

Tetrapods from Poland trample the *Tiktaalik* school of evolution

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Tracks of tetrapods discovered in a quarry in Poland have been dated many million years earlier than the transition from fish to tetrapod is currently believed have occurred. This requires a radical reassessment of the timing, ecology and environmental setting of the fish-tetrapod transition. The initial reaction of the paleontological community has been to accept that the transition occurred earlier than previously thought. However there are a number of other options that could possibly explain the conflicting evidence without causing such an upset to the existing models and these are likely to be pursued by some paleontologists. Another possibility is that the evolutionary interpretive framework is wrong but this is not likely to be considered.

Tracks of footprints found in a quarry in Poland have overturned current theories about how fish evolved into land animals.¹ For years there has been a detailed evolutionary scenario, involving a number of fossil finds, about how fish evolved four legs and came out of the ocean onto the land (figure 1). Probably the most famous fossil in this sea-to-land icon of evolution is *Tiktaalik roseae*, a fish with fins that was claimed to have had features intermediate between fish and tetrapods. Creationists consistently rejected the evolutionary claims about the fossil and showed that it had nothing to do with any alleged sea-to-land transition.^{2,3} All the same, evolutionists continued to promote *Tiktaalik* to the general public and the popular culture vigorously. It has its own website,⁴ features in evolutionary diagrams (e.g. figure 1), stars on the covers of books about evolution⁵ and was even the theme of a song to promote evolution.⁶ Richard Dawkins, in his latest book *The Greatest Show on Earth*, claims “*Tiktaalik* is the perfect missing link—perfect, because it almost exactly splits the difference between fish and amphibian, and perfect because it is missing no longer.”

But now this footprint evidence from Poland mean that *Tiktaalik* and all its companion fossils are irrelevant as transitional fossils. From being stars of the show they have suddenly become an evolutionary dead-end. So the creationists were right all along.⁷

At first glance the evidence does not look very impressive. The tracks are preserved as shallow indentations on the surface of large limestone slabs from Zachelmie Quarry in the Holy Cross Mountains of Poland. The rough surfaces have an array of roundish indentations arranged in lines (figure 2). But, with the use of lines and diagrams (figure 3), the authors have argued a strong case that these indentations are indeed trackways of four-legged animals that resembled large lizards. They were even able to show the shape of the foot within some of the individual prints and identify the toe marks (figure 4). From the dimensions of the prints they concluded that some animals were more than 2 m long.

These trackways are a remarkable find, but tracks are not particularly unusual in the fossil record. Thousands of trackways of land animals have been found in many different locations all over the world. What has captured world attention is that that these tracks are “dated” at 397 Ma, which makes them fully 18 Ma *older* than *Tiktaalik* (within the evolutionary dating scheme⁸). If four-legged animals existed 18 Ma earlier, then *Tiktaalik* can’t be the transitional fossil it has been claimed to be. Effectively it has now become an evolutionary dead end along with all the other fossils connected with it. In other words, all those cladograms and other evolutionary illustrations that vividly displayed the transition from fish to four-footed animal ancestor (such as figure 1) are incorrect and need to be abandoned.

A total upset

This is not some small correction or a minor detail. It overturns all the claims that had been established over several decades about a host of fossil discoveries. Something of the magnitude of the upset can be gleaned from statements made about the find.

- “They force a radical reassessment of the timing, ecology and environmental setting of the fish-tetrapod transition, as well as the completeness of the body fossil record.”⁹
- “[It] will cause a significant reappraisal of our understanding of tetrapod origins.”¹⁰

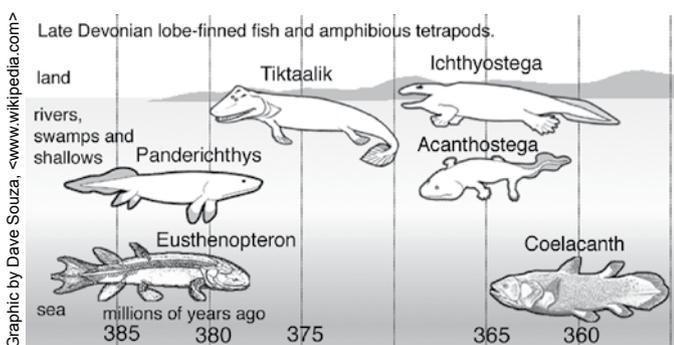


Figure 1. This neat fish-to-animal transition has been transformed from an evolutionary icon into an evolutionary dead-end.

