

Photographic documentation of Brown Palm Civet *Paradoxurus jerdoni* in Maharashtra, India, north of its known range

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Abstract

Brown Palm Civet *Paradoxurus jerdoni* is a small carnivore endemic to the Western Ghats, India. It occurs throughout the southern Western Ghats, from Achankovil Reserved Forest (Kerala) to the Bhagwan Mahaveer Wildlife Sanctuary (Goa), but until now was not recorded in the northern Western Ghats, north of the state of Goa. Two records from the state of Maharashtra extend its known range north by about 200 km: a photograph near Amboli, and a sighting even further north in Chandoli National Park. The forest of Amboli is structurally connected to the Bhagwan Mahaveer Wildlife Sanctuary in Goa, but connectivity with Chandoli National Park is now severely limited for this forest-dwelling small carnivore (see p. 39 for a record from 75 km further north).

Keywords: Amboli, Chandoli National Park, extension of known range, northernmost records

ब्राउन पाम सिवेट *Paradoxurus jerdoni* याचा माहितीक्षेत्राच्या उत्तरेकडील महाराष्ट्र, भारत येथील छायाचित्रित दस्तऐवज

सारांश

ब्राउन पाम सिवेट *Paradoxurus jerdoni* हा छोटा मांसभक्षक पश्चिम घाटामधिल स्थानिक रहिवाशी आहे. हा प्राणी संपूर्ण दक्षिण पश्चिम घाटात सापडतो. केरळ मधिल आचन्कोविल आरक्षित वनापासून गोव्यमधील भगवान महावीर अभयारण्यापर्यन्त याची नोंद आहे, परंतु या आधी उत्तर पश्चिम घाटामध्ये नोंद नव्हती. त्याच्या वसतीभागाच्या 200 कि. मी. उत्तर भागापर्यंत आढळल्याच्या दोन नवीन नोंदी महाराष्ट्रात केल्या जात आहेत. या प्राण्याचे अंबोली मध्ये छायाचित्रिकरण केले गेले व चांदोली राष्ट्रीय उद्यानामध्ये देखील हा प्राणी आढळला. या मांसभक्षकासाठी अंबोलीचे वन क्षेत्र भगवान महावीर अभयारण्याला हालचालीसाठी संलग्न आहे, परंतु या वनभागाची संलग्नता चांदोली राष्ट्रीय उद्यानाशी कमी झाली आहे.

Brown Palm Civet *Paradoxurus jerdoni* is a small carnivore endemic to the Western Ghats of India, distributed almost continuously from Achankovil Reserved Forest, Kerala, in the south, to Dhud Sagar, Bhagwan Mahaveer Wildlife Sanctuary, Goa, in the north (Rajamani *et al.* 2002). Most records are at altitudes of 500–1,300 m, and it is reportedly more common in higher altitudes (Mudappa 1998). Despite its relatively small range, the population of the species seems to be under no severe threat, so it is listed as Least Concern in *The IUCN Red list of Threatened Species* (Mudappa & Choudhury 2008).

Brown Palm Civet is largely arboreal, nocturnal and frugivorous, feeding on over 50 native tree and liana fruit species, as well as on four non-native plant species (Mudappa *et al.* 2010). It supplements its diet with invertebrates and smaller vertebrates (Pocock 1939, Mudappa *et al.* 2010). It is most commonly found in evergreen rainforest (Rajamani *et al.* 2002). It has also been reported in coffee plantations (Ryley 1913, Pocock 1939, Ashraf *et al.* 1993). Mudappa *et al.* (2007) found occurrence to be higher in medium-sized forest fragments contiguous with coffee plantations, than in isolated forest fragments. Its distribution may depend more on the structure of forests and fruit-tree distribution (Rajamani *et al.* 2002, Mudappa *et al.* 2007, 2010) than other factors.

