

## A Cowlike Dinosaur Comes Into Focus

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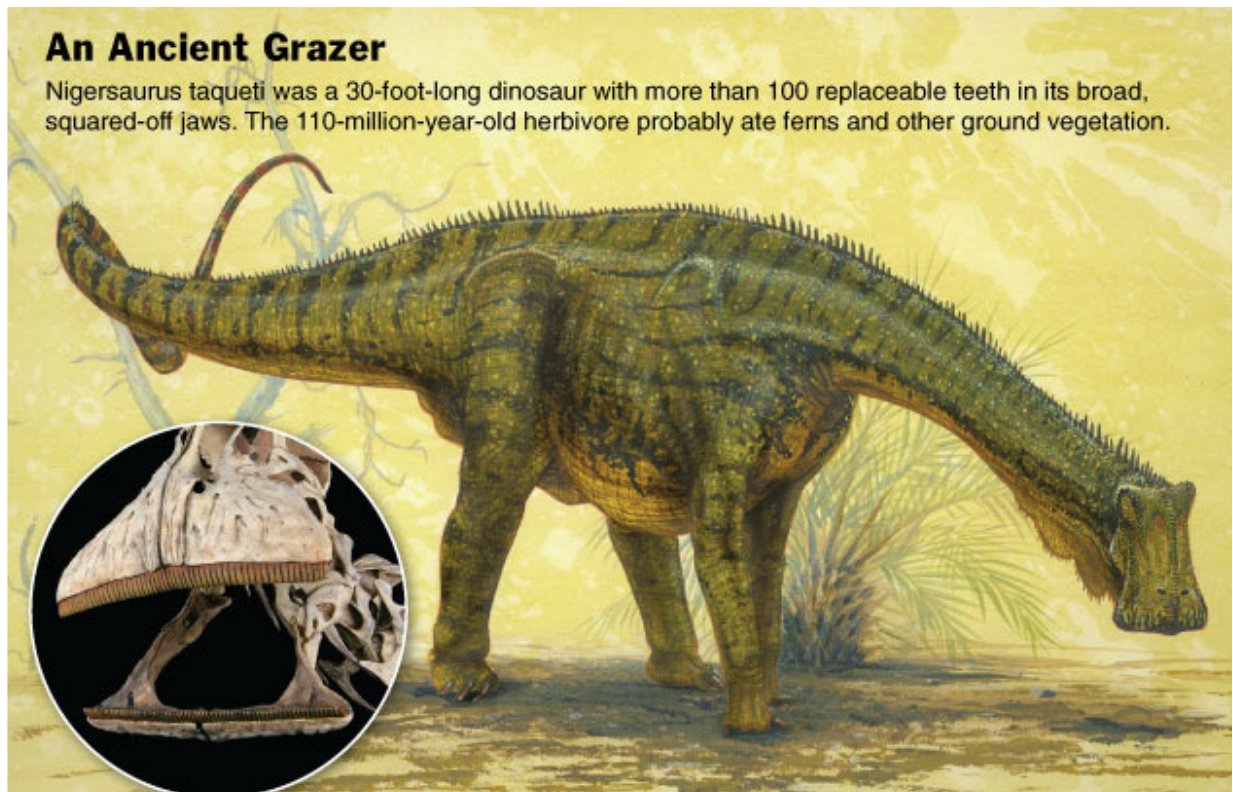
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It has been 60 years since French paleontologists found the dinosaur's bones in Saharan Africa, and 10 years since Paul C. Sereno of the University of Chicago began assembling a more complete skeleton. Only now has his team recognized the plant eater's peculiar anatomy and foraging behavior.

The researchers reported yesterday that the dinosaur, named *Nigersaurus taqueti*, had a short neck, delicate bones and a habitual head posture pointed directly toward the ground. This was a ground-level browser like modern cows.

In a journal article and an interview, the paleontologist, Dr. Sereno, said this 30-foot-long dinosaur, with hundreds of teeth in its broad, squared-off jaws, had probably lived on ferns, horsetails and other ground vegetation. The 110 million-year-old species was discovered in Niger and is related to the North American dinosaur *Diplodocus*.

"We have seen nothing like this dinosaur," Dr. Sereno said. "It's a puzzle that says, 'Figure this out,' and we think it's an extreme version of *Diplodocus* with the minimum amount of body structure it needed."



The scientists described the Nigersaurus anatomy and behavior in a report to be published next week in PloS ONE, the online journal of the Public Library of Science. Their research was partly financed by the National Geographic Society, which is featuring the results in the December issue of its magazine.

When the dinosaur lived, the land that is Niger was lush, with forests and large waterways, crawling with predatory 40-foot-long crocodiles. Nigersaurus, the size of an elephant, was one of the most common herbivores.

The dinosaur's small skull, excavated in 1997, proved revealing. CT scans, analyzed by Lawrence M. Witmer of Ohio University, showed details of the braincase and inner ear, from which the scientists inferred the animal's head posture. Neck bones also indicated that it could not look up. Its muzzle was angled to the ground, unlike the forward-pointing snouts of most other dinosaurs.

The muzzle itself was odd. In contrast to other plant-eating dinosaurs, this one had more than 50 columns of teeth, all lined up along the jaws' front edges, forming, in effect, foot-long scissors.

The CT scans of the jawbones showed up to nine replacement teeth stacked behind each cutting tooth. When one wore out, another immediately took its place, at a rate, perhaps, of one a month in each column.

"Among dinosaurs," Dr. Sereno said, "Nigersaurus sets the Guinness record for tooth replacement."