

## Tiktaalik: Another “Missing Link?”

Timothy G. Standish  
Geoscience Research Institute

It was Charles Darwin who noted that “Geology assuredly does not reveal any such finely graduated organic chain [of intermediate varieties between different groups of organisms]; and this, perhaps, is the most obvious and gravest objection which can be urged against my theory.”<sup>1</sup> Most likely the term “missing link” is derived from this observation. From a Darwinian perspective there should be many links in the “organic chain” connecting all living things, but their absence in the fossil record renders them “missing links.” This absence of intermediate varieties Darwin attributed to imperfection in the fossil record.

After almost 150 years of diligent exploration, the pattern evident during Darwin’s day continues. The more distantly related organisms are, the more links there should be between them and yet the fewer putative links have been found in the fossil record. Thus the excitement about the discovery of a creature that might be a link between fish and vertebrates that walk on land--the tetrapods--is reason for rejoicing among promoters of Darwinism. Recently, just such a “missing link,” named *Tiktaalik roseae*, was published in the scientific literature<sup>2</sup> accompanied by an apparently well orchestrated blizzard of excited media reports.

The impressive intermediate features of *Tiktaalik* include a relatively flexible neck, some parts of the ear, a pectoral girdle and fins with bones that resemble in some ways those found in the forelimbs of tetrapods ranging from frogs to elephants. In addition, *Tiktaalik* has a skull that superficially resembles that of some amphibia and reptiles.

So should creationists give up on the Biblical record of the creation and flood on the basis of such evidence? First, a word of caution about reflexive responses to new discoveries like *Tiktaalik*; the two essential ingredients in evaluating claims of this sort are: 1) expertise in the particular area within which the claim is being made and 2) examination of the actual material in question--in this case the fossil. Anything short of this is probably fairly characterized as speculation. So far no creationist expert has had access to this particular fossil and thus caution is warranted before placing too much confidence in criticisms of the fossil or its interpretation.

With that caveat in mind, it is worth noting that the history of missing links is spotty at best. Currently there is much debate about relationships between the various Sarcopterygian fish, and because of this, it is probable that the claims made for this particular fossil will become more controversial in the future. This seems to be a common trend when it comes to putative missing links; frequently telling challenges are put forward by both creationists and others.

Assuming this specimen is everything that it is said to be, it does present an interesting proof of the trend that is as clear today, if not clearer, than it was during Darwin’s time: Intermediate varieties remain rare when they should be abundant. This is what makes these uncommon finds so newsworthy. If the fossil record really is imperfect, it seems to be imperfect in a remarkable way that strongly militates against fossilization of missing links. In the case of fish, it is incredible that just one kind of fish would evolve onto land and only in the Upper Devonian. Why are there not fish to land-animal missing-links in Mesozoic or Cenozoic rocks? Since the formation of the Devonian rocks in which *Tiktaalik* was found, hundreds of millions of years are supposed to have past with no fish evolution onto land. Evolution from fish to tetrapods appears quite capricious rather than law-like. Interestingly, little seems to be made of those fish living today that exhibit traits similar to those found in land-dwelling vertebrates. For example the Sargassum fish has hand-like fins and mudskippers are well adapted to life both in and out of water.

Ultimately, while Darwinists cling to extremely atypical fossils which appear to be exceptions that prove the rule when it comes to rarity of intermediate varieties, creationists may embrace the huge variety of creatures that show little or no change from the ancient past to the present. Ironically this would include the coelacanth fish which is thought to belong to the same group as *Tiktaalik*. These remarkable lobe-finned fish are found in ancient rocks then go missing in strata above the Cretaceous, and yet are found at present swimming happily around the Comoros Islands and Sulawesi. To date none have been discovered developing walking skills on the sea bottom or crawling out onto beaches.

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<sup>1</sup>C. R. Darwin. 1859. "On the Imperfection of the Geological Record." Chapter IX in *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, first edition from <http://www.gutenberg.org/>.

<sup>2</sup>E. B. Daeschler, N. H. Shubin, and F.A. Jenkins Jr. 2006. "A Devonian Tetrapod-like Fish and the Evolution of the Tetrapod Body Plan." *Nature* 440:757-763, and N. H. Shubin, E. B. Daeschler, F. A. Jenkins Jr. 2006. "The Pectoral Fin of Tiktaalik Roseae and the Origin of the Tetrapod Limb." *Nature* 440:764-771.

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