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ARTICLE

An observation of Yellow-throated Marten *Martes flavigula* hunting behaviour in eastern Cambodia

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Abstract

Two Yellow-throated Martens *Martes flavigula* were observed hunting together in an open dry deciduous forest in Srepok Wildlife Sanctuary, eastern Cambodia, on 24 January 2014. By climbing several trees and investigating tree holes for potential prey, one marten successfully killed a squirrel (Sciuridae). The martens appeared to systematically target large trees that had holes and other cavities, and were observed ignoring and moving past many smaller trees in between climbs. Regularly checking trees with holes may be a strategy used by Yellow-throated Martens to hunt arboreal or tree hole-nesting prey species.

Keywords: Cambodia, predation, squirrel, Srepok Wildlife Sanctuary

The Yellow-throated Marten *Martes flavigula* (Fig. 1) is a relatively common and widely distributed small carnivore species in Asia (Chutipong *et al*. 2016). Little is known about its ecology or behaviour because there has been only one ecological study that examined the home range size and activity of this species (Grassman *et al*. 2005) and one detailed dietary study (Zhou *et al*. 2011). Most of the available information on the species' prey items and hunting behaviours are from anecdotal observations (Pierce *et al*. 2014, Chutipong *et al*. 2016). The Yellow-throated Marten is reportedly omnivorous, with prey items including flowers, fruit, insects, eggs, frogs, reptiles, small mammals and birds (Nandini & Karthik 2007, Zhou *et al*. 2011, Chutipong *et al*. 2016). Ungulates are sometimes consumed, which probably involves scavenging, although predation on fawns and small deer has been reported in India and temperate regions of its range (Pierce *et al*. 2014, Chutipong *et al*. 2016). Predation on Small Indian Civet *Viverricula indica* has been reported in South-east Asia (Lamichhane *et al*. 2014, D. Willcox pers. comm.), indicating Yellow-throated Martens may prey on other small carnivore species.

Yellow-throated Martens are reported to hunt in pairs (Chutipong *et al*. 2016), although larger groups comprising up to five individuals have been reported (Parr & Duckworth 2007). Observations of the species's hunting behaviour are rare; the only published records are of Yellow-throated Martens chasing small ungulates, though the outcomes of these chases were not observed (Sathyakumar 1999, Naniwadekar *et al*. 2013).

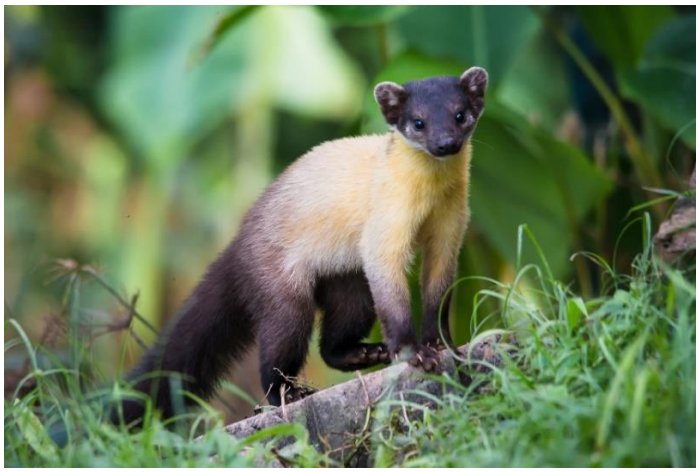

Fig. 1. Yellow-throated Marten *Martes flavigula*. Credit: Rushenb / Thai National Parks (www.thainationalparks.com/kaeng-krachan-national-park), used in accordance with a CC BY 2.0 Creative Commons license (https://creativecommons.org/licenses/by/2.0).

