Russian J. Theriol. 23 (2): 212–225

On the distribution of weasels (Carnivora: Mustelidae: *Mustela*) in China's Guangdong Province, with notes on occurrences from Hong Kong

Bosco Pui Lok Chan*, Michael Ka Yiu Hui, Fei Li, Quan Ding, Qin Huang & Cheng Li

ABSTRACT. Two species of *Mustela* weasels are known from the southern Chinese province of Guangdong: yellow-bellied weasel *M. kathiah* and Siberian weasel *M. sibirica.* While they are conventionally considered widespread throughout Guangdong, both are poorly documented with limited verifiable locality and ecological information. This paper clarifies the distribution and status of these two species in Guangdong, and describes their recent discoveries in adjoining Hong Kong Special Administrative Region. *Mustela kathiah* is widespread in a wide altitudinal range throughout Guangdong, with many records from areas below the commonly cited over 1000 m lower altitudinal threshold for the species. *Mustela sibirica* has a more peculiar distribution pattern, with all historical records near or north of the Tropic of Cancer followed by a recent surge of coastal records since the 2010s, many of which come from urbanised areas. To conclude, *M. kathiah* is widespread in Guangdong including part of Hong Kong, but the provenance of *M. sibirica* individuals recently recorded in urbanised areas of Pearl River Delta and eastern Guangdong is debatable, which warrants further investigation.

How to cite this article: Chan B.P.L., Hui M.K.Y., Li F., Ding Q., Huang Q., Li C. 2024. On the distribution of weasels (Carnivora: Mustelidae: *Mustela*) in China's Guangdong Province, with notes on occurrences from Hong Kong // Russian J. Theriol. Vol.23. No.2. P.212–225. doi: 10.15298/rusjtheriol.23.2.10

KEY WORDS: camera-trapping, China, Guangdong, Hong Kong, *Mustela*, *Mustela kathiah*, *Mustela sibirica*, small carnivores, Siberian weasel, species distribution, yellow-bellied weasel.

Bosco Pui Lok Chan [boscochan@wwf.org.hk], WWF-Hong Kong, 1 Tramway Path, Central, Hong Kong; Michael Ka Yiu Hui [michaelhui@kfbg.org], Fei Li [lifei@kfbg.org], Kadoorie Conservation China, Kadoorie Farm and Botanic Garden, Lam Kam Road, Tai Po, New Territories, Hong Kong; Quan Ding [dingquan0724@163.com], Chaozhou, Guangdong, China; Qin Huang [rshuangqin@gmail.com], Shenzhen Mangrove Ecological Research Center Co., Ltd., Shenzhen, Guangdong, China; Cheng Li [licheng_1024@163.com], Xizijiang Conservation Center, Huizhou, Guangdong, China.

О распространении ласок (Carnivora: Mustelidae: *Mustela*) в провинции Гуандун, Китай, с заметками о находках в Гонконге

Б.П.Л. Чан*, М.К.Ю. Хуэй, Ф. Ли, Ц. Динг, Ц. Хуанг, Ч. Ли

РЕЗЮМЕ. Два вида рода *Mustela* известны из южнокитайской провинции Гуандун: индийский солонгой *M. kathiah* и колонок *M. sibirica*. Хотя оба вида считаются широко распространенными по всей провинции Гуандун, информации о подтвержденных находках и данных об экологии немного. В статье уточняется распространение и статус этих двух видов в Гуандуне и описываются их недавние находки в прилегающем специальном административном районе Гонконг. *Mustela kathiah* распространен в широком высотном диапазоне по всей провинции Гуандун, со многими находками из районов ниже обычно упоминаемого для этого вида высотного порога в 1000 м над ур. моря. *Mustela sibirica* имеет более своеобразную картину распространения — все прежние, исторические, находки расположены вблизи или к северу от тропика Рака, тогда как с 2010-х годов появилось много находок в прибрежный зоне, многие из которых происходят из урбанизированных районов. Следует отметить, что *M. kathiah* широко распространен в провинции Гуандун, включая часть Гонконга, однако происхождение особей *M. sibirica*, недавно зарегистрированных в урбанизированных районах дельты реки Чжуцзян и на востоке провинции Гуандун, остается спорным и требует дальнейшего изучения.

КЛЮЧЕВЫЕ СЛОВА: фотоловушки, Китай, Гуандун, Гонконг, *Mustela*, *Mustela kathiah*, *Mustela sibirica*, мелкие хищники, колонок, распространение, индийский солонгой.

* Corresponding author

Introduction

Two species of *Mustela* weasels are known from the southern Chinese province of Guangdong (hereinafter "Guangdong"), namely yellow-bellied weasel *M. kathiah* Hodgson, 1835 and Siberian weasel *M. sibirica* Pallas, 1773 (Lau *et al*., 2010). Both species are considered Least Concern by the IUCN Red List (Abramov *et al*., 2016; Willcox *et al*., 2016), while *M. kathiah* is listed as Near Threatened in China due to the paucity of records (Ministry of Ecology and Environment and Chinese Academy of Sciences, 2023). The two species are widely reported to have extensive overlapping ranges in Guangdong; from the northern mountain ranges (ca. 25°N) to coastal regions close to the Hong Kong Special Administrative Region (ca. 22°N, hereinafter "Hong Kong") (Sheng *et al*., 1999; Pan *et al*., 2007; Smith & Xie, 2008; Zou & Ye, 2016). However, the distribution and ecology of both species are poorly documented in southern China, and their presumed distribution patterns in Guangdong remain to be confirmed. Both species have been found in Hong Kong in recent years but they are the least known local mammals with little published information (Shek, 2006; Pei *et al*., 2010; Agriculture, Fisheries and Conservation Department, 2014). In the official checklist of Hong Kong mammals, *M. kathiah* is considered to be of doubtful origin and *M. sibirica* is not included (Shek, 2006; Agriculture, Fisheries and Conservation Department, 2022); as such their conservation is neglected.

Camera trapping is becoming a standard field survey method for mammal inventory study, but it is known that mustelids have low detectability in camera trap survey (Duckworth *et al*., 2006; Abramov *et al*., 2008; Supparatvikorn *et al*., 2012); many of the weasel records from China were thus results of interview survey with local residents. While interview survey is a useful and cost-effective approach to study rare and elusive species difficult to detect by conventional survey methods (e.g. Anadón *et al*., 2009; Phommachanh *et al*., 2017), the results should be interpreted with extreme caution in regions with morphologically or ecologically similar species (Sampaio *et al*., 2011; Galbreath *et al*., 2012; Mohd-Azlan *et al*., 2013; Willcox *et al*., 2019). Accurate identification of mustelids, and even with mongooses and civets, is challenging even by professionals, as evident by misidentifications we observed in China. The widespread *M. sibirica* is widely known by its colloquial name *huangshulang* or *wongsyulong* (黄鼠狼, literally "yellow rat wolf"), a name which is also used for, or confused with, all congeners and other morphologically similar carnivores; species involved in misidentification include ferret-badgers *Melogale* spp. (e.g. Forestry Administration of Guangdong Province, 2020), Javan mongoose *Urva javanica* (e.g. Chan *et al*., 1992), Eurasian otter *Lutra lutra* (e.g. National Animal Collection Resource Center, 2014) and other weasel species (e.g. Lau *et al*., 2010; search engine https://baike.sogou.com/v832336.htm). It is thus unreliable to rely on interview results in determining distribution and status for *Mustela* species of China. This paper reviewed all available published and verified unpublished information to clarify the distribution and status of the two *Mustela* species in Guangdong and Hong Kong, aiming to enhance scientific understanding of these often-neglected small carnivores, and to elicit more interests in the research and conservation of mustelids.

