

New records of the Nilgiri Marten *Martes gwatkinsii* in Western Ghats, India

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Abstract

The Nilgiri Marten *Martes gwatkinsii* is a rare and little known species endemic to the Western Ghats mountain range of Southern India. Information about its distribution and occurrence is largely lacking. This paper collates information about Nilgiri Marten presence in the Palni Hills in Tamil Nadu state and presents new records of Nilgiri Marten occurrence from Karnataka state as part of a compilation of opportunistic sightings of this species throughout the Western Ghats.

Keywords: Bisale Reserve Forest, endemic, distribution, Mustelidae, Palni hills

ಭಾರತದ ಪಶ್ಚಿಮ ಘಟ್ಟಗಳಿಂದ ನೀಲಗಿರಿ ಮಾಟೀನ್ಸ್ *Martes gwatkinsii* ಬಗೆಗಿನ ಹೊಸ ಮಾಹಿತಿ.

ನೀಲಗಿರಿ ಮಾಟೀನ್ಸ್ *Martes gwatkinsii* ಅಥವಾ ಮರನಾಯಿ, ಒಂದು ಬಹಳ ಅಪರೂಪವಾದ ಹಾಗೂ ಅಪ್ಪೊಂದು ಪರಿಚಿತವಲ್ಲದ ದಕ್ಷಿಣ ಭಾರತದ ಪಶ್ಚಿಮ ಘಟ್ಟಗಳ ಕಾಡುಗಳಿಗಷ್ಟೇ ಸೀಮಿತವಾಗಿರುವಂತಹ ಪ್ರಾಣಿ. ಈ ಸಸ್ತನಿಯ ಭೌಗೋಳಿಕ ವ್ಯಾಪ್ತಿ ಹಾಗೂ ಆವಾಸ ಸ್ಥಾನದ ಬಗ್ಗೆ ದೊರೆಯುವಂತಹ ಮಾಹಿತಿಯು ಬಹಳ ಕಡಿಮೆ. ಮರನಾಯಿಯ ವಾಸ್ತವ್ಯದ ಬಗ್ಗೆ ತಿಳಿಯುವುದಿಲ್ಲವೆಂದು ಪಳನಿ ಬೆಟ್ಟ ಹಾಗೂ ಕರ್ನಾಟಕದ ಕಾಡುಗಳಿಂದ ದೊರೆಯುವಂತಹ ಇತ್ತೀಚಿನ ದಾಖಲೆಗಳನ್ನು ಈ ಲೇಖನದಲ್ಲಿ ಒದಗಿಸಲಾಗಿದೆ. ಇದಲ್ಲದೇ, ಇಡೀ ಪಶ್ಚಿಮ ಘಟ್ಟಗಳಿಂದ ದೊರಕುವ ಮರನಾಯಿಯ ಬಗೆಗಿನ ಎಲ್ಲ ಅಪಕಾಶವಾದಿ ನೇರ ನೋಟದ ದಾಖಲೆಗಳನ್ನು ಕೂಡ ಈ ಲೇಖನವು ಒದಗಿಸುತ್ತದೆ.

ಪ್ರಮುಖ ಶಬ್ದಗಳು: ಮಸ್ತಲಿಡೆ ಜಾತಿ, ಸೀಮಿತ ಪ್ರದೇಶ, ವ್ಯಾಪ್ತಿ, ಬಿಸಲೆ ಮೀಸಲು ಅರಣ್ಯ, ಪಳನಿ ಬೆಟ್ಟ.

Introduction

The Nilgiri Marten *Martes gwatkinsii* Horsfield, 1851 is a mustelid endemic to the Western Ghats (8°19'–21°16'N), a range of low mountains in south-west India and a global biodiversity hotspot (Myers *et al.* 2000). It is one of the rarest and least known species of martens in the world (Wirth & Van Rompaey 1991), and is currently listed on *The IUCN Red List of Threatened Species* as Vulnerable (Choudhury *et al.* 2008), with existing information largely based on opportunistic sightings (for a review, see Balakrishnan 2005). The species is found throughout the Western Ghats south of 13°N (Schreiber *et al.* 1989), with the northernmost published location being the Shiradi Ghat-Sampaje area (12°30'–50'N, 75°30'–75°35'E), although it was considered to be rare in that region by the early 1980s (Karanth 1985).

