Bhutan, co-occurring at camera trap locations (Wang 2007, Vernes et al. 2015) while in Nepal, melanistic and normal-type individuals have been recorded (Ghimirey & Pal 2009). Further south in their range most records are of normal-type individuals but a melanistic individual was captured in Thailand in 2002 (Grassman et al. 2005) and in 1996, one melanistic individual was cap-

tured by a camera trap on Sumatra (Holden 2001).

Throughout their range, golden cat populations are declining largely due to habitat degradation, fragmentation and poaching (McCarthy et al. 2016). Near the southern end of their range in Riau Province, Sumatra, natural forest (peatland, secondary lowland and montane rainforest, and primary rainforest) now comprises approximately 18% of the province, most of which is in protected areas. Agriculture (acacia, rubber and oil palm) makes up the majority of Riau's land cover, and deforestation for the creation of new plantations is rampant. Riau's largest protected area, Rimbang Baling Wildlife Reserve (1,366 km²) lies on the border of Riau and West Sumatra provinces and is mountainous with elevation ranging from 29 to 1200 m. Forest types include lowland moist tropical rainforest to montane forest and scrub in higher elevations. There is moderate to severe encroachment around the park edges, but primary forest still exists in parts of the interior. Most of the protected area is accessible by foot along wildlife trails and regularly accessed by local communities. From March - June 2016, we conducted an ad-hoc survey using camera traps around the World Wildlife Fund-Indonesia's Sungai Tapi field camp on the eastern border of Rimbang Baling (Fig. 1). This area is frequently used by the surrounding local community. Single cameras were set opportunistically along logging roads, wildlife trails, and ridgetops within several kilometres of the field camp as part of a separate study targeting tigers. Nine cameras were installed in March and three additional cameras were installed in May (ten Bushnell Natureview HD Live View and two Reconyx Hyperfire Pro in total). All cameras were unbaited. Bushnell Natureview cameras were set to take 15 or 20s video with 10-15s intervals between triggers. Reconyx cameras were set to 3 photos per trigger and 30s intervals between triggers. Cameras were within 4 km of the field camp, and 3.5 km of the park boundary.

Seven videos of Asiatic golden cats were captured, one of which was melanistic (08:41, 30 May 2016; 0°17'16.1988" S / 101°12'9.1008" E), at 276 m in moist secondary rainforest, approximately 2 km from the protected area edge (Fig. 2 & Supporting Online Material SOM Videos V1 & V2). All other golden cats were reddish-brown. Although melanistic golden cats are occasionally sighted (i.e. Tugio, pers. comm.) and a local

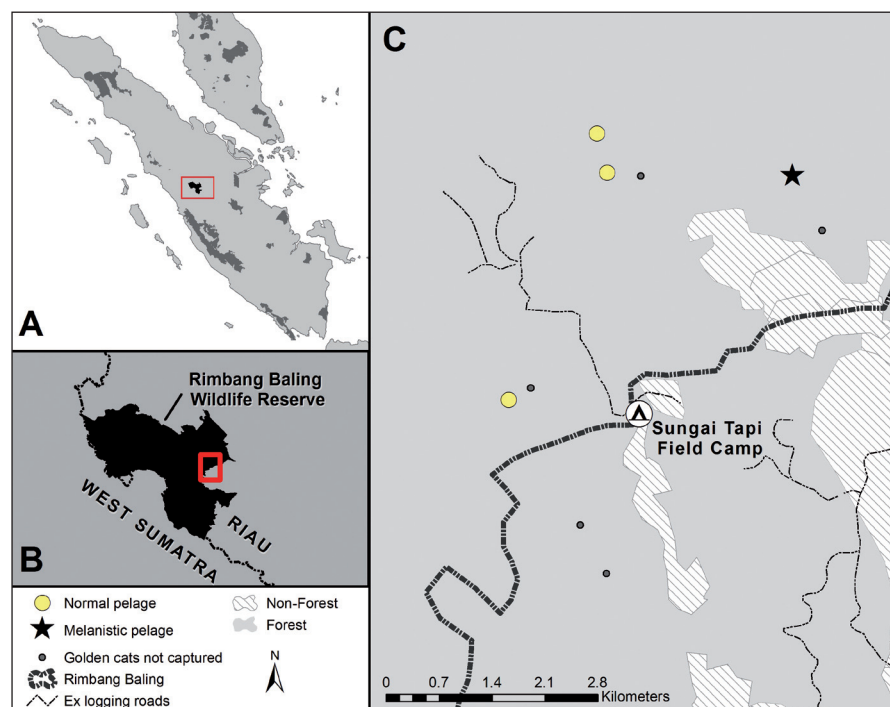


Fig. 1. Location of Rimbang Wildlife Reserve (black polygon) relative to Asiatic golden cat habitat (grey polygons; A) in Sumatra and peninsular Malaysia, our study area within Rimbang Baling Wildlife Reserve (B) and the location of the camera which captured the melanistic golden cat (C).



Fig. 2. Melanistic golden cat recorded in Rimbang Baling Wildlife Reserve, 30 May 2016 (A) and reddish-brown golden cat (B) taken within the same study area and period (Photo Virginia Tech/World Wildlife Fund).

name exists for the morph (macan kumbang), the systematic camera trap surveys throughout Riau's protected areas have not documented a melanistic individual since they began in 2004. The only prior documentation of melanism in Sumatran golden cats was in nearby Kerinci Seblat National Park in 1996 (Holden 2001), suggesting low occurrence of melanism in the central Sumatra population. Still no evidence exists from other areas of Sumatra, despite widespread camera trapping studies throughout the island (Linkie & Ridout 2011, Pusparini et al. 2014, WWF unpubl. data).

Melanism in golden cats has been traced to a mutation in the coding region of the Agouti Signaling Protein ASIP, leading to a failure in producing light coat pigmentation and a production in eumelanin (Schneider et al. 2012). This mutation is thought to follow recessive inheritance patterns and, in other felid species, has nearly reached fixation (Kawanishi et al. 2010), suggesting an adaptive benefit gained from melanism. There is evidence that in some areas of the golden cat range, such as Sikkim, India, where all recorded individuals have been melanistic (Bashier et al. 2011) and at higher elevations in Bhutan (Jigme 2011) where multiple melanistic individuals have been recorded, melanism may also confer an adaptive benefit. Given its apparent rarity in tropical moist climates, adaptive benefits may be fewer compared to northern subtropical climates. To better understand the distribution and drivers of coat coloration in the Asiatic golden cat, we recommend a comprehensive genetic study on individuals throughout its range.

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Supporting Online Material SOM Video V1 and V2 are available at www.catsg.org.

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