Material and methods

We searched academic search engines Google Scholar and China National Knowledge Infrastructure (CNKI; https://www.cnki.net) with the terms "黄鼠狼", "Siberian weasel (黄鼬), "yellow-bellied weasel (黄腹鼬)" and "Guangdong (广东)". We also conducted a media search using the same Chinese search terms in combination with the names of all 21 prefecture-level cities of Guangdong on Baidu, Weibo and WeChat, which are the most popular search engines and social media platforms in China. Observations submitted to the citizen science platform iNaturalist (https://www.inaturalist.org) were screened. For Hong Kong records, we searched iNaturalist, Google and Facebook, as well as local natural history literature; for literature review in Hong Kong refer to Hui & Chan (2024).

Experienced scientists and naturalists from Guangdong and Hong Kong were also consulted for unpublished records. Due to the identification challenge of mustelids, we took a conservative approach and only accepted records with supporting photo or video evidence. Specimen records were extracted from Mell (1922), Shih (1930), Jiang *et al.* (1960), Gao (1987), National Specimen Information Infrastructure (http://nsii.org.cn/2017) and National Animal Collection Resource Center (http://museum.ioz.ac.cn/index.html).

Results

Records from Guangdong

Yellow-bellied weasel *Mustela kathiah*

Reliable records of *M. kathiah* span across the 179800 km^2 province (East: ca. 24.36°N, 116.69°E; South: ca. 22.47°N, 114.51°E; West: ca. 21.92°N, 110.85°E; North: ca. 25.02°N, 113.71°E), mostly from forested landscape. Of the 77 records with elevation data, the mean (± standard deviation) elevation was 488 ± 260 m asl (median: 451 m asl). One stray animal was photographed in an urbanised area at the outskirt of Huizhou City at ca. 15 m asl (ca. 23.07°N, 114.40°E), representing the lowest elevation record of the species (see Willcox *et al*., 2016); another five records were from areas below 100 m asl. The highest elevation recorded was 1340 m asl and is the only verifiable record above 1000 m asl — the lower altitudinal threshold commonly cited for the species (see Willcox *et al*., 2016). However, it should be noted that many of our records from Guangdong lack elevation data and the upper altitude limit is not conclusive.

Siberian weasel *Mustela sibirica*

There are numerous published records of *M. sibirica* from Guangdong; some were based on interview surveys (e.g. Fellowes & Hau, 1997), and many putative records lack supporting evidence (e.g. Smith & Xie, 2008). Specimen records of *M. sibirica* were clustered in the northern mountainous region of Guangdong, but Mell (1922) reported three specimens collected from "Tsă-pei" railway station, which we believe is present-day Chebei (车陂) in Tianhe District of Guangzhou City and represents the southernmost locality (ca. 23.13°) near the Tropic of Cancer. Abramov *et al*. (2018) mentioned two specimens collected from "Guangdong Peninsula", but it is a typographic error of "Guandong Peninsula" of Northeast China (present-day Dalian City of Liaoning Province, ca. 38.92°N, 121.37°E) (A.V. Abramov, in litt., 2023). This distribution pattern, with all sites near or north of the Tropic of Cancer, echoes descriptions of all pre-1990 literature such as Allen (1938), Jiang *et al*. (1960), Gao (1987), Xu *et al*. (1987), and experience of Xicai Yuan, a veteran mammologist from Guangdong (personal communication, 2022). Since the 2010s, however, records emerged from more urbanised coastal areas, including Chaozhou, Shantou, Jieyang and Shanwei of eastern Guangdong, as well as the metropolises of Shenzhen and Zhongshan in the Pearl River Delta near Hong Kong. Fig. 1A summarises all locality records of *M. kathiah* and *M. sibirica* from Guangdong.

Records from Hong Kong

Hong Kong is geographically connected to Shenzhen City of Guangdong, approximately 130 km south of the Tropic of Cancer. This densely-populated city has a rugged terrain and 40% of land mass is protected for conservation since the 1970s. Wang (2003) included Hong Kong in the distribution of *M. sibirica* without supporting information. Remarkably, *Mustela* weasels were not known from Hong Kong until the turn of the millennium (Herklots, 1951; Marshall, 1967; Lance, 1976; Hill & Phillips, 1981; Chan *et al*., 1992; Goodyer, 1992). The following notes detail the discoveries and subsequent records of *M. kathiah* and *M. sibirica* in Hong Kong; Fig. 1B summarises all locality records from Hong Kong.

Yellow-bellied weasel *Mustela kathiah*

Mustela kathiah was officially discovered in 2001 in the remote northeastern corner of Hong Kong (Pei, 2001; Suen, 2003) but the sighting of a juvenile "yellow-throated marten *Martes flavigula*" from Wu Kau Tang in 1994 is a misidentification of *M. kathiah* (Cook, 1994; Lau, 2002; Lau *et al*., 2010). Most subsequent records are from the same general area (Kadoorie Farm and Botanic Garden, 2004; Shek, 2006; Pei *et al*., 2010), except a single record each from central and eastern New Territories (Ades *et al*., 2006; Shek, 2006). Fellowes *et al*. (2002) considered *M. kathiah* as a species of local concern (see also Pei *et al*., 2010), but the local conservation authority does not treat it as a conservation priority due to uncertainty on the species' origin (Shek, 2003).

The core distribution area of the species in Hong Kong is connected by continuous broadleaf forest with Shenzhen's Mt. Wutongshan National Forest Park. Due to the small size of Hong Kong and the relative good coverage of biological studies since colonial time, some suggested the species represents recolonisation/natural range expansion from neighbouring Shenzhen (Kadoorie Farm and Botanic Garden, 2004; Lau *et al*., 2010; Pei *et al*., 2010), where the species is also found (Fig. 1A; Zhang *et al*. 2017; Li *et al*., 2019; Wang *et al*., 2020). However, we are inclined to believe these animals represent an undocumented remnant population discovered by the increased observation effort and improved survey method (i.e., camera trapping), as in the case of Thailand where the species was not known until the 2000s, despite Thailand being relatively well-covered by biodiversity studies for decades (Supparatvikorn *et al*., 2012).

Interestingly, the species remains very rarely recorded with just a handful of records to date; a 42-month biodiversity survey including camera trapping at Lai Chi Wo in northeastern Hong Kong failed to record the species (Hau *et al*., 2018). A systematic biodiversity survey with intensive camera trapping at the confirmed central New Territories site between 2020 and 2022 also failed to detect the species (Kadoorie Farm and Botanic Garden, unpublished data), with the caveat that the study design was targeting larger mammals especially mainland leopard cat *Prionailurus bengalensis* (see Yang *et al.*, 2022). Persistence in Hong Kong was confirmed by a photograph taken at 12h56 on 20 February 2020 at Lai Chi Wo from a baited camera trap placed along a low-gradient stream draining secondary forest at 35 m asl, ca. 150 m from a rural village (Fig. 2). This camera station also recorded two native carnivores: crab-eating mongoose *Urva urva* and mainland leopard cat. However, subsequent camera trapping in the area by a local NGO has yet to detect the species (G.K.H. Cheung, in litt., 2024).