The marten has generally been reported from evergreen forests at medium (700–1,400 m) and high (1,300–1,800 m) elevations (Mudappa 1999, 2002, Balakrishnan 2005), montane forests (sholas) (Madhusudhan 1995, Gokula & Ramachandran 1996), and, rarely, from moist deciduous forests (Mudappa 2002) and plantations (Kumar & Yoganand 1999). It is thought to be opportunistic in diet and has been recorded feeding on a wide variety of animal as well as plant matter (Balakrishnan 2005). Recent studies have found that this species occurs at very low densities in contiguous rainforests and is sensitive to habitat fragmentation (Kumar *et al.* 2002, Sridhar *et al.* 2008). However, there have been no intensive studies on this species and knowledge of its occurrence and distribution is very sketchy.

In this paper, we compile sighting records of the Nilgiri Marten, including hitherto overlooked records. We present sighting records from Tamil Nadu, Kerala and Karnataka states by collating information gathered from opportunistic sightings by biologists and local residents.

The Palni hills

The Palni hills (10°05'–25'N, 77°15'–50'E; 2,068 km² in area) are an eastern offshoot of the Western Ghats with two distinct zones, the Lower and the Upper Palnis, separated by a ravine. The Chinnar Wildlife Sanctuary and Indira Gandhi Wildlife Sanctuary (now called Anamalai Tiger Reserve) are located to the west of the Palni hills with the Pambadum Shola National Park situated to the southwest. The area receives an annual rainfall of 1,600 mm and the altitude ranges from 400 to 2,554 m. The major vegetation types are scrub, dry and moist deciduous and montane evergreen forests, grasslands and plantations of *Acacia* spp., *Eucalyptus* spp. and *Pinus* spp. Around 2,478 plants, 200 birds and 35 mammals have been recorded from this landscape (DA-PHCC 1991, Mathew 1994, 1999). A previous review of Nilgiri Marten distribution did not document them in this region (Balakrishnan 2005).

Nilgiri Marten records in the Palni hills

The Nilgiri Marten has previously been reported from the Palni hills (Mathew 1994, Meena 2002). A comprehensive review of mammals in the Palni hills lists the Marten from the Upper Palni hills and Chinnur (DA-PHCC 1991, PHCC 1993). The earliest Nilgiri Marten record dates back to the mammal collections made around 100 years ago and are currently housed at the Shembaganur Museum in the Sacred Hearts College at Kodaikanal, Tamil Nadu (R. Nandini, National Institute of Advanced Studies, Bangalore, India *in litt.* 2010). Over the years several opportunistic sightings of Martens have occurred although few have entered published literature. The most recent sighting we report is from 15 May 2008, when both authors spotted a solitary individual at the edge of the Vattakanal Shola, about 500 m away from the Vattakanal village. The Marten was on a tree in the late morning hours, then moved

Table 1. Previously unpublished Nilgiri Marten *Martes gwatkinsii* sightings in the Palni hills.

Sl no	Location	Date	Latitude	Longitude	Elevation (metres)	Comments	Reference
1	Vathalakundu-Kodaikanal Ghat Road	Mid 1970s	10°16'	77°33'	1,000–1,500	One individual crossing the road.	Romulus Whitaker (Madras Crocodile Bank Trust, India, <i>in litt.</i> 2009)
2	Berijam Lake	1990	10°10'	77°23'	2,170	-	Uma Ramakrishnan (Department of Environmental Science and Studies, Juniata College, USA, <i>in litt.</i> 2009)
3	Berijam Forest	Between April 2002 and April 2004	10°10'	77°23'	2,170	Sighted once around 08h30 resting on a tree.	Somasundaram (Gujarat Institute of Desert Ecology, India, <i>in litt.</i> 2010)
4	Poombarai Road	April 2006	10°12'	77°26'	2,200	Two individuals sighted in the early afternoon in a degenerating <i>Acacia mearnsii</i> plantation.	Robert Stewart & Tanya Balcar (Vattakanal Conservation Trust, Kodaikanal, India, <i>in litt.</i> 2009)
5	Vattakanal Shola	May 2008	10°12'	77°28'	2,060	Single individual running across branches of several trees, ~11h00.	Both authors

