

Records of climbing by Asian Badger *Meles leucurus* in the Republic of Korea

Joshua ELVES-POWELL, Chad R. DOBSON, Jan C. AXMACHER & Sarah M. DURANT

Abstract

This note describes several records of climbing behaviour by Asian Badger *Meles leucurus*, both wild and captive animals, in the Republic of Korea (South Korea). The Asian Badger is one of the less well-known members of the family Mustelidae, and this note adds to the limited knowledge of the species's behaviour and potential ability to access alternative food resources.

Keywords: camera-trap records, *Meles meles*, Mustelidae, scansoriality, South Korea, tree-climbing

The behaviour, activity and foraging habits of the elusive, nocturnal Asian Badger *Meles leucurus*, once classified as a single species with the better studied European Badger *Meles meles*, are poorly understood (Jo et al. 2018). Knowledge of the Asian Badger on the Korean Peninsula is particularly poor (Proulx et al. 2016). However, there is growing scientific interest in the species in the Republic of Korea (henceforth, South Korea). This has been reflected in several recent studies, which have increased our limited knowledge of the distribution and density of the Asian Badger in South Korea (e.g. Bae et al. 2021) and highlighted potential threats to the species in this portion of its range (Elves-Powell et al. 2023).

This short note describes several records of climbing behaviour by Asian Badger in South Korea. The first record involves a captive animal in Cheongju Zoo in Chungcheongbuk-do, North Chungcheong Province, while the second involves at least one wild individual climbing a tree in the mountains of Gyeongsangnam-do, South Gyeongsang Province. To the best of our knowledge, these are the first published records of such behaviour by Asian Badger anywhere.

In the first example, a captive Asian Badger in Cheongju Zoo climbs rapidly across the inner side of the metal mesh fence of its enclosure (Fig. 1, [Supplementary Video A](#)). The animal is a young (suspected 1–2 years old) female Asian Badger, kept on its own. The animal concerned arrived at Cheongju Zoo as a cub from Chungnam Wildlife Rescue, part of Kongju National University. Staff at Chungnam Wildlife Rescue confirmed that the animal had also climbed within its enclosure at that centre.

In [Supplementary Video A](#), the climbing animal rapidly moves horizontally across the mesh of the enclosure at Cheongju Zoo, spends some time balanced on a horizontal wooden beam in an upright position and moves vertically up and down the wire mesh, using its claws to hang from the wire. Correspondence with the veterinary team at Cheongju Zoo confirmed that zookeepers noticed climbing by this individual when it entered a quarantine enclosure, and that the behaviour had continued almost daily, even after the individual was moved into a larger enclosure. Veterinarians at the zoo reported that the climbing behaviour seemed to be triggered by the presence of people, with the animal appearing to try to get close to people outside the enclosure. The behaviour is clearly not universal in captive Asian Badger; a previous Asian Badger at Cheongju Zoo, which had been hand-reared and was described by zookeepers as affectionate towards people, was never observed climbing on the enclosure fences in the approximately 18 months that it was at the zoo.

The second example came to light when one of the authors (CRD) deployed a camera-trap opportunistically in the mountains of Gyeongsangnam-do, in an area where Asian Badger and a range of other small carnivores were known to occur. The camera-trap was deployed to investigate the local diversity of arboreal species. A small amount of peanut butter was deposited on the trunk of a Korean Oak *Quercus dentata* at a height of 1 m above ground level. The camera-trap was positioned to capture a clear view of the trunk of the tree from its base up to a height of 2.5 m. The bait was deployed only once, at the start of recording.

Footage of a climbing Asian Badger was captured on six separate occasions between 17h18 on 15 May 2022 and 18h13 on 6 June 2022 (Korea Standard Time). It is not clear whether the Asian Badger in each observation is the same animal or not. In the footage, an Asian Badger enters the frame and begins to climb the tree trunk, appearing to use its claws to grip the trunk. In one recording on 17 May 2022, the animal climbs to the height of the bait, which it proceeds to eat. In a second recording on 18 May 2022 (Fig. 2, [Supplementary Video B](#)), the animal continues to climb up the tree trunk, beyond the bait, until it moves out of the camera's field of view. Climbing behaviour was recorded over a period of 22 days, long after the bait was consumed.

Badgers are fossorial (digging) specialised mustelids, unlike the scansorial (climbing) specialised members of this diverse Carnivoran family (Kilbourne 2017). However, while it is not considered typical behaviour for the species, European Badger have been reported to climb on trees, stone walls, bird tables (Neal & Cheeseman 1996) and into a cattle trough, up to a height of 115 cm, to feed from it (Garnett et al. 2003). By contrast, the Honey Badger *Mellivora capensis* is a well-known climber and is capable of raiding bird and bee nests (Marlow 1983, Begg et al. 2003). Although Asian Badger have not been previously documented climbing in the scientific literature, staff at Chungnam Wildlife Rescue noted that Asian Badgers at the centre have occasionally climbed on their wire mesh enclosures (S. Hong, pers. comm. 2023).

