

## Yellow-bellied Weasel *Mustela kathiah* breeding in peri-urban Dalat City, southern Vietnam

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### Abstract

The paper presents details of sightings of Yellow-bellied Weasels *Mustela kathiah* in the peri-urban environment of Dalat City in the south of Vietnam. The sightings, which indicate breeding, were within an area of human habitation, with adjacent agriculture and remnant pine forest. The paper also gives details of two additional previously unpublished records of the species from the same highland area, these together being the southernmost records from Vietnam.

**Keywords:** Yellow-bellied Weasel, *Mustela kathiah*, peri-urban environment, breeding habitat, Lam Dong Province

### Loài Triết bụng vàng *Mustela kathiah* sinh sản ở vùng ven đô thị thành phố Đà Lạt, miền nam Việt Nam

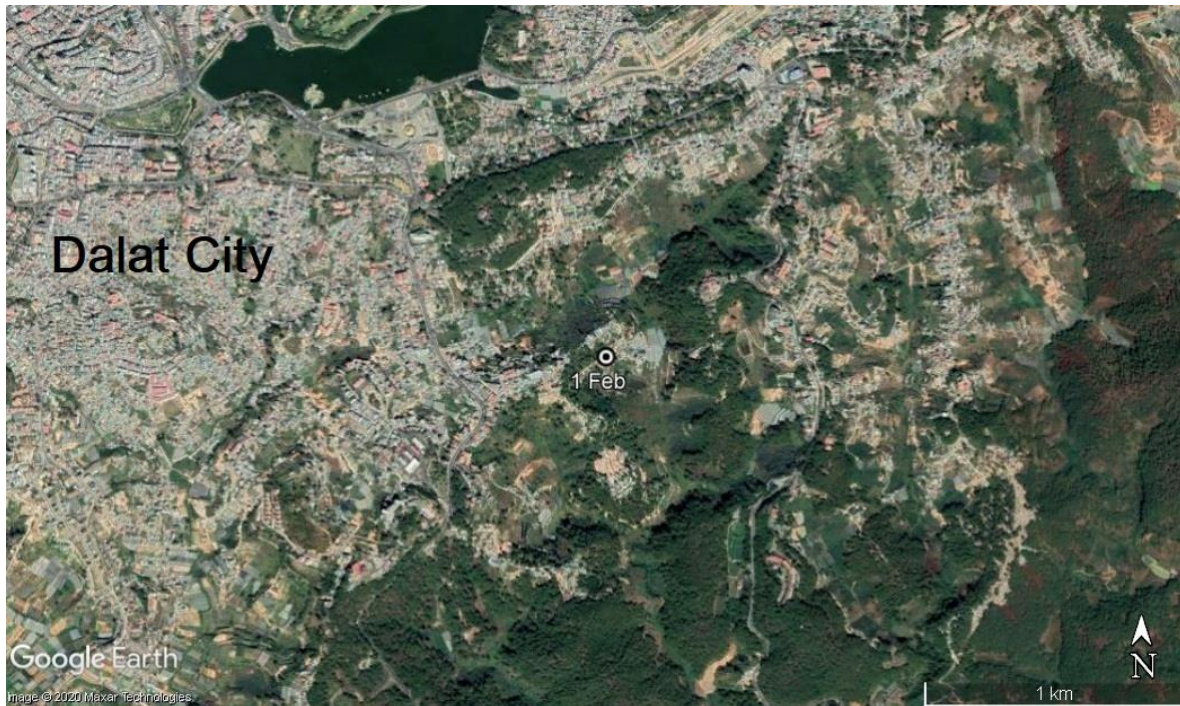
Bài báo cung cấp thông tin chi tiết về các lần quan sát loài Triết bụng vàng *Mustela kathiah* và cho thấy sơ lược về sinh sản của loài ở vùng ven đô thị thành phố Đà Lạt, miền nam Việt Nam. Các điểm quan sát thấy loài đều ở trong khu vực dân cư gần kề đất trồng trọt và những mảng rừng thông còn sót lại. Bài báo cũng bổ sung thêm các thông tin cụ thể chưa được công bố của các ghi nhận trước đây tại cùng khu vực cao nguyên. Tất cả những ghi nhận này đều là những điểm phân bố xa nhất của loài ở phía nam Việt Nam.