There is an unsubstantiated sighting report from the Tsim Bei Tsui area of northwestern Hong Kong (Dinets, 2019). The area is frequently visited by ecologists and naturalists as it is part of the Mai Po Inner Deep Bay Ramsar Site, and the open country landscape dominated by mangroves and brackish ponds/marshes is an atypical habitat for *M. kathiah*. The Javan mongoose, on the other hand, is common and widespread in the area (Kadoorie Farm and Botanic Garden, unpublished data; Reels, 1996; Shek, 2006), suggesting the possibility of misidentification. The validity of this record is worthy of further scrutiny.

Siberian weasel *Mustela sibirica*

The species is not officially documented from Hong Kong except the dubious inclusion in Wang (2003). To our knowledge, *M. sibirica* was first recorded in Hong Kong on 1 July 2010 by a birdwatcher who photographed one at Long Valley (ca. 2 m asl) at 08h01 (Fig. 3A), which is a rural farmland landscape. The second ani-

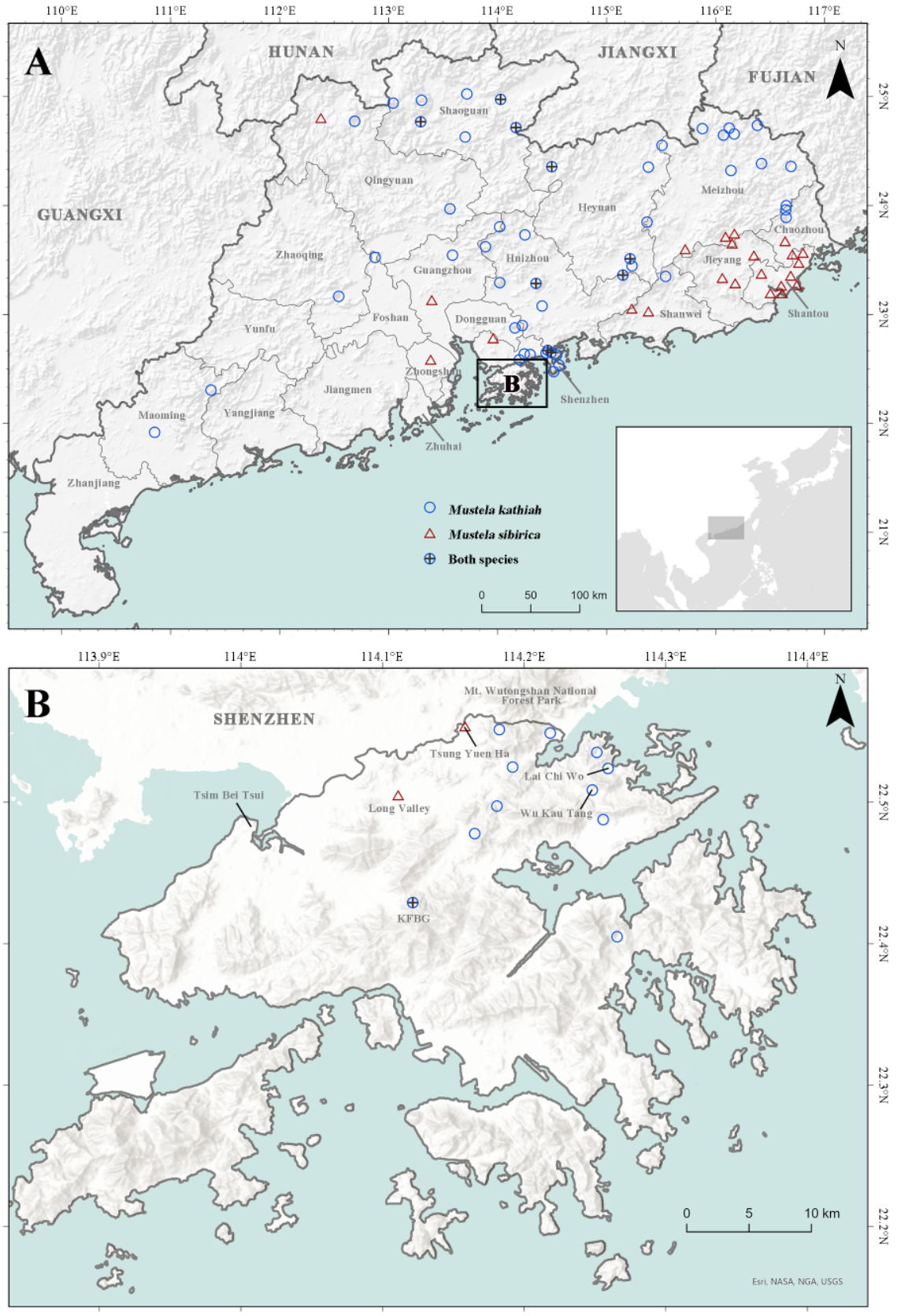

Fig. 1. Map showing verifiable records of yellow-bellied weasel *Mustela kathiah* and Siberian weasel *M. sibirica* in (A) Guangdong Province and (B) Hong Kong Special Administrative Region, China.

Fig. 2. Yellow-bellied weasel *Mustela kathiah* camera-trapped at Lai Chi Wo, northeastern Hong Kong, 20 February 2020, photo: Kadoorie Farm and Botanic Garden.

mal was camera-trapped at Kadoorie Farm and Botanic Garden on 4 April 2012 at 08h38 (Fig. 3B), in a steep valley with closed-canopy secondary forest at 450 m asl. Although the photo only captured the dorsum of the animal, it shows characters typical of *M. sibirica*; small carnivore experts A.V. Abramov and J.W. Duckworth were consulted and both concurred with the identification. It is noteworthy this site also yielded a record of *M. kathiah*. On 22 February 2014, the third Hong Kong record was made at the rural Tsung Yuen Ha area (ca. 10 m asl) of northeastern Hong Kong adjoining the Shenzhen border (Fig. 3C). The weasel was photographed at 15h18 swimming in a waterway flowing pass abandoned farmland.

Conclusion

Mustela kathiah is widespread throughout forested landscapes in Guangdong, from coastal lowlands to the northern mountainous region. Regarding its provenance in Hong Kong, since the species has never been recorded in wildlife markets of Guangdong (Webster, 1975; Ades, 1992; Li *et al*., 1996; Fellowes & Hau, 1997; Lau *et al*., 1997, 2010; Lee *et al*., 2004), is not available in the pet trade, and there are no captive breeding operations in China, there is no doubt it is a rare native mammal species for Hong Kong. Our data suggest the southern China population, together with population in adjacent Vietnam, occupy lower altitudinal range in comparison to the rest of its global range, and the ca. 15 m asl record from Huizhou City is the lowest elevation record known for the species.

Mustela sibirica is currently found in northern, southern and eastern Guangdong, as well as Hong Kong, but the origin of the coastal urban populations, all reported post-2010, cannot be determined. *M. sibirica* is usually diurnal, bold and adaptable, and frequently lives close to human habitation, thus is well-known and visible to even casual observers where it occurs (Shaw, 1962; Gao, 1987). However, all historical records were from areas near or north of the Tropic of Cancer. In China, the species has been captive-bred (see Xiao *et al*., 2021), is available in local wildlife markets (Li *et al*., 1996; Lee *et al*., 2004; Lau *et al*., 2010), and has been intentionally released for rodent control in cities (e.g. Yang, 2008; Kelly, 2021). Additionally, most wildlife confiscated from market raids was subsequently released into the nearest forest areas (e.g. Li, 2016). The provenance of *M. sibirica* recently recorded in (peri-)urban area of Hong Kong, Shenzhen, Zhongshan and eastern Guangdong is therefore worthy of further investigation, preferably by DNA

study to trace their origins. It is also noteworthy that our review failed to track down any records from western Guangdong, but the region has received little wildlife survey effort and the species is known from neighbouring Guangxi Province.