Observation

On 27 January 2014, just before sunset (17h45), while walking near the Thmier Ranger Station in the western part of Srepok Wildlife Sanctuary (SWS), formerly Mondulkiri Protection Forest (12º58'8"N, 107º11'16"E; Fig. 2), I observed two Yellow-throated Martens crossing a dirt track in front of me. The habitat was open dry deciduous forests dominated by dipterocarp trees *Dipterocarpus* spp. The martens apparently did not notice me, and I was able to observe their behaviour for about 5 minutes. After crossing the dirt track, the martens ran past several dipterocarp trees and appeared to head straight for a much larger dipterocarp tree. Upon reaching the tree the first marten did not hesitate and climbed the tree without stopping, followed by the second marten. The first marten climbed all the way to near the top of the tree, then inserted the front half of its body inside a tree hole for a few seconds, before turning around and climbing back down the tree. The second marten never reached the hole, but instead turned around and followed the first marten down the tree. The martens then ran past about 10 –15 more trees and appeared to run straight towards another tall dipterocarp tree and repeated the same behaviour as with the first tree. After running down the second tree, the martens again ran past 10–15 more trees before running straight to a third large dipterocarp tree which the first marten climbed without hesitating, but this time the second marten stayed near the bottom of the tree. The first marten climbed directly to the top of the tree without stopping and inserted the front half of its body inside a tree hole, but this time it stayed in that position for several seconds, while loud squealing was heard coming from the hole. The first marten backed out of the hole with a small squirrel in its mouth. The distance and low light prevented identification of the squirrel species that was killed by the marten. It was probably a Cambodian Striped Squirrel *Tamiops rodolphii*, a species that shelters in holes in trees (Duckworth 2017) and is relatively common in the dry deciduous forests of SWS (pers. obs.). The first marten carried the apparently dead squirrel, which was motionless

and had stopped squealing, down the tree and began running along the forest floor with it. The second marten, which had stayed near the bottom of the tree, followed behind the first marten until both had disappeared from view.

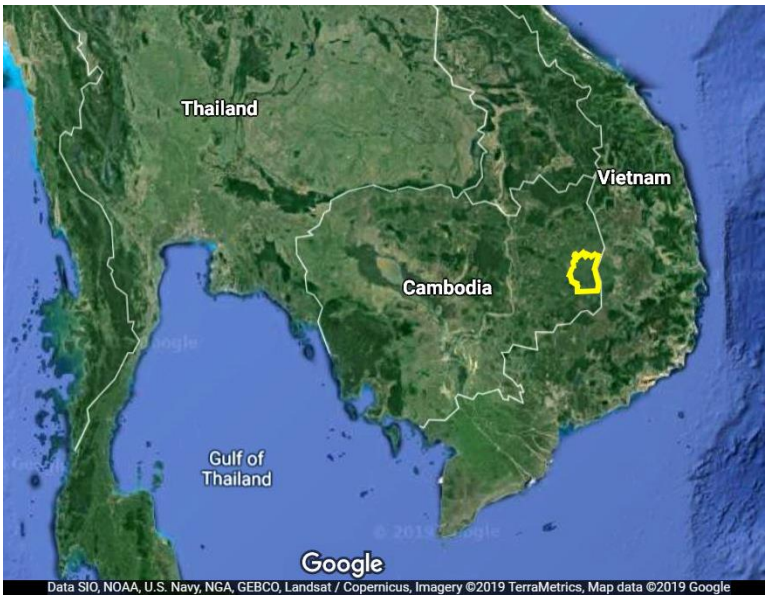

Fig. 2. Srepok Wildlife Sanctuary (SWS), Cambodia, indicated by the yellow outline.

Discussion

Predation events by Yellow-throated Martens are rarely observed and this is the first reported observation on the predation of a squirrel by this species. Although there appeared to be no obvious difference in body size between the two martens, the first marten appeared to be leading, whilst the second marten followed, once staying at the base of the tree. The first marten might have been a parent, and the second marten a grown offspring. Alternatively, the two martens might have been a mated pair, and the first marten could have been older with more knowledge of which trees contained holes likely to have prey. Yellow-throated Martens often travel in duos, and sometimes trios or even larger groups (Parr & Duckworth 2007, Chutipong *et al*. 2016), but it has never been confirmed if such groupings are mated pairs, mated pairs with a grown offspring, or adult females with one or more grown offspring.

The first marten apparently knew which trees had holes that potentially contained prey, as it moved past many trees in between climbs and every tree it climbed had a hole near the top. Choosing which trees to climb did not appear to be based on scent, because the first marten never stopped at the base of the trees it climbed; instead it ran straight towards the larger trees and started climbing. This may indicate that martens use their memory when choosing which trees to climb, and that knowledge of trees with holes could be important to their hunting success. Regularly checking known trees with holes may be a strategy often used by Yellow-throated Martens when hunting arboreal or tree hole-nesting prey species.

Yellow-throated Martens are generalist feeders with opportunistic and varied diets (Zhou *et al*. 2011, Chutipong *et al*. 2016), and it is unknown if tree squirrels are an important part of their diet in SWS. Compared to wetter or temperate forest types, the open, dry deciduous forests in South-east Asia may offer relatively low amounts of alternative foods, including fruits, for martens, and small mammals such as squirrels may form an important part of the species's diet in this habitat type.

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