



## ANIMAL BIOLOGY

# Nine lives

A biologist explores the cat's origins, evolution, and complicated history with humans

By Greger Larson

I recently received campaign flyers from two local candidates for office. Both featured smiling, balding, middle-aged men wearing sweaters over button-down shirts. Both men cradled cats. In an effort to convince residents of their suitability for public office, these men did not choose to be photographed with children or dogs or spouses. They chose cats.

Of all the animals with whom we have formed domestic relationships, how is it that the cat has become so globally ubiquitous and popular? Evolutionary biologist Jonathan Losos's book *The Cat's Meow* has answers. Across 20 chapters, Losos explores every aspect of cats with charm and breathless enthusiasm, from their origins, history, and behavior to humans' penchant for molding new breeds using rare morphological traits.

Instead of expressing exasperation or frustration at how little is known about cats, Losos sees opportunity and in more than a dozen specific instances suggests how filling a particular knowledge gap would be an excellent research project. Do adult cats of other species "knead" as house cats do? What are the behavioral and anatomical differences between North and South African wildcats? To what degree has human preference been a factor in promoting the appearance and spread of noncamouflage coat colors? How much longer do indoor cats live relative to those who spend most of their time outside? His many questions have the makings of at least five PhD dissertations and two master's projects.

While there is much still to learn, research over the past two decades has established a few facts. Although house cats can and do produce fertile offspring with a range of similarly sized wildcat species distributed across Eurasia and Africa, our domestic versions are derived from just one primary ancestor: the North African wildcat. The first cat found in an archaeological context was discovered alongside a woman in a burial on the island of Cyprus dated to 9500 years ago. Whether this cat would be recognized as a domestic cat from a modern

perspective is uncertain, but this site demonstrates that the affinity between people and cats dates back millennia.

Ancient Egyptians had a particular fondness for cats. Losos details how the creatures were absent from Egyptian iconography until ~4000 years ago, when they became regular features on temple walls. By 3000 years ago, hundreds of thousands of people made annual pilgrimages to pay homage to the Egyptian goddess Bastet, and they did so by purchasing and placing a mummified cat in a temple. To meet the demand, huge catteries bred millions of cats that were sacrificed as juveniles on an in-



A pair of Egyptian Maus sit on either side of a statue of the ancient Egyptian goddess Bastet.

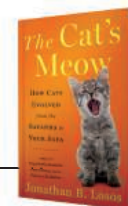
dustrial scale and mummified.

Losos packs in scores of other cat stories and observations that never cease to fascinate. For the most part, he does so with careful yet accessible science that avoids overly simplistic conclusions. On two topics, however, he accepts conventional wisdom when a more incisive approach would have been welcome.

Despite frequently discussing the substantial variability of individual cats gleaned from both scientific studies and anecdotal stories, Losos never questions the assumption that behavior can be predicted by a cat's breed. A recent study of more than 15,000 dogs, however, showed that breed designation does not predict individual be-

**The Cat's Meow:  
How Cats Evolved From  
the Savanna to Your Sofa**

Jonathan B. Losos  
Viking, 2023. 400 pp.



havior, and cats are likely no different (1).

Losos admirably presents a carefully worded deconstruction of the biological species concept and its lack of relevance when applied to domestic animals. A similar discussion of the terms "fully domesticated" or "semidomesticated"—both of which are arbitrary and effectively meaningless—would also have been welcome. Never mind that, unlike other domesticates, cats often sleep on people's heads, Losos concludes that because domestic cats have not been as "greatly transformed" as other animals, they are rightly placed in the "semidomesticated" camp. But these are minor quibbles.

Cats are amazing. They fascinate and bewilder us. They enhance our lives, and they murder wildlife. Since forming a tight-knit relationship with us, they have altered their cries and purrs to more effectively manipulate us. Feral cats in Australia can sense the locations of wildfires and travel miles to hunt on the now open landscape. There are hundreds of emerging cat stories detailed here that will only heighten the reader's amazement. And Losos has done cats at least as proud as we imagine they pride themselves. ■

#### REFERENCES AND NOTES

1. K. Morrill *et al.*, *Science* **376**, eabk0639 (2022).

10.1126/science.adi1153

The reviewer is at the Palaeogenomics and Bio-Archaeology Research Network, School of Archaeology, University of Oxford, Oxford OX1 3TG, UK. Email: greger.larson@arch.ox.ac.uk



## Nine lives

Greger Larson

*Science*, **380** (6650), .

DOI: 10.1126/science.adi1153

### View the article online

<https://www.science.org/doi/10.1126/science.adi1153>

### Permissions

<https://www.science.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of service](#)

---

*Science* (ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.  
Copyright © 2023 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works