- “[They] could lead to significant shifts in our knowledge of the timing and ecological setting of early tetrapod evolution.”¹¹
- “We thought we’d pinned down the origin of limbed tetrapods. We have to rethink the whole thing.”¹²
- “That’s surprising, but this is what the fossil evidence tells us.”¹³
- “These results force us to reconsider our whole picture of the transition from fish to land animals.”¹⁴

Note the terms “radical reassessment”, “reappraisal”, “surprising”, “reconsider ... whole picture” and “rethink”. The popular media gives the impression that paleontologists are objective researchers who read the story of evolution from fossil record in the rocks, much like reading a book. Creationists are portrayed as being biased and unscientific because they interpret the evidence from a biblical perspective. They are often accused of working by faith and not evidence. Well, this Polish upset demonstrates that evidence does not speak for itself. It takes thought, ingenuity, mental exercise and interpretation to make sense of it. We have seen that paleontologists have admitted that it is going to take some time to rethink their evolutionary scenarios.

What are some of the options that they may pursue? It is well known that all scientists come to the evidence with their own beliefs, biases ... and vested interests. It will be especially awkward for those who have invested their lives and careers in the current fish-to-land animal scenario. Another problem is that, at this stage, there is nothing to replace the transitional sequence with. Here are some of the options that may be under consideration together with an assessment of their implications and feasibility.

Are they really tracks?

One obvious question to consider is whether the impressions in the rocks are really footprint trackways. Perhaps they were not made by tetrapods. Could there be any other explanation for the depressions on the surface? Such an approach would spoil the fun and the novelty. But the beautiful evolutionary stories of fish to land animal, which have been so vigorously promoted for so long, can be retained intact. If the evidence consisted of an isolated footprint it would certainly be open to much question but these are a series of related footprints connected into a trackway and represent very strong evidence that they are indeed made by four-legged animals. But the thought of questioning the tracks is likely to be one option followed in the paleontological community.



Figure 2. Limestone slab from Poland with fossil footprints.

In fact, that is exactly the line that palaeontologist Ted Daeschler from the Academy of Natural Sciences, Philadelphia, Pennsylvania, has taken. He pointed out to *National Geographic News* that tracks and trackways are notoriously difficult to interpret with full confidence and said he’s awaiting more evidence before abandoning existing explanations for the transition.⁷

Are the tracks dated too old?

A second option that may look attractive concerns the dating of the tracks. Are they really as old as claimed? Is there something wrong with the dating? Ideally, it would be good if the tracks could be dated some 20 or 30 million evolutionary years later. This would mean that the evolutionary transitions that have previously been established as well as the current evolutionary scenario could be retained intact.

If the dating had been carried out by some isotopic method (e.g. Argon-Argon or Rubidium-Strontium) there would be many avenues by which the date could be challenged and dismissed, such as appealing to an inherited age, excess argon, open-system behavior, contamination or sampling error.¹⁵ However, isotopic dating was not used on the limestone because it is not suited to that sort of method.

The “securely dated” dates referred to were assigned from the conodont fossils, *Bipennatus bipennatus montensis* (Weddige, 1977), found in nearby strata (figure 5).¹⁶ From their fossil content the rocks were classified as the Eifelian stage of the Devonian system, and the dates for this stage have been assigned by the International Commission on Stratigraphy as between 391.8 and 397.5 Ma.¹⁷ Once the rocks have been classified by the fossils the absolute “dates” are obtained from the stratigraphic chart. The only possibility would be for the rocks to be assigned to a different stratigraphic stage. For that to happen, paleontologists would need to re-examine the fossil evidence used in the original classification, perhaps by searching for other fossils in the area or by examining the fossils on which the original assignment was made. It is not unusual for a rock classification to be changed as a result of examining different fossil evidence.

The assignment would need to move the rocks at least three stages younger, to the Famennian stage, which would be quite a large move. The type section that defines the Eifelian stage is reasonably close geographically,

Piotr Szrek, Uppsala University, <www.mynewsdesk.com/se/pressroom/uu/image/view/pm_ahlberg2-31243>

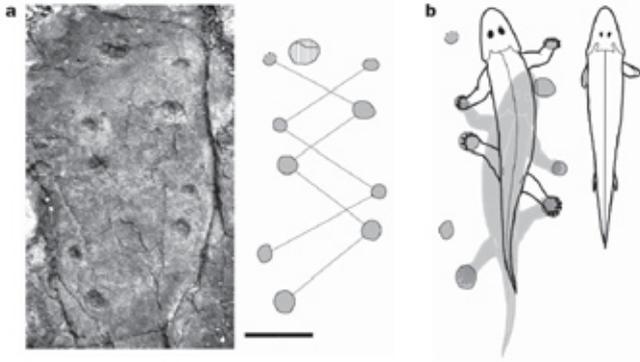


Figure 3. Illustration showing how animal could have made trackways (from ref. 9).

in pastureland near the town of Schönecken-Wetteldorf, Germany. So a reclassification of these rocks in Poland may affect the classification of strata in other regions of Europe, and that may call for a significant readjustment. However, such a reassignment of its date may be possible. The huge upset could be resolved by changing the classification of only one fossil site. I would not be surprised to hear of paleontologists seriously looking at this.

Are the other transitional fossils dated too young?

