

Recent camera-trap records of Yellow-throated Marten *Martes flavigula* in the southern Sikhote-Alin mountains, the Russian Far East

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Abstract

Yellow-throated Marten *Martes flavigula* has a wide Asian range. Its current distribution map on *The IUCN Red List of Threatened Species* shows a small range in the Russian Far East mostly comprised of western Primorski Krai and south-western Khabarovski Krai. It excludes south-eastern Primorski Krai, even though the species had been stated to occur there as recently as 1984. During 2010–2013 Yellow-throated Marten was camera-trapped 24 times at 15 camera-trap stations in south-eastern Primorski Krai. The spread of records geographically across the survey area and through the survey period suggests a resident, well established, population in this area. We recommend that the range as given in Yudin (1984) be used by the *IUCN Red List*.

Keywords: Asian Badger, groups, *Meles leucurus*, range, scent-mark, year-round activity

Недавние съёмки харзы *Martes flavigula* с помощью фотоловушек в южном Сихоте-Алине Дальнего Востока

Краткий обзор

Харза *Martes flavigula* имеет широкий ареал обитания в Азии. Согласно списку Красной книги МСОП о видах, находящихся под угрозой, текущая её карта распространённости представляет небольшой ареал на Дальнем Востоке России, в основном включающий в себя запад Приморского края и юго-запад Хабаровского края, но не включает территории юго-востока Приморского края, хотя данный вид был отмечен там в относительно недавнем 1984 году. В течении 2010–2013 года харза была отснята 24 раза в 15 пунктах установки фотоловушек на юго-востоке Приморского края. Распределение снимков географически вдоль области исследования и в течении периода исследования предполагает наличие резидентной, довольно устойчивой, популяции в данной области. Мы рекомендуем, чтобы ареал, предлагаемый Юдиным в 1984 году, использовался в Красной книге.

Ключевые слова: Азиатский барсук, группы, *Meles leucurus*, ареал, ольфакторные метки, активность в течении года

Yellow-throated Marten *Martes flavigula* has a wide Asian range, from northern India east and south across South-east Asia to the Greater Sundas, and north to Korea and the Russian Far East (Corbet 1978, Corbet & Hill 1992). The current species map on *The IUCN Red List of Threatened Species* (Abramov *et al.* 2008) shows a small range in the Russian Far East mostly comprised of western Primorski Krai and south-western Khabarovski Krai. On this map, the south-eastern Russian Far East is noticeably specifically excluded (Fig. 1) even though the species has been recorded there (e.g. Heptner *et al.* 1967, Yudin 1984). This note documents the species's recent occurrence in this area, in south-eastern Primorski Krai.

Lazovsky Zapovednik (a zapovednik is a strict nature reserve; 1,240 km² in size) and Zov Tigra National Park (870 km²) are located in south-eastern Primorski Krai, in the temperate Ussuri broadleaf and mixed forest ecoregion (Khokhryakov & Shokrin 2002). The region experiences warm summers (averaging 17.4°C near the coast of the Sea of Japan and 23.5°C further inland), and cold winters (averaging -10.4°C near the coast of the Sea of Japan to -30°C further inland) (Khokhryakov & Shokrin 2002), but local climate varies significantly even within Lazovsky Zapovednik, reflecting distance to the sea. Areas near the sea are generally cooler in summer and warmer in winter, with typically less deep winter snow.

A research study on Tigers *Panthera tigris* in the Russian Far East (Kerley & Borisenko 2010, 2013) established a network of

