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News

Palaeontologists go to bat for Ida

Primate fossil's promoters defend position against community criticism.

Lucas Laursen

A new defence of the fossil Ida as a precursor to today's primates, including humans, has emerged from the research team that last year bought and promoted the 47-million-year-old remains.¹

Ida, or *Darwinius masillae*, was described in 2009 by Jens Franzen at the Research Institute and Natural History Museum of Senckenberg in Frankfurt, Germany, and colleagues, who identified it as a haplorrhine, precursors to modern-day monkeys and apes.² However, two studies by other groups since then citing evidence from a new fossil and an independent study of similar primate fossils concluded Ida was closer to the strepsirrhine branch, precursors to today's lemurs.^{3,4} (see **'Fossil primate challenges Ida's place'**).

"If you say 'I have something in the line of hominids', another palaeontologist will say you are wrong," says palaeontologist John de Vos of the National Museum of Natural History in Leiden, the Netherlands, the author of a 2008 article in the *Journal of the History of Biology* on scientific disagreements about Neanderthals, *Homo erectus* and *Homo floresiensis*.⁵ But this particular disagreement is smaller than those, de Vos adds, because Ida is much further removed from modern primates and fewer palaeontologists study this area.

Creative scoring

Franzen and colleagues including Philip Gingerich, the lead author on the Ida team's latest paper, wrote in a statement for the media that their new analysis "was made by excluding fossil taxa consisting only of small fragments like single teeth or jaws".

They did not write that the new analysis excludes all fossils other than Ida, comparing her only to eight living primates. For comparison, similar studies of fossil primates by other researchers have examined up to 117 species. Franzen told *Nature*, "There are almost no skeletons comparable to *Darwinius* ... our opponents are referring mostly to fragments of jaws and teeth."



Jørn Hurum unveiling Ida at a news conference in May 2009.

Jennifer Graylock/AFP

Other palaeontologists are not buying the argument. Palaeontologist John Fleagle of the State University of New York in Stony Brook says, "Why not include data from the many fossils from the past 54 million years?" Evolutionary anthropologist Blythe Williams at Duke University in Durham, North Carolina, lead author of one of the papers that placed Ida among the lemur ancestors, says, "I'd love to see an analysis like they're doing with a much broader [range of] taxa", including some "spectacularly preserved" fossil lemurs.

Building a family tree — or phylogeny — always includes some subjectivity: in addition to choosing which species to include, researchers must decide which characteristics of each species to include in the analysis, and then they must score each characteristic. For Ida, that might involve deciding which bones in the ear are relevant and comparing their shapes or relative sizes to those in other species.

Palaeoanthropologist Russell Ciochon of the University of Iowa in Iowa City wrote in an email: "the critical factor is always who did the scoring — don't let Williams *et al.* off the hook here either — they are equally as guilty as Gingerich *et al.* when it comes to 'creative' character scoring."

Yet many researchers agree that more data is better, even if not all the included fossils are as intact as Ida. "If you have a new fossil species ... you have to compare it to other fossils," says phylogenetic biologist John Wiens of the State University of New York at Stony Brook. "It's not that controversial."

Progress, funeral by funeral

The condition of the fossil is also a bone of contention. "If *Darwinius* were as beautiful and complete as we're led to believe, there would be less controversy," says palaeontologist Chris Beard of the Carnegie Museum of Natural History in Philadelphia, Pennsylvania. "Its ear would be definitive."

The ankle, which Williams and colleagues claim looks too crushed in photographs to be reliable, is also the kind of fragment on which other entire species classifications rely. Franzen says the team completed high-resolution computed tomography (CT) scans of Ida's hands and feet (only the head was scanned in high resolution in time for the 2009 announcement) too late for the present paper, but that they are analysing the data now. Williams says that when one of her collaborators asked for access to Ida material before writing their paper, they were told it was not available.

"What we are seeing now with this current exchange of papers is nothing more than the normal back and forth of peer review that takes place every day in the pages of scientific journals far outside the public's imaginations or interest," writes Ciochon. "Science moves forward funeral by funeral ... almost no one ever changes their mind."

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