A third possibility is that the dates of the other transitional fossil sequence (such as *Tiktaalik*,² *Panderichthys*,¹⁸ *Gogonasus*¹⁹ and *Ventastega*²⁰) can be made older. Again, this would enable the current evolutionary scenario to be retained but at a slightly different date. However, this would be a major undertaking because it would involve a re-examination of the fossils associated with each particular transitional animal and convincing the stake holders for each of these fossils to accept a different interpretation of the dates. It would be necessary to move the classification of each fossil to at least three stages older. The fossils that make up the transitional sequence were found in a number of countries (e.g. *Tiktaalik* in northern Canada, *Panderichthys* in Latvia, *Gogonasus* in Western Australia and *Ventastega* in Latvia) and so there could be room adjusting the global correlations used for the assignment of each stage. But many specimens would need to be reclassified, so this option would not be very attractive as a research project.

Was the transition earlier than we thought?

The initial reaction of the paleontological community has been to accept the new evidence from Poland and regard the previously established transition as an evolutionary dead-end. This means they have to begin again in the search for transitional body fossils. At the present time there are absolutely zero body fossils to illustrate the evolutionary transition. So the search will now be on to find transitional fossils at an earlier date than the Eifelian stage of the Devonian. Philippe Janvier from the National Museum of Natural History, Paris, France, put it this way:

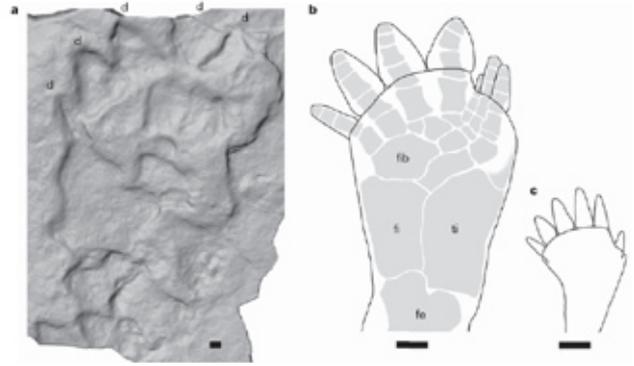


Figure 4. Laser scan of surface showing detail of individual print and diagram relating it to an animal's foot (from ref. 9).

“I suspect that now we can push the divergence back to the Emsian stage [one stage earlier in the Devonian] maybe 400 million years ago.”⁹

In the meantime there is currently no body-fossil evidence and no detailed story for how the transition from fish to land animal took place. Darwin said that the absence of fossil evidence was the biggest problem for his theory. At the conclusion of the 150th anniversary of his book, the evidence for the fish-to-amphibian transition is still missing.

Without fossil evidence evolution is a belief system based on blind faith. But evolutionists firmly believe that evolution happened and so they will now start looking for it in a different place.

Is our interpretive framework wrong?

There is another option that can be considered and that involves questioning the interpretive framework that is being used by the paleontological community. Perhaps the fossils are not recording evolution over millions of years. Perhaps they represent instead the catastrophic burial of the entire biosphere of the earth during a recent global watery catastrophe—like Noah's Flood.

There are scientists who do consider the evidence from a different interpretive framework but they have been forced to work mostly outside of the academic establishment. These scientists look at the evidence from a biblical perspective and publish their findings in academic journals (such as *Journal of Creation*) and on creationist websites. These creationist scientists have been critical of the claims made about *Tiktaalik* and its associated “transitional” fossils. It seems now that their concerns have been dramatically vindicated by the footprints from Poland.

However, it is unlikely that this option would even be considered by scientists within the mainstream paleontological community. Most are not aware that a serious alternative worldview exists. Evolution over millions of years is their starting assumption. Scientists are trained to think in this way from the time they were undergraduates. Evolution over millions of years is just accepted. In fact, anyone who questions the paradigm finds research grants

difficult to obtain, papers impossible to publish, and can even lose their research positions.²¹

For the paleontological community there is no question that evolution happened. The debate is only over *how* it happened. In their minds this new evidence from Poland is just causing a small reassessment of the “how”. Even though new fossil finds, like these Polish footprints, are continually upsetting the attempts to develop evolutionary models one ever publishes a proposal to examine the evidence from a biblical historical perspective.

Conclusion

The tetrapod tracks discovered in a quarry in Poland have caused a major upset to the settled scheme that had been established for decades for the alleged fish-to-tetrapod transition. This comes as no surprise to creationists who have consistently questioned the alleged transitions and disagreed with the schemes that have been presented. They have argued that the evolutionary framework of interpretation is incorrect and that the evidence better fits the biblical Flood model.

The initial reaction of paleontologists has been to accept the footprint evidence as presented and to suggest that the transition must have occurred many million years earlier than previously thought. The problem with this interpretation is that they are left with no fossil evidence in support of their claim that fish evolved into land animals—it remains a belief that is held on faith. There are other options that the paleontological community can pursue, including questioning the dates for the fossils and challenging the interpretation of the footprints. One possibility that needs to be considered is that the biblical-Flood interpretive framework may explain the evidence much easier.

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