The Asian Badger is known to be a solitary forager and highly opportunistic in its dietary flexibility (Jo et al. 2018). As the records in this note demonstrate, the Asian Badger is also clearly capable of climbing, but at this stage it is not clear whether this behaviour regularly forms a part of the animal's foraging strategy, for example, to access invertebrates or raid bird nests. Further investigation would help to clarify the frequency and purpose of this behaviour.

South Korea has a diverse range of small carnivores, many of which have been the subject of limited research (Jo et al. 2018). The records presented add to the limited knowledge of the behaviour of one of those species, the Asian Badger, specifically its ability to climb in both natural and artificial environments.

Acknowledgements

The authors thank Sunghyun Hong (Cheongju Zoo veterinary team) for his assistance with the record of a captive Asian Badger presented here. They would also like to thank Rosie Woodroffe (Institute of Zoology, Zoological Society of London) for her advice. Will Duckworth provided helpful comments that improved the quality of this note. Joshua Elves-Powell was funded by the Natural Environment Research Council (grant number NE/S007229/1) and supported by Research England.

References

- Bae, H-K, Lee, J-K, Eom, T.-K., Lee, D-H. & Rhim, S.-J. 2021. Ecological factors influencing the selection of sett location by the Asian Badger *Meles leucurus*. *Wildlife Biology*, 4: 00910. <https://doi.org/10.2981/wlb.00910>
- Begg, C. M., Begg, K. S., Du Toit, J. T. & Mills, M. G. L. 2003. Sexual and seasonal variation in the diet and foraging behaviour of a sexually dimorphic carnivore, the Honey Badger (*Mellivora capensis*). *Journal of Zoology*, 260: 301–316. <https://doi.org/10.1017/S0952836903003789>
- Elves-Powell, J., Neo, X., Park, S., Woodroffe, R., Lee, H., Axmacher, J. A. & Durant, S. M. 2023. A preliminary assessment of the wildlife trade in badgers (*Meles leucurus* and *Arctonyx* spp.) (Carnivora: Mustelidae) in South Korea. *Journal of Asia-Pacific Biodiversity*, 16: 204–214. <https://doi.org/10.1016/j.japb.2023.03.004>
- Garnett, B. T., Roper, T. J. & Delahay, R. J. 2003. Use of cattle troughs by Badgers (*Meles meles*): a potential route for the transmission of bovine tuberculosis (*Mycobacterium bovis*) to Cattle. *Applied Animal Behaviour Science*, 80: 1–8. [https://doi.org/10.1016/S0168-1591\(02\)00204-6](https://doi.org/10.1016/S0168-1591(02)00204-6)
- Jo, Y., Baccus, J. T. & Koprowski, J. 2018. *Mammals of Korea*. Incheon, Republic of Korea: National Institute of Biological Resources.
- Kilbourne, B. M. 2017. Selective regimes and functional anatomy in the mustelid forelimb: diversification toward specializations for climbing, digging, and swimming. *Ecology and Evolution*, 7: 8852–8863. <https://doi.org/10.1002/ece3.3407>
- Marlow, B. J. 1983. Predation by the Ratel *Mellivora capensis* on chicks of the White-backed Vulture *Gyps africanus*. *South African Journal of Wildlife Research*, 1: 24.
- Neal, E. & Cheeseman, C. L. 1996. *Badgers*. London, UK: T. and A.D. Poyser.
- Proulx, G., Abramov, A. V., Adams, I., Jennings, A. P., Khorozyan, I., Rosalino, L. M., Santos-Reis, M., Veron, G. & Do Linh San, E. 2016. World distribution and status of Badgers – a review. Pp. 31–116 in Proulx, G. & Do Linh San, E. (eds) *Badgers: systematics, biology, conservation and research techniques*. Alberta, Canada: Alpha Wildlife Publications.



Fig. 1. A captive Asian Badger *Meles leucurus* in Cheongju Zoo climbing along the metal mesh fence of its enclosure, on 6 October 2022. The sign describes the animal as *Meles meles*, which refers to the previous classification of the Asian Badger in South Korea. (Photo: Joshua Elves-Powell.)



Fig. 2. A still from camera-trap footage of a wild Asian Badger *Meles leucurus* climbing a Korean Oak *Quercus dentata* in Gyeongsangnam-do, South Korea, on 18 May 2022. (Photo: Chad R. Dobson.)