## Introduction

The Yellow-bellied Weasel *Mustela kathiah* has a relatively large global distribution through much of the Himalaya and southern and central China, extending southward through the mountain belts of South-east Asia (Willcox *et al.* 2016). Records presented by Robertson (2007) indicate that in Vietnam the species is likely to occur throughout the mountainous region of the country, although documented occurrences from the far southern reaches of the Southern Annamites, the most southerly mountain region in Vietnam, are relatively few.

## Observations

At about 06h30 on the morning of 1 February 2020, while R.J.T. was standing talking with friends at a small hostel on the edge of Dalat City, Lam Dong Province, in the Southern Annamites of Vietnam (11°55'50.5"N, 108°27'08.7"E, datum WGS84; altitude 1434 m asl measured by Google Earth, 1375 m asl measured by a GPS altimeter; Fig. 1), he saw a Yellow-bellied Weasel and quickly alerted N.T.A.M.



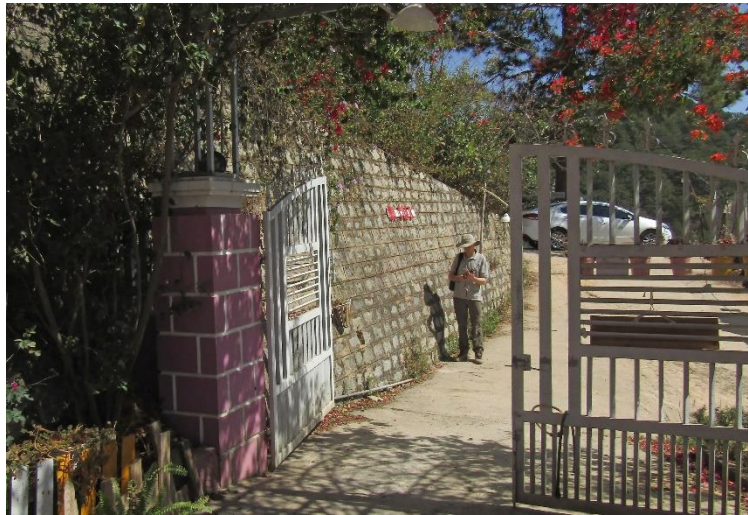
**Fig. 1.** Google Earth image of south-east Dalat City, Vietnam, and the peri-urban edge (dot marked “1 Feb”) where the Yellow-bellied Weasels *Mustela kathiah* were seen.

As we watched, the weasel ran towards and then past us along the top of a retaining wall against a steep slope. It was carrying prey, which appeared to be a rodent similar in body proportions, except the body length, to the Weasel. The latter was easily recognisable as a Yellow-bellied Weasel on account of its distinctively long and slender body, with uniform bright brown upper parts and clearly demarcated yellowish underparts, with a paler chin and upper throat. The animal’s body length was considerably smaller than a *Dremomys* squirrel and a little bigger than a British Least Weasel *Mustela nivalis*. Yellow-throated Marten *Martes flavigula* is apparently sometimes confused with this Weasel; however, the Marten is considerably larger (the size of a giant squirrel in the genus *Ratufa*) and is very different in colouration from a Yellow-bellied Weasel in southern Vietnam.

R.J.T. had first noticed the weasel as it crossed the 3-m wide concrete driveway of the hostel and then proceeded to climb the 2.5 m of the near-vertical retaining wall. The wall at its closest was less than 3 m from us and had an angle of about 80 degrees from the horizontal (Fig. 2). The wall was separated from an approximately 2.5-m wide all-weather road running parallel to it by a strip less than 2-m wide of grasses and ornamental shrubs. The weasel did not make use of this cover of vegetation, instead moving in full view on top of the wall. Halting several times, it appeared to recognise that it had been noticed by us. At one point it disappeared into the vegetation, but it very quickly reappeared and continued to follow the open path along the wall top. The whole event probably took no more than about 60 seconds,



when the animal disappeared into the vegetation very close to the point where the wall went behind the hostel building. Before coming into our view, the Weasel had already probably crossed another 2-m wide all-weather road and must have been hunting in or moving through a corridor of house and hostel gardens and yards. Upslope above the higher road was a relatively large area of semi-natural habitat (ca. 1.5 hectares), while below the corridor of yards and gardens was the transition to an even larger area of semi-natural habitat and cultivation (Figs. 3, 4).



**Fig. 2.** R.J.T. standing next to the location where the Yellow-bellied Weasel *Mustela kathiah* climbed the retaining wall, south-east Dalat City, Vietnam. (Photo: Minh Nguyen.)



