# Ecologists warn of Japanese badger cull 'crisis'

Population crash feared amid a fad for badger meat.

**Tim Hornyak** 

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The Japanese badger (Meles anakuma).

On Japan's Kyushu Island, farmers regularly trap and spear local badgers, which are regarded as pests. But ecologists say the practice is getting out of hand. In Kyushu's Kagoshima Prefecture, they note, killings spiked from a few hundred to more than 4,000 last year — and that might lead to a population crash. "If the cull continues at this pace, there's a possibility the Japanese badger could become extinct," says Yayoi Kaneko, an ecologist at Tokyo University of Agriculture and Technology.

A culinary fad for badger meat in Japan's restaurants is also taking off, although it's unclear if that is driving the culls, or is a response to the ready supply. Japan's government should intervene in the cull and take scientific advice on whether it is sustainable, the scientists say.

## **Ecological crisis**

Kaneko and two other ecologists, Christina Buesching and Chris Newman at the University of Oxford, UK, first raised their concerns in a correspondence published in *Nature* on 13 April <sup>1</sup>. They warned that the rise in killings could lead to an "ecological crisis" unfolding, and say that the cull is being carried out "without scientific advice or strategic planning".

The Japanese badger (*Meles anakuma*) is endemic to Japan. It is smaller than its European counterpart and has less-distinct facial stripes. Confusingly, Kaneko notes, the Japanese word used to describe the badger — *anaguma*, or 'hole bear' — can also be used for two other species that are regularly trapped by farmers: raccoon dogs (celebrated as trickster animals in

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Japanese folk tales) and raccoons, an invasive species in Japan.

Local governments are increasingly promoting the hunting of pests in efforts to mitigate crop damage, and it seems that badgers are being heavily affected by the culls, Kaneko says. Kagoshima government officials say the prefecture does not track badger populations, but confirmed that 4,354 badgers were culled in the 12 months to March 2016, up 70% on the preceding year, and an order of magnitude more than in previous years.

"This unique population should be monitored and regulated under scientific control," says Alexei Abramov, a researcher at the Russian Academy of Sciences in St Petersburg, who — together with Kaneko — is an assessor of the Japanese badger's status on the Red List maintained by the International Union for Conservation of Nature (IUCN). The badger is not currently listed as endangered by the IUCN, but Kaneko says that may soon change on the basis of her estimates of the species' population density, which show that up to 70% of badgers in Kagoshima have been culled in the past few years.

#### Licence to kill

Whether the cull is illegal — as Kaneko also asserts — is unclear. The government of Kagoshima Prefecture says the cull is being carried out in accordance with a national environment ministry law that allows pests, including Japanese badgers, to be hunted under licence. It adds that it is compiling badger data from reports by hunters and others who have permission to trap the animals. But Kaneko argues that because the culling is excessive, it does not comply with details prescribed by the environment ministry.

A spokesman for Japan's environment ministry who did not want to be named confirmed that culls of the Japanese badger are permitted — but said that the ministry wasn't aware of detailed information concerning recent operations on Kyushu Island.

Guillem Molina-Vacas, a biologist associated with the University of Barcelona in Spain, also thinks the badger's IUCN classification will soon change if the culling campaigns aren't regulated. An instance from Japan's history doesn't inspire confidence, he notes: in the nineteenth century, Japanese farmers were permitted to use the poison strychnine to kill a subspecies of grey wolf, known as the Hokkaido or Ezo wolf; it is now extinct. "That example should not be repeated," Molina-Vacas says.

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## References

1. Kaneko, Y., Buesching, C. D. & Newman, C. *Nature* **544**, 161 (2017).