SEXY BEAST

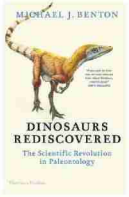
T. rex used his feet to eat, while his tiny arms may have been better for flirting

by LARRY GETLEN

PALEONTOLOGISTS have discovered a remarkable amount of new information about dinosaurs over the past few decades. Michael J. Benton, a professor of vertebrate paleontology at the University of Bristol in England, was part of the team that in 2008 confirmed the presence of melanosomes — the parts of an animal's coat that gives it color — in dinosaur feathers.

For the first time, they were able to reveal that the Sinosauropteryx dinosaur was a redhead.

"Ball-shaped melanosomes in our samples showed that Sinosauropteryx was ginger," writes Benton in the book "Dinosaurs Rediscovered: The Scientific Revolution in Paleontology" (Thames & Hudson), out now. "It had a neat ginger and white striped tail."



Around the same time, a team at Yale, whose work had initially inspired Benton, found that the Anchiornis, from China, "sported black and white stripes on its wings and tail and a lovely ginger crest on top of its head, as well as specklings of black and ginger feathers on its cheeks."

Meanwhile, scientists are still trying to figure out exactly what the ferocious T. rex was able to do with its legendarily tiny arms, which were just 20 percent the length of its legs. (For humans, that number is around 70 percent.)

"Suggestions [include] that the arms were used to push the animal off the ground after it had been asleep, [or] to hold down prey while the death bite was being delivered," writes Benton, who notes that the arms might have had a more flirty function as well. (See box, right.)

"Their function remains a mystery, one of those puzzles in dinosaur science that will keep future researchers happily engaged."

Here are more fun dino-facts from Benton's book...

HOW DID DINOSAURS EAT?

Using a 3D model of an Allosaurus skull, paleontologist Emily Rayfield found that dinosaurs "had a bite force of 35,000 'newtons' (the unit scientists use to measure bite force), much greater than any living predator." By comparison, humans' bite force ranges between 200-700 newtons; great white sharks measure 18,000.

Rayfield found differences in how various dinosaurs eat.

"T. rex used a puncture-pull means of killing and feeding, snapping with the front of its jaws to kill its prey and then pulling back to tear the flesh from the carcass held down by its great foot," Benton writes.

The Allosaurus and Coelophysis, two other meat-eating dinosaurs, "were capable of a more powerful bite along a greater stretch of the jaws and so were perhaps juggling the prey in their mouths and chomping it into bits before swallowing."

HOW DID DINOSAURS GET SO BIG?

Dinosaurs like the 85-foot-long Brachiosaurus, the largest dinosaur ever, achieved these sizes thanks in large part to "bird-like lungs."

"One-way respiration [where air isn't inhaled and exhaled through the same location] increased their ability to acquire oxygen and so to power a high metabolic rate with less energy than we have to use," Benton writes.

Scientists have new details about dinos, including color, speed, methods of devouring prey and even ways to attract a mate that Rex from "Toy Story" might like to know.

HOW FAST COULD DINOSAURS RUN?

Having uncovered many dinosaur footprints and tracks in fossils over the years, scientists calculated that dinosaurs walked or ran around 2-8 miles per hour, with T. rex managing only 2-5 miles per hour — not much faster than a brisk walk for a human being.

DID DINOSAURS FLIRT?

Scientists theorized that certain visually stimulating aspects of a dinosaur's anatomy were used for "sexual signaling" — flirting, as it were.

"The striped tail of Sinosauropteryx and the barred wings and colored crest of Anchiornis could have had no other function than signaling," Benton writes, noting that "we can now imagine male dinosaurs hopping about and showing off their wares to the females, just as so many birds do today."

It has also been theorized that the functionally useless tiny arms of the Tyrannosaurus rex might have been used to "twirl a tuft of feathers [to] attract members of the opposite sex" or to "tickle members of the opposite sex to encourage them to mate."