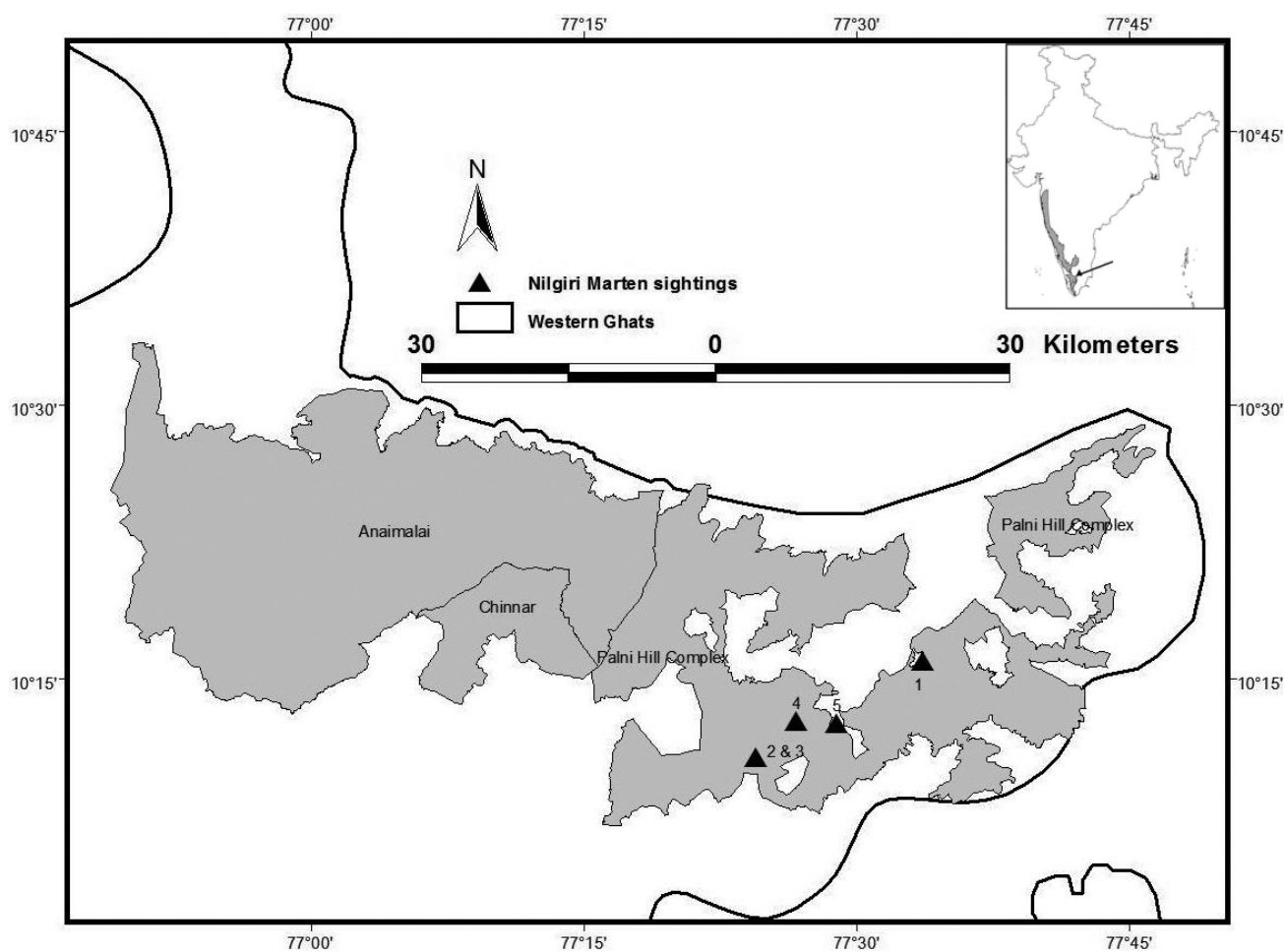


Fig. 1. Nilgiri Marten *Martes gwatkinsii* sightings in the Palni hills. The numbers correspond to the sighting details as listed in Table 1. The Chinnar Wildlife Sanctuary and the Anamalais lie to the west of the Palni hills.