China is home to at least eight members of *Mustela* weasel (Wei *et al*., 2021); although our knowledge on their distribution is improving due to increased survey effort (e.g. Miao *et al*., 2020; Zhang *et al*., 2022), much awaits to be clarified and studied, especially their taxonomy and conservation status.

ACKNOWLEDGEMENTS. We are grateful to Zufei Shu, Jincheng Zhong, Canzhong Rong, Ruizheng Yang, Yu Peng, Xiwen Chen, Zhiwei Xie, Yuanjun Huang, Chujun Wen, Chuanting Yu, Chunyang Wang, Jifeng Chen, Yumei Xiao, Meijiao Liu, Kunhua Wu, Xiaotian Wang, J. Martinez, G.K.H. Cheung, V.H. Phan and K.C. Kong for providing information and/or photographs of weasel sightings. We thank our colleagues Xi Zheng and Michelle Wong for assistance with figure preparation, B.C.H. Hau (University of Hong Kong) for kindly arranging logistics for our camera trap survey at Lai Chi Wo, A.V. Abramov, J.W. Duckworth, Xicai Yuan and the anonymous reviewers for providing useful comments and discussions.

References

Abramov A.V., Duckworth J.W., Choudhury A.W., Chutipong W., Timmins R.J., Ghimirey Y.J., Chan B. & Dinets

Fig. 3. Siberian weasel *Mustela sibirica* from Hong Kong. (A) Long Valley, 1 July 2010, photo: K.C. Kong; (B) Kadoorie Farm and Botanic Garden, 4 April 2012, photo: Kadoorie Farm and Botanic Garden; (C) Tsung Yuen Ha, 22 February 2014, photo: V.H. Phan.

V. 2016. *Mustela sibirica.* The IUCN Red List of Threatened Species 2016: e.T41659A45214744. DOI: 10.2305/IUCN.UK.2016-1.RLTS.T41659A45214744.en

Abramov A.V., Duckworth J.W., Wang Y.X. & Roberton S.I. 2008. The stripe-backed weasel *Mustela strigidorsa*: taxonomy, ecology, distribution and status // Mammal Review. Vol.38. No.4. P.247–266. DOI: 10.1111/j.1365-2907.2008.0011

Abramov A.V., Puzachenko A.Y. & Masuda R. 2018. Cranial variation in the Siberian weasel *Mustela sibirica* (Carnivora, Mustelidae) and its possible taxonomic implications // Zoological Studies. Vol.57. P.14. DOI: 10.6620/ZS.2018.57-14.

Ades G. 1992. The Qingping report // Porcupine! Vol.3. P.3.

Ades G., Kendrick R., Haig A., Sun T.K., van Dijk P.P. & Wong C. 2006. Kadoorie Farm & Botanic Garden — wildlife updates & sightings // Porcupine! Vol.34. P.31–35.

Agriculture, Fisheries and Conservation Department. 2022. Hong Kong species: mammals. Available from: https://bih.gov.hk/en/hong-kong-species/mammals/index.html. Accessed 12 July 2024.

Agriculture, Fisheries and Conservation Department. 2014. Status, Trends and Recommendations for Hong Kong Terrestrial Mammals. Available from: https://www.afcd.gov.hk/english/conservation/Con_hkbsap/bsap_links_to_resources/files/Appendix_3_Terrestrial_Mammals_Subgroup_Report_Red_List_FG.pdf. Accessed 12 July 2024.

Allen G.M. 1938. The Mammals of China and Mongolia. New York: The American Museum of Natural History. 620 p.

Anadón J.D., Giménez A., Ballestar R. & Pérez I. 2009. Evaluation of local ecological knowledge as a method for collecting extensive data on animal abundance // Conservation Biology. Vol.23. No.3. P.617–625. DOI: 10.1111/j.1523-1739.2008.01145.x

Chan S., Au J. & Young L. 1992. A new species of mammal for Hong Kong: the Javan mongoose (*Herpestes javanicus*) // Memoirs of the Hong Kong Natural History Society. Vol.19. P.137–138.

Cook D. 1994. Sighting of a yellow-throated marten, *Martes flavigula* (Boddaert) in Hong Kong // Porcupine! Vol.10. P.3.

Deng H., Luo J., Zhu W., Huang Z., Zhang D., Zhang Y. & Luo M. 2021. [Analysis of mammal resources in Shaxi Provincial Nature Reserve of Qujiang, Guangdong Province using infrared camera traps] // Forestry and Environmental Science. Vol.37. No.1. P.57–63 [in Chinese, with English summary].

Dinets V. 2019. Hong Kong, March 29–April 3, 2019. Available from: https://www.mammalwatching.com/wp-content/uploads/VD-Hong-Kong-2019.pdf. Accessed 12 July 2024.

Duckworth J.W., Lee B.P.Y.H., Meijaard E. & Meiri S. 2006. The Malay weasel *Mustela nudipes*: distribution, natural history and a global conservation status review // Small Carnivore Conservation. Vol.34&35. P.2–21.

Fellowes J.R. & Hau C.-H. 1997. A Faunal Survey of Nine Forest Reserves in Tropical South China, with a Review of Conservation Priorities in the Region. Hong Kong: Kadoorie Farm and Botanic Garden. 152 p.

Fellowes J.R., Lau M.W.N., Dudgeon D., Reels G.T., Ades G.W.J., Carey G.J., Chan B.P.L., Kendrick R.C., Lee K.S., Leven M.R., Wilson K.D.P. & Yu Y.T. 2002. Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong // Memoirs of the Hong Kong Natural History Society. Vol.25. P.123–159.

Forestry Administration of Guangdong Province. 2020. [Wild animal breaks into house in Maoming, rescued by the police]. Available from: http://lyj.gd.gov.cn/gkmlpt/content/2/2992/post_2992265.html?jump=false#2441. Accessed 12 July 2024. [in Chinese].

Galbreath G.J., Mordacq J.C., Duckworth J.W. & Lesur J. 2012. Does the goral (*Naemorhedus*) inhabit Laos or Vietnam? // Natural History Bulletin of the Siam Society. Vol.58. P.31–38.

Gao Y. 1987. [Fauna Sinica: Mammalia. Vol.8: Carnivora]. Beijing: Science Press. 377 p. [in Chinese].

Goodyer N. 1992. Notes on the land mammals of Hong Kong // Memoirs of the Hong Kong Natural History Society. Vol.19. P.71–78.

Hau B.C.H., Lo K.W.F. & So K.Y.K. 2018. Living Water and Community Revitalization — An Agricultural-led Action, Engagement and Incubation Programme at Lai Chi Wo: Biodiversity Baseline and Management Plan of Freshwater and Terrestrial Habitats of Lai Chi Wo. Hong Kong: Policy for Sustainability Lab / Faculty of Social Sciences / The University of Hong Kong. 16 p.

Herklots G.A.C. 1958. The Hong Kong Countryside. Hong Kong: South China Morning Post. 175 p.

Hill D.S. & Phillips K. 1981. A Colour Guide to Hong Kong Animals. Hong Kong: Government Printer. 281 p.

Hui M.K.Y. & Chan B.P.L. 2024. Analysis of a 131-year longitudinal dataset of the Eurasian otter *Lutra lutra* in Hong Kong: implications for conservation // Oryx. Vol.58. No.3. P.387–395. DOI: 10.1017/S0030605323001163.

