

Sands of Gobi Desert yield new species of nut-cracking dinosaur

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Artistic rendering of a newly discovered species of parrot-beaked dinosaur, *Psittacosaurus gobiensis*. Scientists first discovered psittacosaurus in the Gobi Desert in 1922, calling them "parrot-beaked" for their resemblance to parrots. Psittacosaurus evolved their strong-jawed, nut-eating habits 60 million years before the earliest parrot. Credit: Todd Marshall

Plants or meat: That's about all that fossils ever tell paleontologists about a dinosaur's diet. But the skull characteristics of a new species of parrot-beaked dinosaur and its associated gizzard stones indicate that the animal fed on nuts and/or seeds. These characteristics present the first solid evidence of nut-eating in any dinosaur.

"The parallels in the skull to that in parrots, the descendants of dinosaurs most famous for their nut-cracking habits, is remarkable," said Paul Sereno, a paleontologist at the University of Chicago and National Geographic Explorer-in-Residence. Sereno and two colleagues from the People's Republic of China announce their discovery June 17 in the *Proceedings of the Royal Society B*.



Skull of the parrot-beaked dinosaur, *Psittacosaurus gobiensis*, next to that of a living macaw. Credit: Mike Hettwer

The paleontologists discovered the new dinosaur, which they've named *Psittacosaurus gobiensis*, in the [Gobi Desert](#) of Inner Mongolia in 2001, and spent years preparing and studying the specimen. The dinosaur is approximately 110 million years old, dating to the mid-Cretaceous Period.

The quantity and size of gizzard stones in birds correlates with dietary preference. Larger, more numerous gizzard stones point to a diet of harder food, such as nuts and seeds. "The psittacosaur at hand has a huge pile of stomach stones, more than 50, to grind away at whatever it eats, and this is totally out of proportion to its three-foot body length," Sereno explained.

Technically speaking, the dinosaur is also important because it displays a whole new way of chewing, which Sereno and co-authors have dubbed "inclined-angle" chewing. "The jaws are drawn backward and upward instead of just closing or moving fore and aft," Sereno said. "It remains to be seen whether some other plant-eating dinosaurs or other reptiles had the same mechanism."

The unusual chewing style has solved a major mystery regarding the wear patterns on psittacosaur teeth. Psittacosaur sported rigid skulls, but their teeth show the same sliding wear patterns as plant-eating [dinosaurs](#) with flexible skulls.

Source: University of Chicago ([news](#) : [web](#))

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