Table 2. Previously unpublished Nilgiri Marten *Martes gwatkinsii* records in the Western Ghats (outside the Palni hills).

Sl no.	Location	Date	Latitude	Longitude	Elevation (meters)	Comments	Reference
1	Periyar Tiger Reserve	February 2006	9°16–36'	76°56'–77°25'	N. A.	One individual seen at 08h00 near the Unnikothal stream in the Thanikudi area.	N. A. Naseer (Kerala, India, verbally 2010)
2	Topslip (Indira Gandhi Wildlife Sanctuary)	2006	10°28'	76°50'	N. A.	One individual at 18h00.	Deepak (Wildlife Institute of India, India, <i>in litt.</i> 2010)
3	Bisale Reserve Forest	January 2007	12°41–47'	75°37–43'	N. A.	Three individuals crossing a road together.	Swapna Reddy (Bangalore, India, <i>in litt.</i> 2010)
4	Grass Hills National Park	May 2007	10°19'	77°02'	2,000	One seen at the edge of a large shola patch at 10h00.	Robin Vijayan (National Centre for Biological Sciences, Bangalore, India, <i>in litt.</i> 2010)
5	Periyar Tiger Reserve	November 2007	9°16–36'	76°56'–77°25'	N. A.	<i>En route</i> to Mangaladevi watchtower two individuals were seen crossing a stream.	Anish Anderia (Wildlife Conservation Trust, Mumbai, India, <i>in litt.</i> 2010)
6	Pambadum Shola National Park	January 2008	10°07–09'	77°15–16'	N. A.	Two individuals seen in the morning moving on the ground.	N. A. Naseer (Kerala, India, <i>in litt.</i> 2010)
7	Periyar Tiger Reserve	February 2008	9°16–36'	76°56'–77°25'	1,500	Two individuals seen at around 08h00 on a tree near a stream in the Upper Manalar area.	Suhel Quader (National Centre for Biological Sciences, Bangalore, India, <i>in litt.</i> 2010)
8	Talakaveri Wildlife Sanctuary	March 2008	12°17–26'	75°25–33'	1,200–1,300	One individual seen at 11h30 near a stream in shola forest.	Rajat Nayak (National Centre for Biological Sciences, Bangalore, India, <i>in litt.</i> 2010)
9	Periyar Tiger Reserve	May 2008	9°16–36'	76°56'–77°25'	N. A.	One individual seen emerging from a hole in a dead tree across the river from the Mlapara anti-poaching camp at 10h00.	Malini Pittet (Bangalore, India, <i>in litt.</i> 2010)
10	Periyar Tiger Reserve	May 2008	9°16–36'	76°56'–77°25'	N. A.	One individual seen near Thekkady at 10h00.	M. Arvind (India, <i>in litt.</i> 2010)
11	Nelliampathy Reserve Forest	January 2009	10°26–30'	76°34–45'	N. A.	One individual moving on the ground in the Hilltop Area.	N. A. Naseer (Kerala, India, verbally 2010)
12	Sandynallah, Nilgiris	March 2009	11°26'	76°38'	2,100	An individual found dead in a pasture.	Sreekumar (Tamil Nadu Veterinary and Animal Sciences University, <i>in litt.</i> 2010)
13	Pambadum Shola National Park	July 2009	10°07–09'	77°15–16'	1,900	Two individuals crossing a road at 16h00.	Ravi Kailas (Ficus Wildlife & Natural History Tours, Madras, India, <i>in litt.</i> 2010)
14	Kalakad-Mundanthurai Tiger Reserve	N. A.	8°25–53'	77°10–35'	N. A.	One individual on a tree on the path to Netterikal Dam around 11h00.	Rohini Mann (Foundation for Ecological Research, Advocacy and Learning, India, <i>in litt.</i> 2010)
15	Indira Gandhi Wildlife Sanctuary	Jan 2010	10°12–35'	76°49'–77°24'	N. A.	Two individuals seen at 09h00.	Satish (Nature Conservation Foundation, Valparai, India, verbally 2010)