Jiang Y.Z., Deng J.X. & Qin Y.L. 1960. [Survey Report of Animal Resources in Shantou Prefecture, Shaoguan, Guangdong]. Guangzhou: South China Tropic Bioresources Expedition Team, Academia Sinica. 132 p. [in Chinese].

Kadoorie Farm and Botanic Garden. 2004. A Pilot Biodiversity Study of the Eastern Frontier Closed Area and North East New Territories, Hong Kong, June-December 2003. Hong Kong: Kadoorie Farm and Botanic Garden. 78 p.

Kelly N. 2021. Meet the Siberian weasel, China's city rat catcher. Available from: https://www.thatsmags.com/shanghai/post/6627/throwback-thursday-the-siberian-weasel. Accessed 12 July 2024.

Lance V. 1976. The land vertebrates of Hong Kong // Lofts B. (ed.). The Fauna of Hong Kong. Hong Kong: The Hong Kong Branch of the Royal Asiatic Society. P.6–22.

Lau M. 2002. Is the yellow-throated marten in Hong Kong? // Porcupine! Vol.26. P.13.

Lau M.W.N., Ades G., Goodyer N. & Zou F. 1997. Wildlife trade in southern China including Hong Kong and Macao // Xie Y. (ed.). Conserving China's Biodiversity: Reports of the Biodiversity Working Group and China Council for International Cooperation on Environment and Development (1992–1996). Beijing: China Council for International Cooperation on Environment and Development. P.141–159.

Lau M.W.N., Fellowes J.R. & Chan B.P.L. 2010. Carnivores (Mammalia: Carnivora) in South China: a status review with notes on the commercial trade // Mammal Review. Vol.40. No.4. P.247–292. DOI: 10.1111/j.1365-2907.2010.00163.x.

Lee K.S., Lau M.W.N. & Chan B.P.L. 2004. Wild Animal Trade Monitoring at Selected Markets in Guangzhou and Shenzhen, South China, 2000–2003. Hong Kong: Kadoorie Farm and Botanic Garden. 36 p.

Li B., Zhang X., Cao Y., Peng Q., Liu Y. & Han W. 2022. [Diversity and temporal and spatial distribution pattern of

birds and animals under forests in Yinnashan Provincial Nature Reserve, Meixian County, Guangdong Province] // Tropical Forestry. Vol.50. No.4. P.43–49 [in Chinese, with English summary]. DOI: 10.3969/j.issn.1672-0938.2022.04.009.

Li L., Chi H., Wan Y., Zhou J., Zhang L., He X., Huang W., Zhang B., Xu Z., Liu C., Lai R., Zhu X. Li Y., Li J. & Chen J. 2020. [Camera-trapping survey on mammals and birds in the Guangdong Yunkaishan National Nature Reserve] // Biodiversity Science. Vol.28. No.9. P.1154–1159 [in Chinese, with English summary]. DOI: 10.17520/biods.2020103.

Li M. 2016. [How to deal with confiscated wild animals? Lechang Forestry Department: release or euthanise]. Available from: https://static.nfapp.southcn.com/content/201604/20/c71567.html. Accessed 12 July 2024. [in Chinese].

Li W., Fuller T.K. & Wang S. 1996. A survey of wildlife trade in Guangxi and Guangdong, China // Traffic Bulletin. Vol.16. No.1. P.9–16.

Li W., Hu K., Zeng Y., Xu R. & Zhang P. 2019. [Camera trap survey on the diversity of mammals and birds in Shenzhen, Guangdong Province] // Acta Theriologica Sinica. Vol.39. No.5. P.565–574 [in Chinese, with English summary]. DOI: 10.16829/j.slxb.150261.

Liu S. & Wu Y. 2019. [Handbook of the Mammals of China]. Fuzhou: The Straits Publishing & Distribution Group. 520 p. [in Chinese].

Marshall P. 1967. Wild Mammals of Hong Kong. Hong Kong: Oxford University Press. 64 p.

Mell R. 1922. [Contribution to the Fauna of China. I. The Vertebrates of South China; Checklist and Field Notes on Mammals, Birds, Reptiles, Amphibians] // Archiv für Naturgeschichte. Abteilung A. Vol.88. P.1–134 [in German].

Miao X., Ren Y., Li L., Xue M., Wang P., Wang Y., Fan M., Huang X. & Xiao Z. 2020. [First record for northern boundary of yellow-bellied weasel *Mustela kathiah* in the southern Taihangshan Mountains of northern China] // Chinese Journal of Wildlife. Vol.41. No.4. P.1056–1059 [in Chinese, with English summary]. DOI: 10.19711/j.cnki.issn2310-1490.2020.04.030.

Ministry of Ecology and Environment & Chinese Academy of Sciences. 2023. [China's Red List of Biodiversity: Vertebrates. 2020]. Available from: https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202305/W020230522536559098623.pdf. Accessed 12 July 2024. [in Chinese].

Mohd-Azlan J., Belant J.L. & Meijaard E. 2013. Can secondary information inform about population trends of carnivores in Borneo? // Raffles Bulletin of Zoology. Suppl. No.28. P.1–8.

National Animal Collection Resource Center. 2014. [Siberian weasel]. Available from: http://museum.ioz.ac.cn/bbimgxx.aspx?pth=2132CX001100000091. Accessed 12 July 2024. [in Chinese].

Pan Q., Wang Y. & Yan K. 2007. [A Field Guide to the Mammals of China]. Beijing: China Forestry Publishing House. 420 p. [in Chinese].

Pei K.J. 2001. The present status of non-flying terrestrial mammals in Hong Kong SAR // Proceedings of the Workshop on the Status and Conservation of Hong Kong's Wild Animals and Plants. Hong Kong: Wildlife Conservation Foundation. P.130–144.

Pei K.J.C., Lai Y.C., Corlett R.T. & Suen K.Y. 2010. The larger mammal fauna of Hong Kong: species survival in a highly degraded landscape // Zoological Studies. Vol.49. No.2. P.253–264.

Phommachanh C., Ngoprasert D., Steinmetz R., Savini T. & Gale G.A. 2017. Habitat use of the saola *Pseudoryx nghetinhensis* (Mammalia; Bovidae) based on local sightings in the northern Annamite Mountains of Lao PDR // Tropical Conservation Science. Vol.10. P.1940082917713014. DOI: 10.1177/1940082917713014.

Reels G. 1996. Distribution of large mammals in Hong Kong: a summary of sightings made since mid-1992 // Porcupine! Vol.15. P.36–38.

Sampaio R., da Silva M.N.F. & Cohn-Haft M. 2011. Reassessment of the occurrence of the kinkajou (*Potos flavus* Schreber, 1774) and olingo (*Bassaricyon beddardi* Pocock, 1921) in the northern Brazilian Amazon // Studies on Neotropical Fauna Environment. Vol.46. No.2. P.85–90. DOI: 10.1080/01650521.2011.572678.

Shaw T.H. 1962. [Economic Fauna of China: Mammals] // Beijing: Science Press. 554 p. [in Chinese].

Shek C. 2003. Survey of Hong Kong non-flying terrestrial mammals by camera trapping in 2002 // Hong Kong Biodiversity. Vol.5. P.10–11.

Shek C. 2006. A Field Guide to the Terrestrial Mammals of Hong Kong. Hong Kong: Agriculture, Fisheries and Conservation Department / Friends of the Country Parks / Cosmos Books. 403 p.

Shek C., Chan C.S.M. & Wan Y. 2007. Camera trap survey of Hong Kong terrestrial mammals in 2002–06 // Hong Kong Biodiversity. Vol.15. P.1–11.