Amboli (15°57'N, 73°59'E) is a popular hill town in the Sindhudurg district, while Chandoli National Park (17°10'N, 73°47'E) is located at the junction of four districts (Satara, Sangli, Ratanagiri and Kolhapur); both are in the state of Maharashtra. Vegetation around Amboli comprises semi-evergreen

and moist deciduous forest, intermixed with some evergreen forest patches. Dominant trees include *Memecylon umbellatum*, *Actinodaphne*, *Syzygium cumini*, *Mangifera indica*, *Nothapodytes nimmoniana* and *Ficus*; moist deciduous forests merge into semi-evergreen and scrub forests along an altitudinal gradient (Jog 2009). Vegetation in Chandoli National Park is similar, dominated by the *Memecylon-Syzygium-Olea* floristic series (Kanade *et al.* 2008).

A Brown Palm Civet was sighted by GAP in Chandoli National Park in December 2010 (17°08'38.00"N, 73°43'29.27"E, datum WGS 84; recorded approximate elevation 818 m), but was not photographed. The animal was seen clearly for over two minutes at a distance of less than ten feet, foraging on the ground, near a stream during the night, in an evergreen patch of forest. In pelage it differed distinctly from Small Indian Civet *Viverricula indica* and Common Palm Civet *Paradoxurus hermaphroditus*. On 7 January 2013, at around 22h30 on a trail to Mahadev Gadh (15°57'59.87"N, 73°59'27.92"E, WGS84, recorded approximate elevation 749 m) at Amboli, a civet was sighted on a tree along the road. It was photographed and later identified as a Brown Palm Civet by the distinct darker pelage around the head, neck, shoulder, and fore- and hind-legs (as noted in Menon 2003) (Fig. 1).

This animal, with its lighter underbelly and markings along the face (Fig. 1), contrasts starkly with the more uniformly dark brown typical in the southern Western Ghats. This pattern in pelage colouration may be a regional variation in Brown Palm Civets of the northern Western Ghats. Another



Fig. 1. Brown Palm Civet *Paradoxurus jerdoni* photographed in Amboli, Maharashtra, India, on 7 January 2013; a) showing frontal view, b) showing the lighter underbelly and markings on the face. (Photos: Harshal Bhosale).

photograph, taken by HSB in November 2011, about 150 km south of Amboli in Sharavathi Wildlife Sanctuary, Karnataka (14°5'48"N, 74°41'12"E, datum WGS 84, recorded approximate elevation 278 m), and near the northern edge of the species's previously accepted range (Mudappa & Choudhury 2008), shows a similar pelage (Fig. 2). This could be a form of disruptive colouration (see Caro 2009), perhaps based on forest structure in the northern Western Ghats, but this is mere speculation. The forest type in Sharavathi is mostly evergreen. This sighting at a lower elevation supports the suggestion by Rajamani *et al.* (2002) that the civet's distribution may not be restricted to medium and high altitudes.

Brown Palm Civet is as an important seed disperser in its tropical forests (Mudappa *et al.* 2010). These records extend the known distribution about 200 km further north along the Western Ghats, into the state of Maharashtra. We are aware of no previous records of the species from the northern Western Ghats, but photographs of Small Indian (four) and Common Palm Civets (one) were obtained in a preliminary camera-trap survey (317 trap-nights) in Sindhudurg district, Maharashtra (V. Athreya verbally 2013). The forest area of Amboli is connected to that of Bhagwan Mahaveer Wildlife Sanctuary in Goa, but forest contiguity to Chandoli National Park has severely declined. Overall, information on small carnivore sta-



Fig. 2. Brown Palm Civet *Paradoxurus jerdoni* photographed in Sharavathi Wildlife Sanctuary, Karnataka, India, in November 2011, with pelage colour similar to that in Fig. 1. (Photo:Harshal Bhosale).

tus, distribution and conservation needs in the northern Western Ghats remains limited.

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Note added at proof stage: Brown Palm Civet was camera-trapped on two separate nights (07 and 12 December 2013) in the Wai region of the northern Western Ghats (approximate location: 18°01'08"N, 73°40'28"E). Both records were of a single animal at the same camera-trap station (picture below). The camera-traps were set by Shrikar Ashtaputre and Sunil Kale with the help of Maharashtra State Forest Department and Vidya Athreya, Wildlife Conservation Society - India. This extends the known range of the species by another 75 km further north of Chandoli Nation Park.