**Fig. 3.** The lower property where the Yellow-bellied Weasels *Mustela kathiah* were videoed and the landscape of the valley below, south-east Dalat City, Vietnam. (Photo: Tuyen Nguyen.)



**Fig. 4.** Google Earth image of the landscape around the hostel, south-east Dalat City, Vietnam, where the Yellow-bellied Weasels *Mustela kathiah* were observed. The dots marked “1 Feb” and “3 Feb” indicate the locations of the animal sightings.

We tried our luck to observe the Weasel again during our stay, without success. The hostel owner described observing a similar animal in the preceding days. On 3 February, after we had left, the owner saw the species at about 14h00–15h00 and recorded a video clip, which he shared with us. In the video, two Weasels are seen just outside a raised wooden chalet as they move away from the chalet, across a concrete yard (Fig. 3). Within seconds of the video starting, one animal, presumably a female, turns around and picks up the second animal, a youngster, by its scruff and carries it in its mouth. They cross the concrete yard this way and disappear below a wooden platform (less than 15 cm in height). This sighting was approximately 20 m from our sighting on 1 February, further downslope but on the same hostel property, and separated from the upper grounds by the lower all-weather road and another steep retaining wall and steep concrete driveway. This is in the direction opposite to that in which the Weasel we observed was seen carrying prey.

The hostel and adjacent properties were constructed approximately six years ago, but Google Earth historical aerial images show that the lower valley area had already been extensively cultivated since at least 2006. Before this, the habitat was primarily relatively mature natural pine *Pinus kesiya* with breast height diameters in the 30–60 cm range and a relatively open understorey probably mostly of grasses with some shrubs. The relatively narrow valley bottom within 200 m of the sightings probably had small copses of broadleaf trees and shrubs, as well as patches of at least seasonally wet graminoid beds. Such habitat



characterises the rolling hills of the Dalat Plateau, amidst which Dalat City sits. A good number of relatively mature *Pinus kesiya* were still present on the upper slope in 2020. However, below the corridor of yards and gardens, the slope and valley bottom had been modified and converted to coffee, some silviculture and other crops, although this was rather haphazard and appeared not to be particularly well kept. More natural vegetation was visible on the opposite slope and further down the valley within a few hundred metres (Figs. 3, 4).

In the mixed agriculture below the corridor of yards and gardens we observed from the hostel property Red-cheeked Squirrel *Dremomys rufigenis*, Northern Treeshrew *Tupaia belangeri*, Lesser Necklaced Laughingthrush *Garrulax monileger* and White-cheeked Laughingthrush *Dryonastes vassali*. None of these species is typically associated with agriculture or peri-urban settings.

## Discussion

Hoang Xuan Thuy & Robertson (2004) mapped the Yellow-bellied Weasel in Lam Dong Province without giving further details; however, this was based on two unpublished sightings (S. Robertson *in litt.* 2020). One sighting was in Bi Doup–Nui Ba National Park, “Long Lanh East [sic]” (probably east of K’long K’lanh village), 1500–1800 m asl, on 24 May 1991, observed by Jonathan Eames (pers. comm. to S. Robertson). The other sighting was in Di Linh District, “Deo Nui San”, 1220 m asl, on 1 March 1994, observed by Craig Robson (pers. comm. to S. Robertson). More recently, there seem to be only two further records of Yellow-bellied Weasel from the Southern Annamites of Vietnam (Abramov 2013, Morris 2017), only one of which has information on precise location, habitat and altitude (within evergreen forest, 1900–2000 m asl). Robson’s record would appear to be approximately 50 km south-west of our own record whilst Eames & Morris’s records are within 25 km to the north. These four records, in addition to our own, fit within the general pattern of occurrence of the species in South-east Asia in forested high-elevation habitat (e.g. Duckworth & Robichaud 2005, Than Zaw *et al.* 2008). However, we have not traced other records of the species in peri-urban environments, although Supparatvikorn *et al.* (2012) and Chutipong *et al.* (2014) mentioned sightings in and around building complexes within the forested landscape of two different Thai protected areas.

Although recent years have seen many extensions of the known range of this Weasel in South-east Asia (e.g. Supparatvikorn *et al.* 2012, Phan *et al.* 2014), overall it remains poorly known in the region, including the extent to which it tolerates human activity and habitat change.

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