Sheng H., Ohtaishi N. & Lu H. 1999. The Mammalian of China. Beijing: China Forestry Publishing House. 298 p.

Shih C.M. 1930. A note on a small collection of mammals from Yaoshan, North River, Kwangtong // Bulletin of the Department of Biology, College of Science, Sun Yatsen University. Vol.8. P.1–2.

Smith A.T. & Xie Y. 2008. A Guide to the Mammals of China. Princeton: Princeton University Press. 576 p.

Suen K.Y. 2003. [Missing Faces]. Hong Kong: Kuo Liang Hui New Enterprise. 368 p. [in Chinese].

Supparatvikorn S., Sutasha K., Sirisumpun T., Kunthawong N., Chutipong W. & Duckworth J.W. 2012. Discovery of the yellow-bellied weasel *Mustela kathiah* in Thailand // Natural History Bulletin of the Siam Society. Vol.58. P.19–30.

Wang C., Lin W., Huang Q., Wang J., Peng Q. & Yue C. 2023. [The diversity and distribution characteristics of birds and mammals in Luofu Mountain Provincial Nature Reserve, Guangdong, China] // Natural Protected Areas. Vol.3. No.3. P.110–122 [in Chinese, with English summary]. DOI: 10.12335/2096-8981.2022102602.

Wang Y. 2003. A Complete Checklist of Mammal Species and Subspecies in China: A Taxonomic and Geographic Reference. Beijing: China Forestry Publishing House. 394 p.

Wang Y., Guo Q., Li Y. & Liu Y. 2020. [Diversity and Conservation of Terrestrial Vertebrates in Shenzhen]. Beijing: Science Press. 424 p. [in Chinese].

Webster M.A. 1975. Hong Kong's trade in wildlife // The Hong Kong Bird Report 1974. Hong Kong: The Hong Kong Bird Watching Society. P.54–61.

Wei F., Yang Q., Wu Y., Jiang X., Liu S., Li B., Yang Q., Li M., Zhou J., Li S., Hu Y., Ge D., Li S., Yu W., Chen B., Zhang Z., Zhou C., Wu S., Zhang L., Chen Z., Chen S., Deng H., Jiang T., Zhang L., Shi H., Lu X., Li Q., Liu Z., Cui Y. & Li Y. 2021. Catalogue of mammals in China (2021) // Acta Theriologica Sinica. Vol.41. No.5. P.487–501 [in Chinese, with English summary]. DOI: 10.16829/j.slxb.150595.

Willcox D., Nash H.C., Trageser S., Kim H.J., Hywood L., Connelly E., Ichu Ichu G., Kambale Nyumu J., Mousset Moumbolou C.L., Ingram D.J. & Challender D.W.S. 2019. Evaluating methods for detecting and monitoring pangolin (Pholidata: Manidae) populations // Global Ecology Conservation. Vol.17. P.e00539. DOI: 10.1016/j.gecco.2019.e00539.

Willcox D.H.A., Duckworth J.W., Timmins R.J., Abramov A.V., Choudhury A., Chutipong W., Chan B., Lau M. & Roberton S. 2016. *Mustela kathiah*. The IUCN Red List of Threatened Species 2016: e.T41655A45214014. DOI: 10.2305/IUCN.UK.2016-1.RLTS.T41655A45214014.en.

Xiao X., Newman C., Buesching C.D., Macdonald D.W. & Zhou Z.M. 2021. Animal sales from Wuhan wet markets immediately prior to the COVID-19 pandemic // Scientific Reports. Vol.11. P.11898. DOI: 10.1038/s41598-021-91470-2.

Xiao Z., Chen L., Song X., Shu Z., Xiao R. & Huang X. 2019. [Species inventory and assessment of large-and medium-size mammals and pheasants using camera trapping in the Chebaling National Nature Reserve, Guangdong Province] // Biodiversity Science. Vo.27. No.3. P.237–242 [in Chinese, with English summary]. DOI: 10.17520/biods.2019008.

Xu L., Liu Z., Gao Y., Wang B., Yuan X., Lu J. & Liao W. 1987. [Colour Pictorials of Guangdong Wild Animals]. Guangzhou: Guangdong Science and Technology Press. 139 p. [in Chinese].

Yang J., Li K.W., Yeung H.Y., Zheng X. Giordano A.J. & Chan B.P.L. 2022. [Population density and activity patterns of the leopard cat (Prionailurus bengalensis) in southern China: estimates based on camera-trapping data] // Biodiversity Science. Vol.30. P.21357 [in Chinese, with English summary]. DOI: 10.17520/biods.2021357.

Yang Z. 2008. [Caution on introducing Siberian weasel for rat control]. Available from: http://www.greentimes.com/greentimepaper/html/2008-09/18/content_99325.htm. Accessed 12 July 2024. [in Chinese].

Zhang J., Jiao H., Ji C. & Xiao Z. 2022. [New record of *Mustela kathiah* in the Shanxi Province] // Chinese Journal of Wildlife. Vol.43. No.1. P.231–233 [in Chinese, with English summary].

Zhong J., Xu R., Lin Y., Luo S., Zhong Y., Peng Z. & Huang S. 2022. [Study on the diversity of birds and beasts in Nanwan *Castanopsis hystrix* Provincial Nature Reserve based on camera trapping technology] // Forestry and Environmental Science. Vol.38. No.5. P.97–104 [in Chinese, with English summary].

Zhang L., Guo Q., Liu Q., Liu Q., Hu K., Su Q., Chen Y., Peng X., Wang Y., Wu Y. & Zhang P. 2017. [Species resources and factors affecting mammals in Shenzhen, Guangdong, China] // Acta Theriologica Sinica. Vol.37. No.3. P.256–265 [in Chinese, with English summary]. DOI: 10.16829/j.slxb.201703006.

Zou F. & Ye G. 2016. The Checklist of Terrestrial Vertebrate Distribution in Guangdong. Guangzhou: Guangdong Science and Technology Press. 387 p.

Appendix 1. Records of *Mustela kathiah* and *M. sibirica* in Guangdong Province based on specimens, photographs or videos.

