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## SMALL WILD CATS SPECIAL ISSUE

### SHORT COMMUNICATION

#### FIRST PHOTOGRAPHIC EVIDENCE OF POLYMORPHIC ASIATIC GOLDEN CAT *CATOPUMA TEMMINCKII* VIGORS & HORSFIELD, 1827 (MAMMALIA: CARNIVORA: FELIDAE) IN BUXA TIGER RESERVE, WEST BENGAL, INDIA

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# FIRST PHOTOGRAPHIC EVIDENCE OF POLYMORPHIC ASIATIC GOLDEN CAT *CATOPUMA TEMMINCKII* VIGORS & HORSFIELD, 1827 (MAMMALIA: CARNIVORA: FELIDAE) IN BUXA TIGER RESERVE, WEST BENGAL, INDIA

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**Abstract:** During a camera trap survey in Buxa Tiger Reserve in West Bengal, India, individuals of Asiatic Golden Cat *Catopuma temminckii* were photographed between 13 and 26 February 2018. The images provide the first photographic evidence of the species presence in this protected area. Both golden and spotted individuals were recorded.

**Keywords:** Camera trapping, eastern Himalaya, spotted morph, subtropical wet hill forest, Temminck's Cat.

The Asiatic Golden Cat *Catopuma temminckii*, also known as the Temminck's Cat, is a medium-sized elusive wild cat distributed from eastern Nepal (Ghimirey & Pal 2009) to southeastern Asia (Holden 2001; Johnson et al. 2009; Gray et al. 2014; Tantipisanuh et al. 2014; Willcox et al. 2014; Zaw et al. 2014). In India, it was recorded in the protected areas of Sikkim, Assam, Arunachal Pradesh, Meghalaya, and Mizoram (Choudhury 2007; Bashir et al. 2011; Lyngdoh et al. 2011; Gouda et al. 2016; Nadig et al. 2016; Mukherjee et al. 2018). It is listed as Near Threatened by the IUCN (McCarthy et al. 2015) and as Scheduled I species in the Indian Wildlife

(Protection) Act 1972 (Menon 20014).

The Asiatic Golden Cat is the largest wild cat among the oriental Felinae (Bashir et al. 2011). It is remarkably polymorphic in its pelage and is also known as “a feline of many costumes” (Dhendup 2016). The most common coat colour is golden or red-brown, less frequently also dark brown (Jutzeler et al. 2010), grey, or black (Jigme 2011). The spotted morph was previously known only from China (Smith & Xie 2008) and Bhutan (Wang 2007; Wang & Macdonald 2009).

## STUDY AREA

Buxa Tiger Reserve is situated in Alipurduar District, West Bengal, India, covering an area of 760.87km<sup>2</sup>. It lies between 26.500–26.702 °N and 89.333–89.860 °E, nestled between the international boundary to Bhutan in the north, the state boundary to Assam in the east, Jaldapara Wildlife Division in the west, and Cooch Behar District in the south (Fig. 1). The reserve is located at the confluence of three major biogeographic zones, namely, central Himalaya, Brahmaputra Valley, and