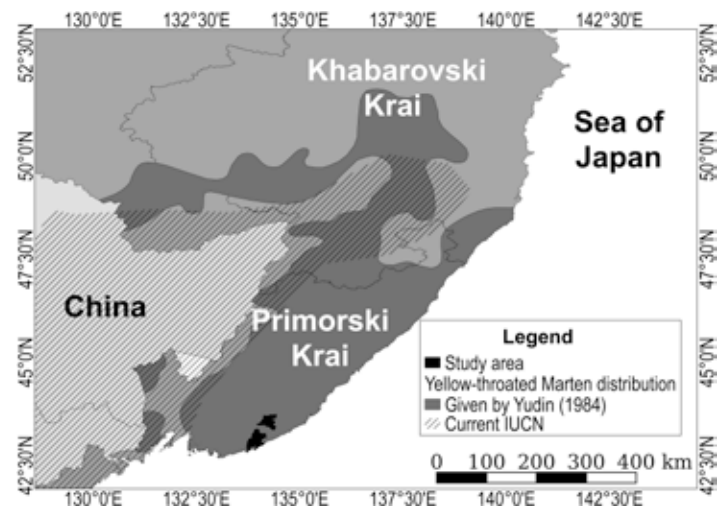


Fig. 1. Yellow-throated Marten *Martes flavigula* north-east Asian range, according to *The IUCN Red List of Threatened Species* (Abramov *et al.* 2008), the Russian range according to Yudin (1984: Fig. 160), and locations of Lazovsky Zapovednik and Zov Tigra National Park.

77 unbaited camera-trap stations (Bushnell Trophy Cam digital camera-traps, Bushnell Co, Overland Park, KS, USA) throughout Lazovsky Zapovednik and Zov Tigra National Park giving an effective survey area of approximately 1,500 km². Camera-trap stations were spaced no more than 10 km apart on forest roads

and trails in places frequented by Tigers. Each camera-trap was attached to a tree approximately 45–60 cm from the ground, set to 24 hours operation. The same stations were used throughout the study period of January 2010 to August 2013. Notionally independent records were defined as those photographs taken at least 24 hours apart from others at the same camera-trap station.

Over 37,906 camera-trap-days, Yellow-throated Martens were recorded 24 times at 15 camera-trap locations (Fig. 2, Table 1). Records came from an elevation range of 20–560 m; there was no significant camera-trap effort above 560 m. Records came from all months except August, September and December, indicating year-round activity, even during the coldest, snowiest, period (January to mid February). Animals were often photographed in groups, consistent with other reports (Yudin 1984, Parr & Duckworth 2007). Minimum group sizes were of two (six times), three (once; Fig. 3) and four (once) individuals. Heptner *et al.* (1967) described colour variation between age classes: based on this, the groups appeared to be families with one more brightly coloured individual (presumably the adult female). Animals sometimes came to sniff at Tiger scent-marks (four times; Fig. 4) and this latter behaviour was also shown in the area by Asian Badger *Meles leucurus* (Fig. 5). Twenty-one of the photographs were taken in daylight hours, with the other two close to daylight. This is consistent with the generally diurnal nature of Yellow-throated Marten elsewhere in its range (e.g. Than Zaw *et al.* 2008).

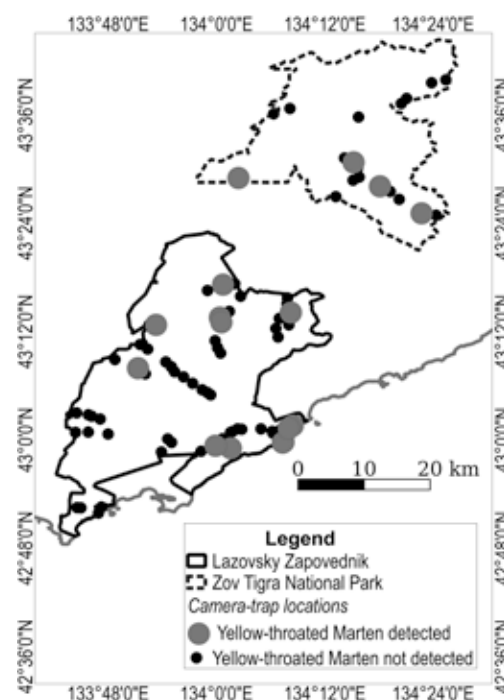


Fig. 2. Locations of camera-traps in Lazovsky Zapovednik and Zov Tigra National Park, south-eastern Primorski Krai, Russia, during 2010–2013. Yellow-throated Martens *Martes flavigula* were recorded at the large grey circles but not at the small black dots.

Table 1. Records of Yellow-throated Marten *Martes flavigula* in Lazovsky Zapovednik and Zov Tigra National Park, Russia.

