

Urban Animals Work Hard to Adapt and We Must Be Kind to Them

By Marc Bekoff, Psychology Today/Animal Emotions

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Research shows 93% of behaviors are different from those of non-urban animals.

"Our results clearly demonstrate that mammals are responding to the urban environment by changing their behavior. Much less clear is what these changes mean in terms of urban mammalian diversity, survivability, management, and conservation." —Kate Ritzel and Travis Gallo

"That the universe is a communion of subjects rather than a collection of objects is the central commitment of the [Ecozoic](#). Existence itself is derived from and sustained by this [intimacy](#) of each being with every other being of the universe." —[Thomas Berry: Reflecting on Emotions, Heart and Conservation](#)

Street-smart animals show fascinating adaptations for living in human environs

I've long been interested in [how nonhuman animals \(animals\) who wind up in human environs change their behavior](#) when compared with wild members of the same species (conspecifics). It's also known that their [skulls change](#) when they become urbanized. A recent video about urban raccoons called [Are we making raccoons smarter?](#) supports some of what I write here about how animals adapt to our presence.

An increasing number and diversity of animals "are coming home" during a period called "the [Anthropause](#)," and our new neighbors are likely to be around for a long time. I just learned of a very interesting new study by Kate Ritzel and Travis Gallo called [Behavior Change in Urban Mammals: A Systematic Review](#) in which these researchers documented significant changes in the behavior of different mammals living in urban environs. The essay is available for free online and their data are useful for learning how these animals adapt to our presence and can be used to work for coexistence with these fascinating beings who have been displaced by our insatiable drive to trespass into any available space, including their rightful homes. [They aren't mere transients or renters and should be granted the legal right to own their homes.](#)



A neighborly red fox and his family were frequent visitors to my mountain home.

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The term "Anthropause" was coined in an essay by Dr. Christian Rutz and his colleagues called "[COVID-19 lockdown allows researchers to quantify the effects of human activity on wildlife](#)". This seminal piece is available for free online and is well worth reading. *New Scientist* writer Graham Lawton [writes](#), "I like the term anthropause. It captures the current hiatus in human domination of the planet, but also reminds us that the worst aspects of the Anthropocene could simply come roaring back. ... The pandemic presents a unique opportunity to put it on a more secure scientific footing."

Here are a few snippets from [Behavior Change in Urban Mammals: A Systematic Review](#).¹ The researchers analyzed 83 papers published between 1987 and March 2020. From the 65 essays they used to learn if and how mammalian omnivores (who enjoy a wide-ranging [diet](#)) and carnivores (who are primarily meat-eaters) changed their behavior, they compiled 166 observations of 44 distinct behaviors and discovered "155 occurrences of behavior change relative to conspecifics [members of the same species] in non-urban areas."

In general, urban animals compared to non-urban relatives were more alert and cautious. There also were other differences (see table on the left and note 2). They write, "Results indicate urban environments drive adaptive responses in behavior including changes in home range and diet preference, shifts in activity budget and vigilance, decreased flight initiation distance, and increased nocturnal activity."²

We currently are a force of nature and will be a larger factor in years to come

It's estimated by 2050, [68% of the world's 9.7 billion people will be residing in urban areas](#). We clearly are a force in nature and there is no reason to believe that a wide variety of nonhumans of different species won't try to come home when they can and our presence will greatly influence how they adapt to our presence. [Conservation shouldn't be all about us](#), and we need to stop trying to manage and dominate nonhumans who wind up in our homes. Many are there because of us and it's a double-cross to harm and kill them because of what we did to their homes to make them uninhabitable.

We need to make every effort to coexist with the animals who visit our homes, and build corridors of compassion and coexistence so that we all can live in harmony. We need to make sure that urban environments are friendly to animals and animals must be incorporated into urban planning. When we do we can learn so much about who "they" are and who we are. We are so fortunate that these animal beings allow us to learn about their lives and to live in their homes. [Perhaps one day they will be recognized as property owners](#). When nonhumans are granted the right to own their homes, rather than merely renting them from us on our terms and whims, it will be a gamechanger for fostering coexistence in which they and we are partners, rather than adversaries.