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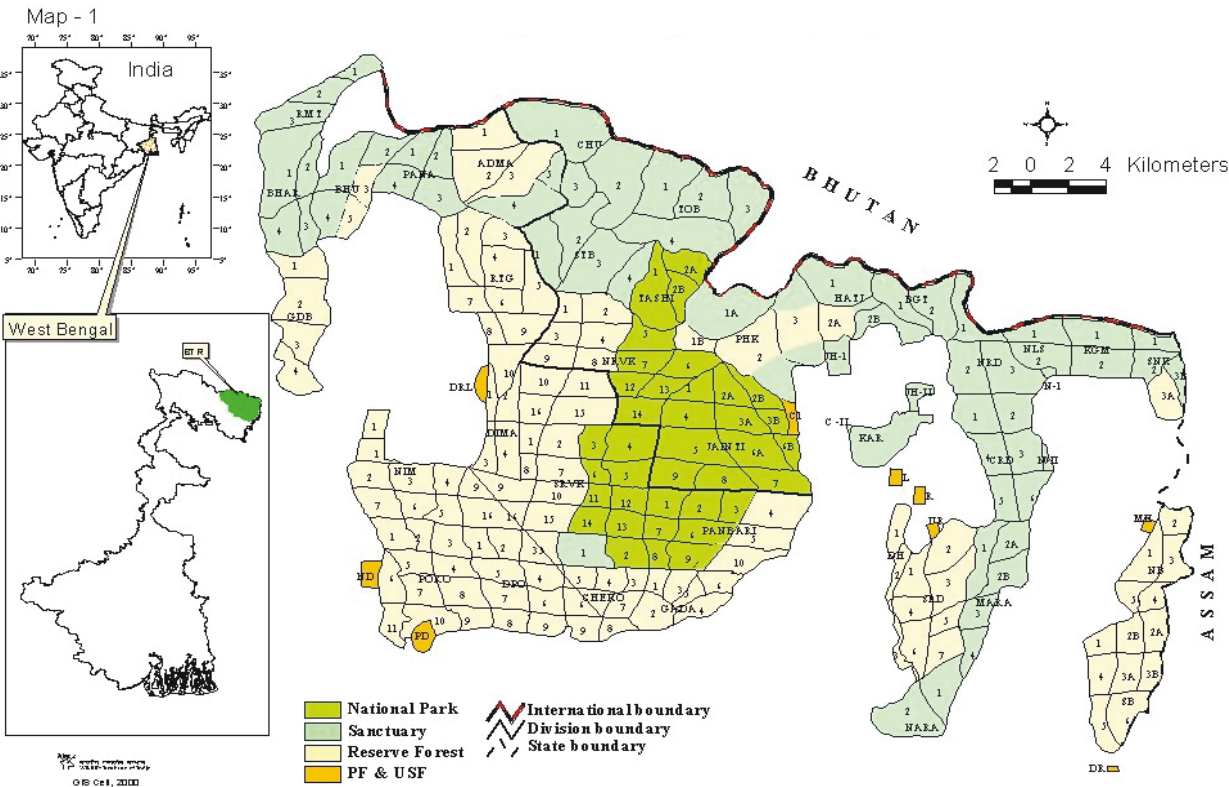


Figure 1. Buxa Tiger Reserve, West Bengal, India (Source: Tiger Conservation Plan 2013).

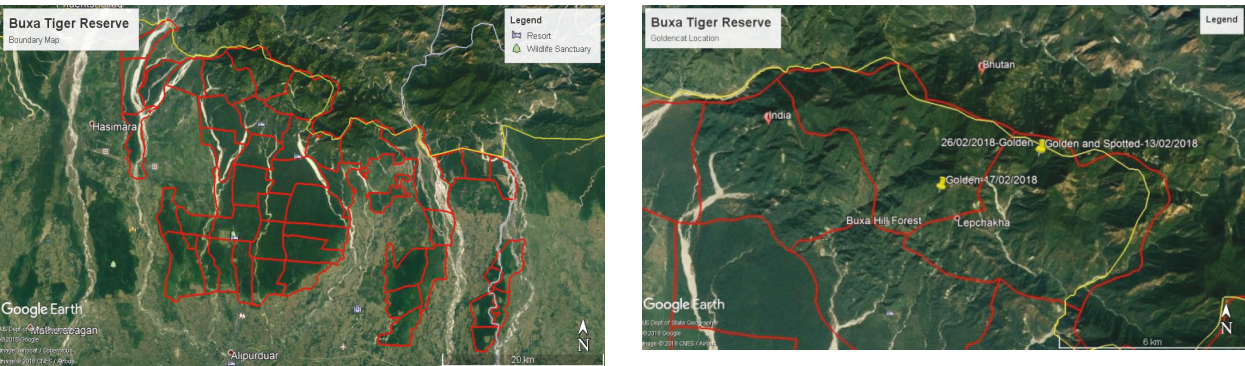


Figure 2. Boundary of Buxa Tiger Reserve in West Bengal, India.

