

Gaining a Foothold On Land

Life started in the water, and between 380 million and 350 million years ago, scientists agree, some intrepid fish, probably seeking food, crept onto land. But just how they made the switch to being land dwellers has eluded researchers. There are no transitional fossils to link the latest four-limbed or tetrapod-like fish, known as *Panderichthys*, and the earliest tetrapods, which appeared millions of years later. But now two tiny fossil fragments may supply some missing evidence.

Earlier this month, paleontologist Per Ahlberg of the Natural History Museum in London unveiled two "new" fossils dug up from the drawers of museums in Latvia and



Inside view of left lower jaw reveals unusual parallel rows of teeth.

Estonia. Both are fragments, several centimeters long, of fishlike lower jaws. They have several parallel rows of teeth unlike anything seen in the fossil record of either fish or tetrapods.

Nonetheless, the timing is right for a missing link. The new species—which will be christened in the August issue of *Paleontology*—is about as old as *Panderichthys*, but its

fused jaws aren't very fishlike. That means tetrapods may have branched off from fish earlier than paleontologists thought, Ahlberg says.

The fossils "fit in the gap, and it looks as if they are fairly close to

the base of the [tetrapod] family tree," agrees paleontologist Jenny Clack of the University of Cambridge, United Kingdom. But she cautions that scientists can't say whether these creatures lived on terra firma until they ascertain whether they had fins or limbs. Ahlberg plans to return soon to Baltic Devonian fossil sites to look for more complete skeletons.

Ballard to Look for Shackleton's Ship

Ernest Shackleton had hoped to cross the Antarctic in his 1914 expedition, but his ship, the *Endurance*, became trapped in the ice and was eventually crushed. The crew fled the melting ice pack to a barren island. Shackleton took a small group on a daredevil sail in a small boat to a whaling station 1300 km away, returning 4 months later to rescue the rest of the crew.



Endurance breaks up.

Soon it may be the *Endurance's* turn. Globetrotting oceanographer Robert Ballard, who has found famous wrecks from the *Titanic* to the *Yorktown*, plans to head south to find the *Endurance's* remains for the National Geographic Society. The task—which will involve living on the sea ice and sending a robot down 1800 meters—won't be easy. "You're dealing with the same environment as the explorers—ice, cold, remoteness," says David Mindell, an electronics engineer and historian at the Massachusetts Institute of Technology. Mindell is helping Ballard on his current project: looking for evidence of the biblical flood in the Black Sea.

National Geographic also wants Ballard to look for the *Erebus* and *Terror*, the ships used for John Franklin's doomed 1845 search for the Northwest Passage. One or both projects may begin as early as next year.

Oklahoma Lawmakers Take a Shot at Darwin

"When adopting science textbooks, the Committee shall ensure that the textbooks include acknowledgment that human life was created by one God of the Universe." So reads an amendment to a bill that the Oklahoma legislature passed on 5 April by a vote of 99 to 0. Although the measure is likely to be scuttled in committee, church-state watchdogs say it is a sign that state debates over teaching evolution in public schools are getting

ever more fractious.

Last year, the state's textbook committee tried to put a disclaimer in biology textbooks stressing that evolution is just a "theory." But the state attorney general ruled that the committee didn't have that authority. In a bid to bypass the ruling, the Oklahoma House of Representatives last week tacked wording onto an education bill that not only authorizes the committee to add antievolution disclaimers to textbooks but also requires the "one God" statement.

Although the measures passed with little opposition, the wording "will be cleaned out" when it goes to a House-Senate conference committee, predicts Democratic Representative Raymond McCarter. Nonetheless, the vote "tells us a lot" about the topic's sensitivity in Oklahoma and elsewhere, says Molleen Matsumura of the National Center for Science Education in El Cerrito, California. Challenges to evolution are "going from state to state. ... We're seeing a lot of intense activity."



The "glowing eye" of planetary nebula NGC 6751, captured by the Hubble Space Telescope, offers a preview of our own sun 6 billion years hence. The composite picture from the Hubble Heritage Project, which each month issues an "intriguing" image, reveals the gas shell thrown

off thousands of years ago by an aging star. Ultraviolet radiation from the hot stellar core causes the ejected gas to fluoresce, creating an eerily irislike effect that is 600 times the diameter of our solar system and 6500 light-years away.

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