No.	Year	Location	Latitude	Longitude	Source	Altitude (m asl)	Habitat	Remarks
Yellow-bellied weasel *Mustela kathiah*								
	no data	Ruyuan County, Shaoguan City	24.77°N	113.29°E	Liu & Wu (2019)	–	–	
	no data	Mt. Yinpingshan, Dongguan City	22.89°N	114.23°E	Baidu	–	–	
	2024	Conghua District, Guangzhou City	23.54°N	113.59°E	Yuanjun Huang, in litt., 2024	–	forested landscape	
	2024	Mt. Wuqinzhang, Huizhou City	23.36°N	115.15°E	this study	254–410	forested landscape	3 records
	2024	Mt. Xiangtoushan, Huizhou City	23.28°N	114.35°E	this study	240–871	forested landscape	5 records
	2024	Yuanshan Scenic Area, Shenzhen City	22.64°N	114.24°E	this study	162	forested landscape	
	2024	Mt. Wutongshan, Shenzhen City	22.58°N	114.19°E	this study	187	forested landscape	2 records
	2023	Mt. Wuqinzhang, Huizhou City	23.36°N	115.15°E	this study	264–779	forested landscape	16 records
	2023	Sanzhoutian Reservoir, Shenzhen City	22.63°N	114.30°E	this study	390–473	forested landscape	2 records
	2023	Mt. Dabijiashan, Shenzhen City	22.67°N	114.46°E	this study	159	forested landscape	
	2023	Baguang Area, Shenzhen City	22.65°N	114.49°E	this study	251	forested landscape	
	2023	Zijin County, Heyuan City	23.51°N	115.22°E	this study	354–16	forested landscape	4 records
	2023	Zijin County, Heyuan City	23.43°N	115.23°E	this study	359–372	forested landscape	2 records
	2023	Mt. Xiangtoushan, Huizhou City	23.28°N	114.35°E	this study	35–44	forested landscape	6 records
	2023	Kuichong Town, Shenzhen City	22.64°N	114.44°E	this study	61	forested landscape	
	2023	Luofushan Provincial Nature Reserve, Huizhou City	23.3°N	114°01'E	Wang *et al*. (2023)	–	forested landscape	21 records
	2023	Mt. Fenghuangshan, Chaozhou City	23.96°N	116.64°E	this study	–	forested landscape	
	2022	Dongguan City	–	–	WeChat	–	–	
	2022	Mt. Wuqinzhang, Huizhou City	23.36°N	115.15°E	this study	566	forested landscape	
	2022	Zijin County, Heyuan City	23.43°N	115.23°E	this study	354	forested landscape	
	2022	Mt. Xiangtoushan, Huizhou City	23.28°N	114.35°E	this study	33–868	forested landscape	9 records
	2022	Mt. Wutongshan, Shenzhen City	22.58°N	114.19°E	this study	258	forested landscape	
	2022	Danxiashan National Nature Reserve, Shaoguan City	25.02°N	113.71°E	WeChat	–	forested landscape	
	2022	Mt. Nankunshan, Huizhou City	23.62°N	113.89°E	Yu Peng, in litt., 2023	ca. 560	forested landscape	
	2022	Conghua District, Guangzhou City	23.8°N	114.0°E	Xiwen Chen, in litt., 2023	ca. 410	forested landscape	
	2022	Yinnashan Provincial Nature Reserve, Meizhou City	24.4°N	116.4°E	Li *et al*. (2022)	–	forested landscape	19 records
	2022	Nanwan *Castanopsis hystrix* Provincial Nature Reserve, Shanwei City	23.35°N	115.54°E	Zhong *et al*. (2022); Jincheng Zhong, in litt., 2023	384–710	forested landscape	6 records

Appendix 1 (*continued*)

No.	Year	Location	Latitude	Longitude	Source	Altitude (m asl)	Habitat	Remarks
	2021	Fenghuanshan Provincial Nature Reserve, Chaozhou City	23.9°N	116.6°E	Baidu	–	forested landscape	2 records
	2021	Tieshan Dutianhe Provincial Nature Reserve, Meizhou City	24.55°N	115.51°E	Baidu	–	forested landscape	
	2021	Longchuan County, Heyuan City	24.35°N	115.38°E	Baidu	433	forested landscape	
	2021	Songyuan Town, Meizhou City	24.74°N	116.38°E	WeChat	–	peri-urban area	
	2021	Xiangtoushan National Nature Reserve, Huizhou City	23.28°N	114.35°E	Weibo	–	forested landscape	
	2021	Qimuzhang Provincial Nature Reserve, Meizhou City	23.8°N	115.4°E	Baidu	–	forested landscape	
	2021	Guanyinshan Provincial Nature Reserve, Qingyuan City	23.97°N	113.56°E	WeChat	–	forested landscape	
	2021	Changtan Provincial Nature Reserve, Meizhou City	24.71°N	116.12°E	Baidu	–	forested landscape	
	2021	Dinghushan National Nature Reserve, Zhaoqing City	23.17°N	112.54°E	Baidu	–	forested landscape	
	2021	Shaxi Provincial Nature Reserve, Shaoguan City	24.63°N	113.70°E	Deng *et al*. (2021)	–	forested landscape	
	2021	Fenghuang Town, Chaozhou City	23.99°N	116.65°E	this study	ca. 855	forested landscape	
	2020	Longwen-Huangtian Provincial Nature Reserve, Meizhou City	24.71°N	115.88°E	Baidu	–	forested landscape	
	2020	Sanzhen Town, Meizhou City	24.65°N	116.07°E	WeChat	ca. 260	peri-urban area	
	2020	Yunkaishan National Nature Reserve, Maoming/Yangjiang City	22.31°N	111.37°E	Li *et al*. (2020)	–	forested landscape	24 records
	2020	Fenghuang Reservoir, Chaozhou City	23.89°N	116.65°E	this study	ca. 590	forested landscape	3 records
	2020	Mt. Nankunshan, Huizhou City	23.62°N	113.89°E	Yu Peng, in litt., 2023	ca. 660	forested landscape	
	2019	Qingxi Forest Park, Dongguan City	22.88°N	114.16°E	iNaturalist	102	forested landscape	
	2019	Mt. Fenghuangshan, Chaozhou City	23.96°N	116.64°E	this study	ca. 1340	forested landscape	highest elevation record
	2018	Huizhou City	–	–	WeChat	–	-	
	2018	Dabu County, Meizhou City	24.36°N	116.69°E	WeChat	–	urban area	
	2018	Nandanshan Park, Foshan City	23.52°N	112.88°E	Baidu	–	forested landscape	
	2017	Chebaling National Nature Reserve, Shaoguan City	24.72°N	114.17°E	Xiao *et al*. (2019)	–	forested landscape	
	2017	Gaozhou County-level City, Maoming City	21.92°N	110.85°E	WeChat	–	peri-urban area	
	2017	Huicheng District, Huizhou City	23.07°N	114.40°E	Baidu	ca. 15	urban area	lowest elevation record
	2016	Jiaoling County, Meizhou City	24.66°N	116.17°E	Baidu	–	–	
	2016	Baisuishan Park, Meizhou City	24.32°N	116.14°E	Baidu	–	peri-urban area	
	2015	Jiaoling County, Meizhou City	24.66°N	116.17°E	Baidu	–	peri-urban area	
	2014–2015	Mt. Qiniangshan, Shenzhen City	22.63°N	114.54°E	Wang *et al*. (2020)	–	forested landscape	

Appendix 1 (*continued*)