Figure 3. Locations where Asiatic Golden Cats were recorded in February 2018 (yellow pins).

lower Gangetic plains. Altitude ranges between 53m and 1,735m and constitutes the eastern Himalayan subtropical wet hill forest (Tiger Conservation Plan 2013). Notable tree species in the study area are *Quercus*, *Acer*, *Castanopsis*, *Magnolia cathcartii*, *Alnus nepalensis*, *Phoebe attenuate*, *Betula cylindrostachys*, and various bamboo Bambusoideae species (Tiger Conservation Plan 2013).

This camera trap survey was conducted between January and March 2018 using 182 Cuddeback C series camera traps with colour strobe module. We recorded

Table 1. Details of camera trap images of Asiatic Golden Cat in Buxa Tiger Reserve, West Bengal, India.

Image	Location	Date	Time	Altitude	Morph
1, 2	26.770°N & 89.577°E	17.ii.2018	13.19h	1,025m	Golden
3, 4, 5	26.781°N & 89.611°E	13.ii.2018	09.22–09.23 h	1,355m	Golden and spotted
6	26.781°N & 89.611°E	26.ii. 2018	15.28h	1,355m	Golden





Images 1 & 2. Golden morph of Asiatic Golden Cat recorded at 1,025m on 17 February 2018. © Camera Trap Buxa Tiger Reserve, placed by Mayukh Ghose.



Images 3, 4 & 5. Spotted and golden morphs of Asiatic Golden Cat recorded at 1,355m on 13 February 2018. © Camera Trap Buxa Tiger Reserve, placed by Mayukh Ghose.



Image 6. Golden morph of Asiatic Golden Cat recorded at 1,355m on 26 February 2018. © Camera Trap Buxa Tiger Reserve, placed by Mayukh Ghose.

coordinates using a Garmin E-trex 10 GPS, based on WGS 84 datum, and a digital altimeter for recording elevation of camera trap locations.

The study area was divided into a grid with cells of 1.414×1.414 sqkm each in two blocks of 240km<sup>2</sup>. The

cameras were placed opposite each other, keeping a minimum distance of 0.7km to the next pair. The 91 camera trap pairs were active all throughout 24 hours.

## RESULTS

Camera traps were active on 26 days for a total of 2,366 station days in 195 locations. Asiatic Golden Cats were recorded in six images on three different days in two locations, both located in the high altitude zone of the Buxa Tiger Reserve. These locations are separated by 450sqkm. All six images show Asiatic Golden Cats during the day (Images 1–6).

Golden and spotted morphs were recorded at the same location, interacting with each other in a single frame (Images 3 & 4).

## DISCUSSION

Our records provide the first photographic evidence for the presence of Asiatic Golden Cat in the Buxa Tiger

Reserve. This is also the first instance of golden and spotted morphs of Asiatic Golden Cat being recorded together in the reserve.

The spotted morph, also known as ocelot morph, of the Asiatic Golden Cat was long thought to be more common in China than elsewhere in the species global range (Jutzeler et al. 2010). In the Himalaya, this morph was first recorded in Bhutan's Jigme Singye Wangchuck National Park at an elevation of 3,738m (Wang 2007). Four colour morphs of Asiatic Golden Cat were recorded in the eastern Himalaya. Ghimirey & Pal (2009) reported a melanistic morph in a *Schima-Castanopsis* forest in Nepal's Makalu-Barun National Park. Bashir et al. (2011) reported melanistic and dark grey morphs co-occurring in temperate and subalpine forests of Khanchendzonga Biosphere Reserve, Sikkim. Golden, dark red, grey, and black morphs were recorded above 1,500m in Bhutan (Jigme 2011; Vernes et al. 2015; Dhendup 2016), in Myanmar (Zaw et al. 2014), and in and around Eaglenest Wildlife Sanctuary, Arunachal Pradesh, India (Mukherjee et al. 2018).

In contrast, only golden morphs were reported south of the Isthmus of Kra in peninsular Malaysia (Gumal et al. 2014) and in Sumatra (Holden 2001; Haidir et al. 2013; Pusparini et al. 2014). The occurrence of diverse colour morphs of Asiatic Golden Cat seems to be limited to the eastern Himalaya, China, and Indo-China (Patel et al. 2016). The latter authors suggested that this phenomenon indicates a long adaptation process to diverse habitats in the species northern range while only golden morphs colonized the Sunda shelf during its southward expansion.

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