

# Fasting for Lent forces hyenas to change diet

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Many Christians give up certain foods for Lent, however ecologists have discovered these changes in human diet have a dramatic impact on the diet of wild animals. In Ethiopia, members of the Orthodox Tewahedo Church stop eating meat and dairy products during a 55-day fast before Easter. As a result, spotted hyenas too change their eating habits – from scavenging waste from butchers and households to hunting – new research in the British Ecological Society's *Journal of Animal Ecology* has found.

Spotted [hyenas](#) are supremely adaptable mammals, capable both of adapting to habitats with dense human populations and to eating whatever food is available. While they are efficient hunters, they are also opportunistic scavengers, eating everything from birds, mammals, fish and reptiles to garbage, cooked porridge and dung. And they have digestive systems to match, says Gidey Yirga from Mekelle University.

"Hyenas can [eat](#) almost any organic matter, even putrid carrion and anthrax-infected carcasses. They are capable of eating and digesting all parts of their prey except hair and hooves. Bones are digested so completely that only the inorganic components are excreted in the hyena's droppings," he explains.

Working at three sites around Mekelle in northern Ethiopia, Yirga collected all hyena droppings from each 1 hectare site on three occasions on the first and last days of the 55-day Abye Tsome (Lent) fast, and then again 55 days after the fast ended – a total of 553 droppings.

To find out what the hyenas had been eating before, during and after Lent, he compared hairs found in the hyenas' droppings with a reference collection of hair from other animals found in the region.

The results showed that when humans stop buying, eating and discarding animal products the hyenas' [eating habits](#) change significantly: before Lent, 14.8% of hyena droppings contained donkey hairs, during [Lent](#) this increased to 33.1%, falling again to 22.2% once the fast was over.

According to Yirga: "Our study shows a remarkable change in the hyenas' diet – we found that hyenas around Mekelle mainly scavenge waste from butchers and households but during fasting donkeys provided an alternative food source."

By providing this unique insight into the effect of changes in human diet on local hyenas, the results illustrate that hyenas are highly adaptable and opportunistic scavengers and hunters. They also have implications for those managing the conflict that can arise when large carnivores use anthropogenic food sources.

"Understanding details of the foraging behaviour of carnivores in an anthropogenic environment can help reveal specific causes of conflict, leading to better strategies for reducing availability of anthropogenic food and preventing conflict," Yirga concludes.

**More information:** Gidey Yirga et al (2012). 'Adaptability of large carnivores to changing anthropogenic food sources: diet change of spotted hyena (*Crocuta crocuta*) during Christian fasting period in northern Ethiopia', [doi: 10.1111/j.1365-2656.2012.01977.x](https://doi.org/10.1111/j.1365-2656.2012.01977.x) , is published in the *Journal of Animal Ecology* on Thursday 5 April 2012.

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