No.	Year	Location	Latitude	Longitude	Source	Altitude (m asl)	Habitat	Remarks
	2014–2015	Mt. Paiyashan, Shenzhen City	22.54°N	114.56°E	Wang *et al*. (2020)	–	forested landscape	
	2014	Mt. Qiniangshan, Shenzhen City	22.63°N	114.54°E	Li *et al*. (2019)	–	forested landscape	12 records
	2014	Jiaoling County, Meizhou City	24.66°N	116.17°E	Baidu	–	peri-urban area	
	2013	Heyuan City	–	–	Baidu	–	peri-urban area	
	2013	Xichong Area, Shenzhen City	22.47°N	114.51°E	J. Martinez, in litt., 2023	ca. 30	forested landscape	
	2009	Nanling National Forest Park, Shaoguan City	24.94°N	113.04°E	Zhiwei Xie, in litt., 2023	–	forested landscape	
	1987	Shaoguan City	–	–	Gao (1987)	–	–	specimen
	1984	Longmen County, Huizhou City	23.73°N	114.25°E	National Specimen Information Infrastructure; National Animal Collection Resource Center	–	–	specimen
	1983	Shixing County, Shaoguan City	24.97°N	114.03°E	National Specimen Information Infrastructure; National Animal Collection Resource Center	–	–	specimen
	1960	Mt. Dadongshan, Lianyang County (nowadays Lianzhou County), Qingyuan City	24.82°N	112.65°E	Jiang *et al*. (1960)	>500	–	specimen
	1959	Lianping County, Heyuan City	24.36°N	114.50°E	National Specimen Information Infrastructure; National Animal Collection Resource Center	–	–	2 specimens
	1930	Mt. Dayaoshan, Shaoguan City	24.97°N	113.30°E	Shih (1930)	487–914	forested landscape	specimen
	1921	Ruyuan County, Shaoguan City	24.77°N	113.29°E	Mell (1922)	400–900	forested landscape	specimen
Siberian Weasel *Mustela sibirica*								
	no data	Haojiang District, Shantou City	23.27°N	116.74°E	this study	ca. 0	peri-urban area	
	no data	Chenghai District, Shantou City	23.48°N	116.76°E	this study	ca. 5	urban area	
	no data	Jiangdong Town, Chaozhou City	23.55°N	116.70°E	this study	ca. 10	forest edge	
	2024	Mt. Xiangtoushan, Huizhou City	23.28°N	114.35°E	this study	240	forested landscape	
	2024	Jinping District, Shantou City	23.36°N	116.69°E	WeChat	ca. 5	urban area	
	2024	Baguang Area, Shenzhen City	22.65°N	114.49°E	Ruizheng Yang, in litt., 2024	–	forest edge	
	2023	Mt. Lianhuashan, Huizhou and Shanwei cities	23.05°N	115.23°E	this study	–	forested landscape	
	2023	Mt. Dabijiashan, Shenzhen City	22.67°N	114.46°E	this study	159	forested landscape	
	2023	Guangming Fun Farm, Shenzhen City	22.78°N	113.96°E	this study	ca. 20	forest edge	
	2023	West Lake Park, Chaozhou City	23.674°N	116.637°E	this study	–	urban forest	

Appendix 1 (*end*)

No.	Year	Location	Latitude	Longitude	Source	Altitude (m asl)	Habitat	Remarks
	2022	Mt. Wuqingzhang, Huizhou City	23.36°N	115.15°E	this study	ca. 815	forested landscape	
	2022	Zijin County, Heyuan City	23.51°N	115.22°E	this study	ca. 490	forested landscape	
	2022	Chebaling National Nature Reserve, Shaoguan City	24.72°N	114.17°E	Zufei Shu, in litt., 2023	748	forested landscape	
	2022	Taiping Town, Shixing City	24.97°N	114.03°E	WeChat	–	forest edge	
	2022	Chaoyang District, Shantou City	23.26°N	116.60°E	iNaturalist	–	urban area	
	2022	Jinping District, Shantou City	23.36°N	116.69°E	Baidu	ca. 0	urban area	
	2022	Guangming Fun Farm, Shenzhen City	22.78°N	113.96°E	this study	ca. 20	forest edge	
	2021	Wuhua County, Meizhou City	23.60°N	115.72°E	this study	343	forested landscape	
	2021	Meitang Town, Puning City	23.34°N	116.06°E	WeChat	ca. 25	forest edge	
	2020	Rongchen District, Jieyang City	23.54°N	116.35°E	iNaturalist	–	urban area	
	2019	Gongpin Town, Shanwei City	23.03°N	115.38°E	WeChat	ca. 10	peri-urban area	
	2019	Chaozhou City	–	–	WeChat	–	–	
	2019	Chaozhou City	–	–	Baidu	–	urban area	
	2018	Haimen Town, Shantou City	23.19°N	116.61°E	WeChat	ca. 0	urban area	
	2018	Longtian Town, Shantou City	23.2°N	116.5°E	WeChat	ca. 5	peri-urban area	
	2018	Liushanan District, Puning City	23.29°N	116.18°E	WeChat	ca. 15	urban area	
	2018	Jinping District, Shantou City	23.36°N	116.69°E	Baidu	ca. 0	urban area	
	2017	Fengshun County, Meizhou City	23.72°N	116.09°E	WeChat	ca. 30	forest edge	
	2017	Jinping District, Shantou City	23.36°N	116.69°E	Baidu	ca. 0	urban area	
	2017	Gangkou Town, Zhongshan City	22.59°N	113.39°E	WeChat	ca. 0	urban area	
	2017	Chebaling National Nature Reserve, Shaoguan City	24.72°N	114.17°E	Xiao *et al*. (2019)	–	forested landscape	
	2016	Fengshun Park, Meizhou City	23.74°N	116.17°E	WeChat	ca. 45	forest edge	
	2016	Gurao Town, Shantou City	23.37°N	116.42°E	WeChat	ca. 15	peri-urban area	
	2016	Meizhou City	–	–	Baidu	–	–	
	2015	Fengshun County, Meizhou City	–	–	Baidu	–	peri-urban area	
	2015	Dongli Town, Shantou City	23.56°N	116.80°E	WeChat	ca. 5	urban forest edge	
	2014	Buzhai Town, Meizhou City	23.65°N	116.15°E	Baidu	-	peri-urban area	
	2012	Rongcheng District, Jieyang City	23.54°N	116.35°E	Baidu	ca. 5	urban area	
	1960	Lianyang County (nowadays Lianzhou and Yangshan County), Qingyuan City	24.80°N	112.38°E	Jiang *et al*. (1960)	–	–	specimen
	1960	Lianping County, Heyuan City	24.36°N	114.50°E	Jiang *et al*. (1960)	–	–	specimen
	1921	Ruyuan County, Shaoguan City	24.77°N	113.29°E	Mell (1922)	400	–	specimen
	1921	Tsä-pei (nowadays Chebei), Guangzhou City	23.13°N	113.39°E	Mell (1922)	ca. 5	open country	3 specimens

Appendix 2. Records of *Mustela kathiah* and *M. sibirica* in Hong Kong based on photographs or videos

.

No.	Year	Location	Latitude	Longitude	Source	Altitude (m asl)	Habitat	Remarks
Yellow-bellied weasel *Mustela kathiah*								
	2001–2003	Plover Cove Country Park	22.49°N	114.26°E	Pei (2001); Suen (2003); Pei *et al*. (2010)	–	forested landscape	18 records
		Pat Sin Leng Country Park	22.50°N	114.18°E				
	2002–2006	Lin Ma Hang	22.55°N	114.18°E	Shek (2006); Shek *et al*. (2007)	–	forested landscape	22 records
		Sha Tau Kok	22.52°N	114.19°E				
		Cloudy Hill	22.48°N	114.17°E				
		Plover Cove	22.49°N	114.26°E				
		Ma On Shan Country Park	22.40°N	114.27°E				
		Hok Tau	22.50°N	114.18°E				
		Tam Shui Hang	22.55°N	114.22°E				
		Wu Kau Tang	22.51°N	114.25°E				
		So Lo Pun	22.53°N	114.25°E				
	2004	So Lo Pun	22.53°N	114.25°E	Kadoorie Farm and Botanic Garden (2004)	–	forested landscape	
	2006	Kadoorie Farm and Botanic Garden	22.43°N	114.12°E	Ades *et al*. (2006)	–	forested landscape	
	2020	Lai Chi Wo	22.52°N	114.26°E	this study	35	forested landscape	
Siberian Weasel *Mustela sibirica*								
	2010	Long Valley	22.50°N	114.11°E	K.C. Kong, in litt., 2021	ca. 2	peri-urban area	
	2012	Kadoorie Farm and Botanic Garden	22.43°N	114.12°E	this study	450	forested landscape	
	2014	Tsung Yuen Ha	22.55°N	114.16°E	V.H. Phan, in litt., 2022	ca. 10	peri-urban area	