N. A. refers to non-availability of data due to the opportunistic nature of the sightings

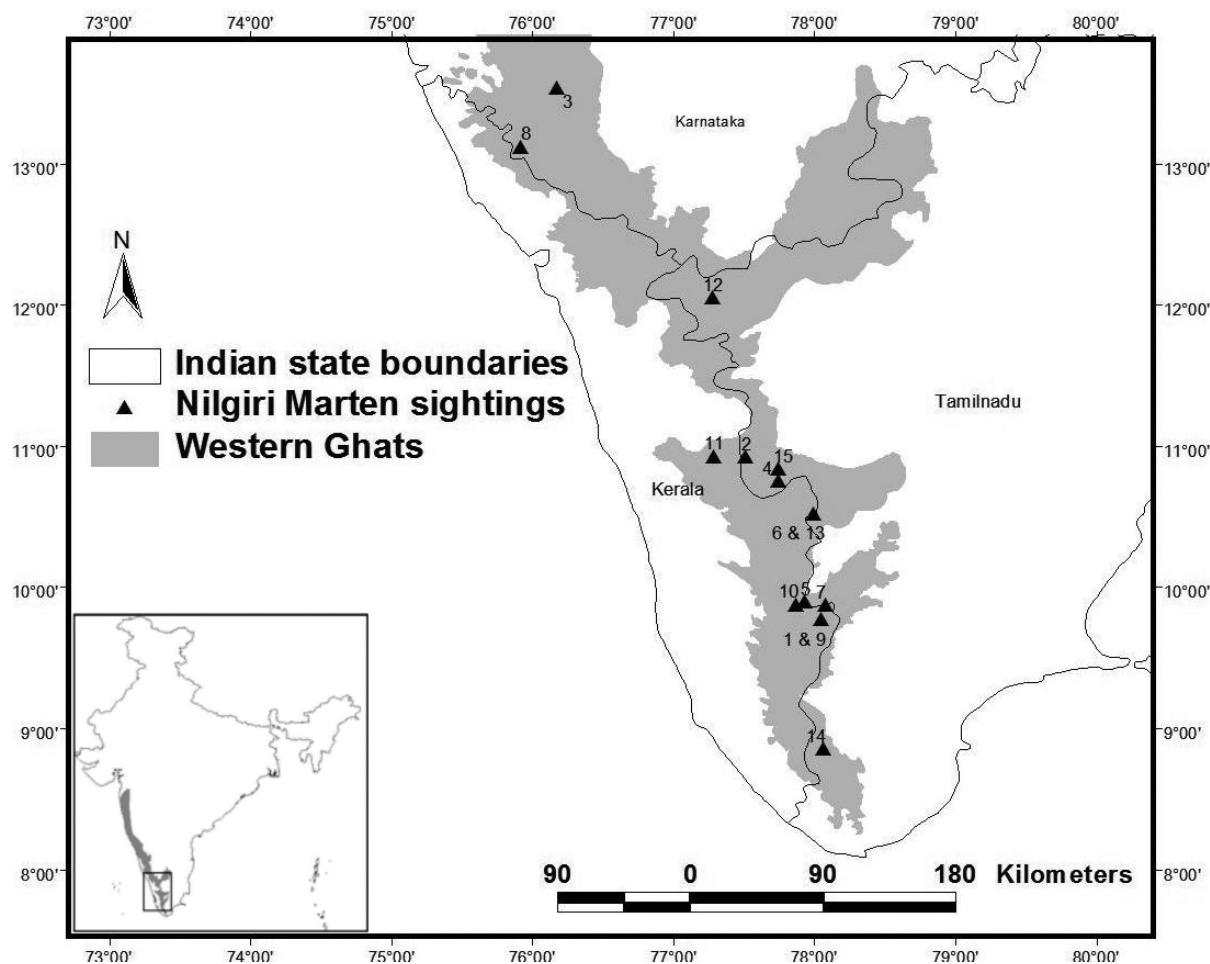


Fig. 2. Nilgiri Marten *Martes gwatkinsii* sightings in the Western Ghats outside the Palni hills. The numbers correspond to the sighting details as listed in Table 2.

through the canopy and disappeared. The first comprehensive compilation of Nilgiri Marten sighting records from the Palni hills is presented in Table 1 and Fig. 1.

