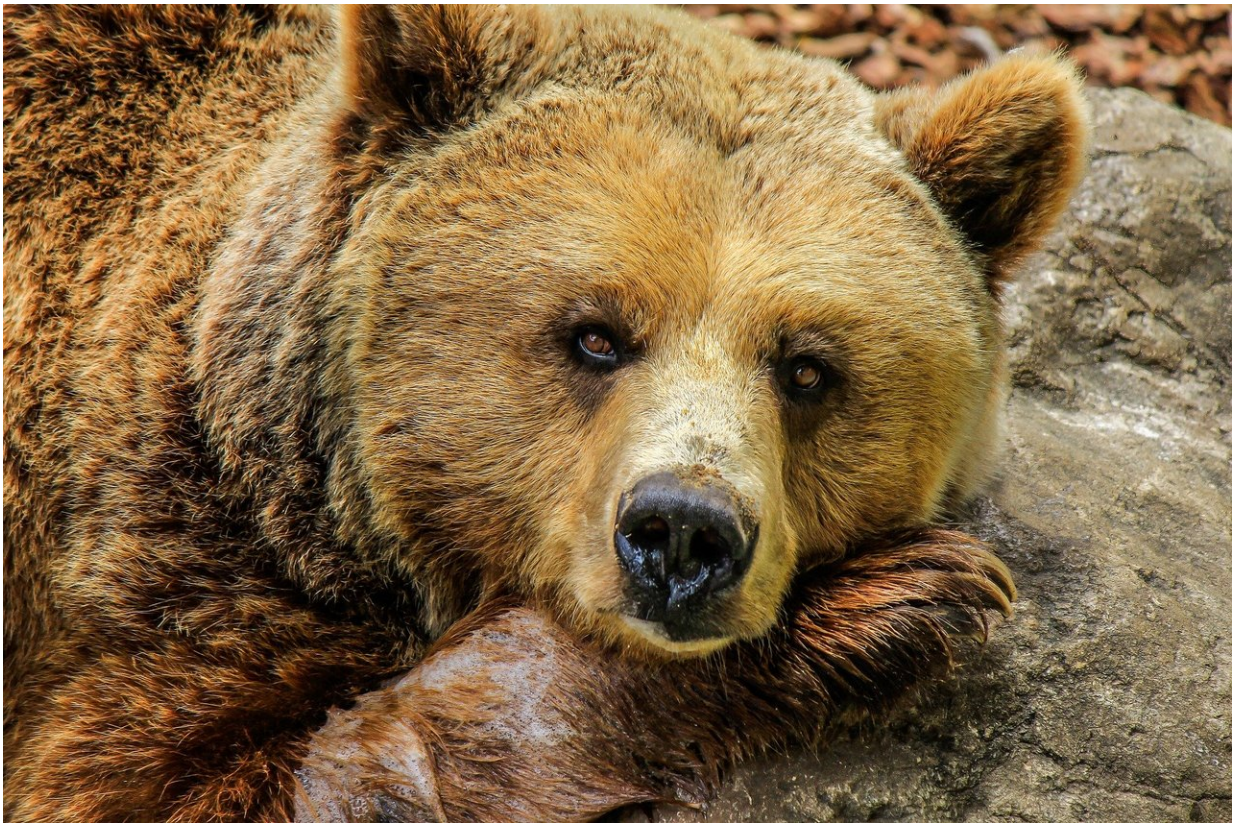


Increasing evidence that bears are not carnivores

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Bears are not cats or dogs, and feeding them like they are likely shortens their lives.

A new study in *Scientific Reports* on the diets of giant pandas and sloth bears adds more evidence that bears are omnivores like humans and need a lot less protein than they are typically fed in zoos.

"Bears are not carnivores in the strictest sense like a cat where they consume a [high-protein diet](#)," said lead author Charles Robbins, a Washington State University wildlife biology professor. "In zoos forever, whether it's polar bears, [brown bears](#) or sloth bears, the recommendation has been to feed them as if they are high-protein carnivores. When you do that, you kill them slowly."

In separate experiments, researchers presented captive giant pandas and sloth bears at different U.S. zoos with unlimited food of different types to see their preferences and then recorded the nutritional profiles of their choices.

In collaboration with researchers from Texas A&M University and the Memphis Zoo, feeding trials were conducted with a pair of giant pandas to measure their bamboo selection. They found that giant pandas preferred the carbohydrate-rich bamboo culm found in the woody stalks, over the more protein-rich leaves. At some points, they consumed culm almost exclusively—for instance 98% of the time in the month of March. The researchers also analyzed data from five Chinese zoos which had giant pandas that had successfully reproduced and found again, a high-carbohydrate, low-protein [diet](#).

In sets of feeding trials, six sloth bears at the Cleveland, Little Rock and San Diego zoos, were presented with unlimited avocados, baked yams, whey and apples. They chose the fat-rich avocados almost exclusively, eating roughly 88% avocados to 12% yams—and ignoring the apples all together. This showed sloth bears preferred a high-fat, [low-carbohydrate diet](#), which may have a similar makeup to their wild diet of termites and ants as well as their eggs and larvae.

It's also vastly different than the high-carbohydrate diet they are usually fed in captivity. Sloth bears, which are native to India, typically live only around 17 years in U.S. zoos, almost 20 years less than the maximum lifespan achievable in human care. Their most frequent cause of death is [liver cancer](#).

Researchers saw a similar pattern in [previous studies of polar bears](#) that showed captive polar bears, who are normally fed a high-protein diet, would mimic the fat-rich diet of wild [polar bears](#) if given the option. Polar bears in zoos typically die about 10 years earlier than they should, most often of kidney and [liver disease](#). These two diseases can develop from long-term inflammation of those organs, potentially caused by many years of poorly balanced diets.

The current study, along with previous ones, also shows that when captive bears are given dietary options, they will choose foods that imitate the diets of wild bears.

"There's certainly this long-standing idea that humans with Ph.D.s know a lot more than a [sloth](#) bear or a brown bear," said Robbins. "All of these bears started evolving about 50 million years ago, and in terms of this aspect of their diet, they know more about it than we do. We're one of the first to be willing to ask the bears: What do you want to eat? What makes you feel well?"

Robbins, the founder of the WSU Bear Center, the only research institution in the U.S. with a captive population of grizzlies, has studied bear nutrition for decades. He and his graduate students first started investigating their misbalanced diets during a study in Alaska, watching grizzlies eat salmon. At the time, the researchers had theorized that the notoriously voracious bears would gorge on salmon, sleep, get up and eat more salmon.

Instead, they saw the bears would eat salmon, but then wander off and spend hours finding and eating small berries. Seeing that, Robbins' laboratory started investigating diet with the grizzly bears housed at the Bear Center and found they gained the most weight when fed a combination of protein, fats and carbohydrates in the combination of salmon and berries.

All eight types of bears, or Ursids, had a carnivore ancestor but have since evolved to eat a wide array of food, which gave them the ability to spread into more areas by not directly competing with resident carnivores.

"It just opens up so many more food resources than just being a straight, high protein carnivore," Robbins said.

More information: Charles T. Robbins et al, Ursids evolved early and continuously to be low-protein macronutrient omnivores, *Scientific Reports* (2022). [DOI: 10.1038/s41598-022-19742-z](https://doi.org/10.1038/s41598-022-19742-z)

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