We can also learn valuable lessons about how easy it would be to put an end to our devastating, never-ending, and ubiquitous impacts on animals' lives all over the world. I've had people write to me and tell me they love seeing new animals and they don't really mind changing their behavior to welcome them to their neighborhoods. They also can learn how their new neighbors are changing their behavior by watching them from time to time. [Citizen science](#) is a wonderful tool for adding to the more formal scientific database.³

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I hope I'm correct in thinking that the animals who move into urban areas will serve as [gateway species](#) for expanding our [compassion footprint](#) to include other animals. It might not take all that much for us to do this, and bridging the [empathy gap](#) would be a win-win for all now and in the future.

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References

Notes

1) Here's how the researchers conducted their study. "To quantify the body of research specific to behavioral change in urban mammals, we conducted a systematic literature review following [Pullin et al. \(2018\)](#) using Web of Science and Google Scholar. We searched Web of Science for papers in the primary literature using the following search terms and Boolean operators: "urban*," "city," "town" OR "metro;" "animal," "wild*," OR "mammal;" "beh*;" and "chang*," "mod*," "adapt*," "alter*" OR "evol*." For Google Scholar, we used multiple combinations of primary search terms (urban, animal, behavior, change, mammal, and wildlife) in various sub-sections (e.g., "in the title," "anywhere," "in subject"). Specific search parameters can be found in [Supplementary Table 1](#). We also reviewed citations within each retained paper for additional relevant studies."

2) The researchers write, "Some studies assessed multiple behaviors, which resulted in 166 observations of 44 different behaviors ([Supplementary Table 2](#)). Studied behaviors fell into 8 general types: alert behavior (n = 45; 27.1%), spatial (n = 40, 24.1%), diet preference/foraging/resource use (n = 27, 16.3%), activity budget (n = 22, 13.3%), diel activity (n = 14, 8.4%), behavioral syndrome (n = 9, 5.4%), mating/reproduction (n = 7, 4.2%), and social (n = 2, 1.2%) ([Figure 3](#)). With respect to taxa, all orders included at least one spatial behavior study, with the exception of primates ([Supplementary Figures 2, 3](#)). Of the two most studied orders, researchers primarily looked at alert behavior in Rodentia (n = 25/45) and spatial behavior in Carnivora (n = 22/40)." They go to note, "Acclimation was the most common type of adaptive response (n = 105; 68% of total behavior changes) observed among all taxa in the reviewed studies ([Supplementary Table 3](#)). Six of the 8 types of behavior change (activity, diel, diet/resource use, mating/reproduction, social, and spatial) reflect acclimatory response to the urban environment ([Figure 4](#)). Of these, decreased home range (n = 19; 18% of total acclimatory responses) was the most frequently observed, followed by increased nocturnality (n = 9; 9%), diet preference changes (n = 9; 9%), and shift in resource selection (n = 9; 9%). All observed changes in alert behavior were categorized as regulatory responses (n = 43; 28% of total behavior changes). The most common regulatory responses were changes in vigilance/caution behavior (n = 11, 4 decreasing, 5 increasing, 2 shifting with no direction noted; 26% of total regulatory behavior changes) and decreased FID (n = 9; 21%). Observations of syndrome behavior in urban mammals indicate developmental response to the urban environment (n = 7; 5% of total behavior changes). The two most prevalent changes in syndrome behavior were increased boldness (n = 3; 43% of total developmental behaviors) and increased exploratory behavior (n = 3; 43%). Together, omnivores, carnivores, and herbivores demonstrate more acclimatory response to the urban environment than regulatory and developmental responses, combined ([Figure 5](#))."

3) For more information on citizen science click [here](#)

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