Other Nilgiri Marten records in the Western Ghats

Information from published sources includes the following; three sightings in Eravikulam National Park (Rice 1990), six individuals in Indira Gandhi Wildlife Sanctuary (Sridhar *et al.* 2008) and one each from Talakaveri Wildlife Sanctuary (Kumara & Singh 2007), Upper Nilgiris (Shanker & Sukumar 1999) and Nelliampathy Hills (Kinloch 1923). In Table 2 and Fig. 2, we report 15 sightings from nine locations in the Western Ghats out of which three are first records for the respective area. Five sightings have been reported from Periyar Tiger Reserve, two from Indira Gandhi Wildlife Sanctuary and one each from Talakaveri Wildlife Sanctuary, Kalakad-Mundanthurai Tiger Reserve (KMTR), Nelliampathy Reserved Forest and Sandynallah in the Nilgiris. New records are from Pambadum Shola National Park in Kerala, Grass Hills National Park in Tamil Nadu and Bisale Reserve Forest which lies to the north of the Pushpagiri Wildlife Sanctuary and is situated in Karnataka. The Nilgiri Marten distribution extends up to the Charmadi Reserved Forest (13°00'–07'N, 75°23–28'E) (Niren Jain, Kudremukh Wildlife Foundation, India, verbally 2010). This area corresponds to the reported northernmost extent of the species at 13°N (Schreiber *et al.* 1989).

Discussion

Information presented in this paper reveals that although Nilgiri Martens have been recorded in the Palni hills, previous reviews of their distribution have overlooked these records. Despite being reported throughout the southern Western Ghats, Balakrishnan's (2005) surveys in KMTR and Palni hills were unsuccessful in locating evidence of Marten occurrence. Clearly, this species is highly cryptic or very rare. Targeted surveys for the Nilgiri Marten are extremely effort-intensive and have not been systematically carried out as yet.

Given that the species has been reported from the Indira Gandhi Wildlife Sanctuary (west of the Palni hills), and more recently from the Pambadum Shola National Park (southwest of the Palni hills) it is hardly surprising that the Palni hills harbours a Nilgiri Marten population. The Palni hills are not included in the protected area network of the country (Giriraj *et al.* 2008) despite belonging to the Western Ghats Biodiversity hotspot. Tourism, hunting by the local inhabitants and plantations of exotic species are threatening large tracts of this landscape (Giriraj *et al.* 2008, Meena Venkatraman *in litt.* 2010) with potentially detrimental effects on Nilgiri Marten populations. A proposal to confer protected status on some parts of the Palni hills may offer some hope to under-appreciated species such as the Nilgiri Marten.

The northernmost reported location in literature is the Sampaje-Shiradi Ghat area in Karnataka. Cryptic mammals like the

Brown Palm Civet *Paradoxurus jerdoni* were thought to be restricted to the southern Western Ghats but targeted surveys have shown their distributions to extend right into Goa (Rajamani *et al.* 2002). As there have not been any surveys for the Martens in areas north of their recorded distribution, it is likely that their occurrence has gone unnoticed by the scientific community. Local knowledge of the occurrence of the Marten north of its recorded range has not been fully tapped. As many forested areas in that region are open to some degree of human extraction, it is important that we establish the extent of occurrence of this species before human-induced disturbance modifies their range any further than it might have done already. Future surveys might throw up more surprises on Nilgiri Marten distribution.

Acknowledgements

The authors thank Divya Mudappa for initial encouragement and continued support throughout the writing of the manuscript. Uma Ramakrishnan, Romulus Whitaker, Robert Stewart, Tanya Balcar, Somasundaram, Suhel Quader, N. A. Naseer, Rohini Mann, Robin Vijayan, Anish Andheria, Ravi Kailas, Rajat Nayak, Malini Pittet, Arvind, Deepak, Satish, Niren Jain and Swapna Reddy kindly shared information. V. Srinivas provided the map layers and Devcharan Jathanna provided references. The authors thank the Palni Hills Conservation Council (PHCC) for providing access to their library. The authors thank Anna Bauman for her hospitality and providing key references. We are grateful to Nandini Rajamani and Meena Venkatraman for comments on an earlier draft. The authors thank Devcharan Jathanna, P. O. Nameer and an anonymous referee for comments that improved the manuscript.

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