

# Swedish researcher finds missing piece of fossil puzzle

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The mode of reproduction seen in modern sharks is nearly 400 million years old. That is the conclusion drawn by Professor Per Erik Ahlberg, Uppsala University, from his discovery of a so-called "clasper" in a primitive fossil fish earlier this year. The research results are published today in *Nature*.

In February this year, a paper published in *Nature* by a team of Australian and British researchers showed that placoderms, a group of ancient fishes that died out more than 350 million years ago, gave birth to live young. Beautifully preserved [fossil embryos](#) in the body cavity of the placoderm *Incisoscutum* showed that these fishes, close to the common origin of all jawed vertebrates, had a mode of reproduction similar to modern sharks. Live birth requires internal fertilisation; sharks achieve this by using a "clasper", an extension of the pelvic fin that functions like a penis. The authors looked for a clasper in their placoderm fossils but couldn't find one, so they were forced to argue that it had been made of soft cartilage and had not been preserved.

Shortly afterwards, Per Erik Ahlberg from Uppsala University visited one of the Australian researchers and spotted a perfectly preserved bony clasper in one of their *Incisoscutum* fossils.

"It was lying in plain view but had been misinterpreted as part of the pelvis and overlooked," he says.

Together with the original authors he is publishing a short paper in this

week's *Nature* that presents this missing piece of the puzzle and completes the picture of placoderm reproduction from mating to birth.

"It provides a pedigree of nearly 400 million years for the "advanced" and seemingly specialised reproductive biology of modern [sharks](#)," says Per Ahlberg.

More information: Read the article in [Nature](#).

Source: Uppsala University ([news](#) : [web](#))

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