

and computational methods for imaging nonhomogenous macromolecules. “It could be a quantum leap in what is being done right now,” Nogales says.

Applications for the first batch of Janelia’s 24 group leaders—biologists, chemists, engineers, computer scientists, and physicists are all invited—are due 15

December. But be warned: Appointments, although renewable beyond the initial 6 years, will be untenured. “We want people who say, ‘Give me some resources and get out of my way,’” says Rubin. “That will appeal to some people [but] scare the daylights out of others.”

—JOCELYN KAISER

PALEONTOLOGY

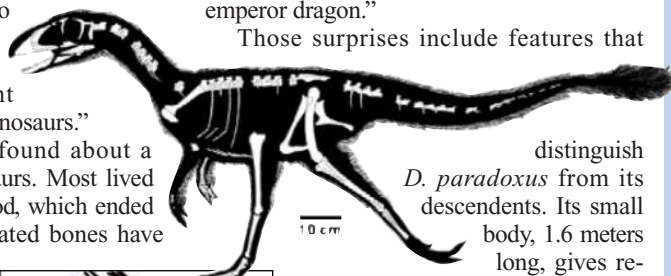
T. rex Clan Evolved Head First

Like reclusive celebrities, tyrannosaurs have risen to evolutionary stardom while keeping their origins shrouded in mystery. Now, the most primitive tyrannosauroid yet discovered has revealed the basic blueprint from which *Tyrannosaurus rex* and its kin evolved. The fossils, so well preserved that one even shows a “protofeather” fuzz covering the body, are described this week in *Nature*. Among other details, they show that tyrannosaurs began evolving the deadly design of their heads before their bodies morphed into powerhouses. “I think people are going to be tremendously excited about this,” says Matthew Carrano of the Smithsonian Institution. “It’s certainly going to clarify a huge amount about the evolution of tyrannosaurs.”

Paleontologists have found about a dozen species of tyrannosaurs. Most lived late in the Cretaceous Period, which ended 65 million years ago. Isolated bones have

After farmers unearthed them, the specimens were studied by Xing Xu and colleagues from the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing, along with Mark Norell of the American Museum of Natural History in New York City. Teeth and other features pegged the roughly 135-million-year-old creature as a tyrannosauroid. The skull has many familiar attributes, including bones shaped like those that apparently helped later tyrannosaurs launch swift, bone-jarring ambushes. The team dubbed the new creature *Dilong paradoxus* for “surprising emperor dragon.”

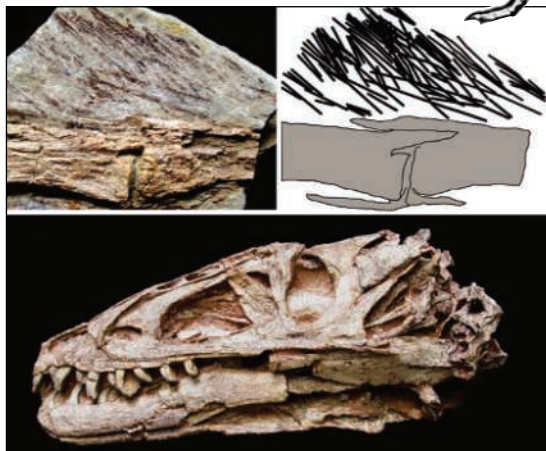
Those surprises include features that



distinguish *D. paradoxus* from its descendants. Its small body, 1.6 meters long, gives researchers a chance to study which aspects of *T. rex*’s anatomy are truly tyrannosaurian rather than due to gargantuan size. And compared with *T. rex*, *D. paradoxus* had relatively long arms. Maybe developing the head for attacking—a safer approach than hands-on grappling with prey—enabled *D. paradoxus*’s descendants to grow larger and handle bigger prey, speculates Oliver Rauhut of the Bavarian State Collection of Paleontology and Geology in Munich, Germany.

Another previously unknown feature of tyrannosauroids is the soft pelt of 2-centimeter-long fibers, called protofeathers. These have been found in more primitive ancestors outside the tyrannosaur group, but large tyrannosaurs appear to have sported reptile-like scales instead. Norell proposes that smaller tyrannosaurs needed fuzz to stay warm but that their larger descendants, like modern elephants, shed their insulation to keep from overheating.

—ERIK STOKSTAD



Forging a head. *Dilong paradoxus* sported downy “protofeathers” and an advanced *T. rex*-like skull.

been found from older and more primitive tyrannosaurs, but not all have been accepted as ancestors. The new specimens—one fairly complete skeleton, plus parts of two others—come from western Liaoning Province in China. “It’s the best primitive tyrannosauroid that we have,” says Thomas Holtz of the University of Maryland, College Park.

Senator Moves on Kennewick

American Indians aren’t giving up on the battle to keep Kennewick Man, the 9400-year-old bones found in Washington state in 1996, out of scientists’ hands. Last July, a federal court barred several tribes from claiming the bones because they couldn’t prove that the remains came from a person related to a current tribe (*Science*, 30 July, p. 591). Last week, Senator Ben Nighthorse Campbell (R-CO) tacked a two-word amendment onto a bill (S. 2843) that would make such claims easier to prove.

Currently, the Native American Graves Protection and Repatriation Act defines “Native American” as “relating to a tribe, people, or culture that is indigenous to the United States.” Campbell’s amendment changes the wording to “is or was indigenous,” removing the need to show a link to living Indians.

It was a “sneaky” move, says Alan Schneider, the scientists’ Portland, Oregon, lawyer. But it may not have any immediate impact: Congress watchers say the legislation is unlikely to pass the Senate this year, and it might not apply retroactively if it passed.

Meanwhile, on 8 September four tribes moved to reintervene in the Kennewick case, petitioning to veto studies they oppose.

—CONSTANCE HOLDEN

Report Faults Biosafety Panels

A watchdog group says that many institutional biosafety committees (IBCs) that oversee potentially risky experiments at U.S. research institutes fail to comply with rules on public access.

The U.S. government wants to give the committees, set up in the 1970s to oversee genetic engineering experiments, a new role in weighing “dual use” research: studies whose data could be exploited by future bioterrorists. But a survey of 355 IBCs by the Sunshine Project, an Austin, Texas, group (*Science*, 6 August, p. 768), found that 44% of the panels were unable or unwilling to provide minutes of their most recent meetings, as required by guidelines from the National Institutes of Health (NIH). Another 36% produced minutes that lacked key information, according to the report. Dozens of IBCs appear not to meet regularly at all.

The survey “shows some weaknesses in the system,” admits Stefan Wagener, president of the American Biological Safety Association, but he adds that doesn’t mean safety is compromised. The scrutiny already has prompted NIH’s Office of Biotechnology Activities, which oversees the IBCs, to order the panels to convene regular meetings and release reasonably detailed minutes.

—MARTIN ENSERINK

CREDITS: X. XU ET AL., NATURE 431, 680 (2004)