River drainage	Date	Time	Latitude N	Longitude E	Elev.	Habitat type
Lazovsky Zapovednik						
Perekatnaya	12 May 2013	17h15	43°13'26"	134°00'50"	289	Broadleaf/pine <i>Pinus</i> mix riparian
Perekatnaya	17 Feb 2013	15h58	43°13'01"	134°00'33"	401	Broadleaf/pine <i>Quercus</i> mix riparian
Egerevka	6 May 2013	08h19	43°12'42"	133°52'32"	236	Oak/birch <i>Betula</i> riparian
Koreiskaya Pad	19 Nov 2010	13h14	43°02'37"	133°46'11"	218	Broadleaf/pine mix riparian
Sharokia	15 Feb 2013	16h09	43°17'11"	134°00'44"	370	Broadleaf/pine mix riparian
Sokolovka	7 Jan 2013	12h37	42°59'07"	134°01'17"	198	Broadleaf/pine mix riparian
Sokolovka	25 Feb 2013	09h24	42°59'04"	134°01'36"	152	Broadleaf/pine mix riparian
Proselochnaya	3 Jun 2012	17h34	43°00'48"	134°06'25"	20	Broadleaf riparian
Proselochnaya	23 Jun 2013	11h24	43°01'34"	134°08'23"	67	Oak forest/ridge above sea
Tumannaya Mountain	19 Apr 2012	13h37	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Tumannaya Mountain	6 Jan 2012	12h10	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Tumannaya Mountain	19 Jul 2012	15h12	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Tumannaya Mountain	12 Jun 2012	10h13	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Tumannaya Mountain	16 May 2012	08h53	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Tumannaya Mountain	9 June 2013	18h23	42°59'45"	134°07'25"	161	Oak forest/cliff top above sea
Valunovka	21 May 2013	12h18	43°07'39"	133°51'32"	208	Broadleaf/pine mix riparian
Zov Tigra NP						
Milogradovka	15 Apr 2012	14h26	43°25'05"	134°22'43"	201	Pine/broadleaf mix
Milogradovka	22 Mar 2012	16h03	43°25'05"	134°22'43"	201	Pine/broadleaf mix
Milogradovka	27 Mar 2012	16h06	43°30'32"	134°15'19"	365	Pine/broadleaf mix
Milogradovka	5 May 2012	07h33	43°30'32"	134°15'19"	365	Pine/broadleaf mix
Milogradovka	4 Nov 2011	12h51	43°26'38"	134°20'14"	247	Pine/broadleaf mix
Milogradovka	4 Nov 2011	19h03	43°30'32"	134°15'19"	365	Pine/broadleaf mix
Milogradovka	23 Oct 2012	16h00	43°26'38"	134°20'14"	247	Pine/broadleaf mix
Pasechnaya	12 Apr 2013	04h26	43°28'50"	134°03'14"	560	Pine/broadleaf mix

Coordinates were taken with Garmin GPSmap 62 and use the WGS84 datum. 'Elev.' = Recorded elevation, in meters, taken from the GPS.



Fig. 3. Three Yellow-throated Martens *Martes flavigula*, Tumannaya Mountain, Lazovsky Zapovednik, Primorski Krai, Russia, 9 June 2013.



Fig. 4. Yellow-throated Marten *Martes flavigula* sniffing at Tiger *Panthera tigris* scent-mark, Sharokia drainage, Lazovsky Zapovednik, Primorski Krai, Russia, 15 February 2013.



Fig. 5. Asian Badger *Meles leucurus* sniffing at Tiger *Panthera tigris* scent-mark, Proselochnaya drainage, Lazovsky Zapovednik, Primorski Krai, Russia, 9 May 2013.

The spread of records geographically across the survey area and through the survey period suggests a resident population well established in this area. This is consistent with the distribution as given in Heptner *et al.* (1967) and Yudin (1984). The *IUCN Red List* gives no reason for the excision of south-east Primorski Krai from the range. We therefore recommend that the range as given in Yudin (1984) be used by the *IUCN Red List*. This requires the addition to the current *IUCN Red List* map of eastern Primorski Krai north to the River Khor (see Fig. 1).

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