- 8. I use the term 'apes' here in a broad 'lay' sense to mean apelike non-human primates. This is not intended to suggest that australopiths, for example, are merely minor variants of extant apes, nor to contradict assessments by evolutionists such as Oxnard that their anatomy was uniquely different in many respects from both extant apes and humans. But if they were alive today, they would probably be regarded as 'apes'.
- 9. Collectively all alleged hominids outside the genus *Homo* are sometimes informally referred to as 'australopiths' by evolutionists, but when talking more specifically the genus and/or species name is used. The term 'australopithecine' refers specifically to members of the genus *Australopithecus*.
- 10. Curnoe, ref. 1, p. 172.
- 11. Curnoe, ref. 1, pp. 157-159.
- Kuman, K. and Clarke, R.J., Stratigraphy, artefact industries and hominid associations for Sterkfontein, Member 5, *J. of Human Evolution* 38:841, 2000.
- 13. Kuman and Clarke, ref. 12, pp. 832.
- 14. Cartmill, M. and Smith, F.H., *The Human Lineage*, Wiley-Blackwell, NJ, p. 231, 2009.
- 15. Curnoe, ref. 1, p. 163, 2010.
- Curnoe, D. and Tobias, P.V., Description, new reconstruction, comparative anatomy, and classification of the Sterkfontein Stw 53 cranium, with discussions about the taxonomy of other southern African early *Homo* remains, *J. Human Evolution*, 50:75, 2006.
- 17. Line, ref. 6, p. 23.
- 18. Curnoe and Tobias, ref. 16, pp. 72-75.
- The teeth of SK 27 were analysed by Curnoe, but the cranium appears not to have been considered.
- 20. Curnoe, ref. 1, p. 151.
- Owen, J., Oldest Human Species Found: May Have Been Cannibal? 26 May 2010, news.nationalgeographic.com/news/2010/05/ 100526-science-homo-gautengensis-humanspecies/, 30 May 2010.
- Senter, P., Were Australopithecines Ape– Human Intermediates or Just Apes? A Test of Both Hypotheses Using the "Lucy" Skeleton, *The American Biology Teacher* **72**(2):70, 2010.
- Conroy, G.C., *Reconstructing Human Origins*, Second Edition, W. W. Norton & Company, New York, p. 262, 2005.
- Spoor, F., Wood, B. and Zonneveld, F., Implications of early hominid labyrinthine morphology for evolution of human bipedal locomotion, *Nature* 369:648, 1994.

Further expansion of evolutionary fossil time ranges

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X e are commonly challenged to explain the fossil order worked out by evolutionary scientists. Fossils are, of course, crucial to the evolutionary story; their sequences and placement in the evolutionary time scale are fundamental to the evolutionists' grand scheme. However, outcrops with fossils are usually widely scattered and further fossil collecting commonly brings surprises, such as the expansion of the ranges of fossils either up or down within the geological column.¹⁻³ Since I last reported on fossil range expansions in 2009, many new reports have been published.

Supposed fish-amphibian transition pushed back 18 Ma

One of the most sensational expansions is that of the supposed origin of tetrapods from fish by about 18 Ma earlier in the evolutionary timescale.^{4,5} This change is even more damaging to evolutionists since a few years before this research was published there was a big splash about a new missing link between fish and amphibians.⁶ This supposed transition

occurred after the new biozone base derived from the unique fossil *Tiktaalik* found in northeast Canada. But the new discovery of tetrapod *tracks* (figure 1), which should push the supposed origin of tetrapods even further back than 18 Ma, has caused consternation over the range changes.^{7,8} (On a personal note, in an exchange of letters to the editor in the local newspaper between a certain evolutionists and myself, *Tiktaalik* was commonly brought up as a fulfilled prediction of evolutionary theory, until in my last letter I pointed out the new tetrapod track discovery.)

Colonial eukaryotes are 200 Ma older

Another major shift in evolutionary time was caused by the discovery of macroscopic, and probably multicellular, fossils in strata dated at 2.1 billion years old in the evolutionary timescale.9,10 This pushes back the origin of such fossils 200 million years. After eliminating the possibility of them being inorganic structures, scientists now believe that the fossils are colonial eukarvote organisms. However, that date corresponds to a time in evolutionary history of insufficient oxygen level in the atmosphere combined with a toxic mix of greenhouse gases. The discovery raises more questions for the evolutionary scenario than it answers.



Figure 1. Tracks discovered in a quarry have been dated 18 Ma earlier than the supposed transition from fish to tetrapod (from Niedzwiedzki, ref. 11).

Pushing back in time dinosaurs and certain reptiles

Many recent changes have been proposed regarding dinosaurs, birds, and supposed dinosaur-bird transitions A new discovery of a type of theropod dinosaur, an alvarezsauroid, in China pushes back this type of dinosaur 63 million years.¹² This is important because it is thought to be in the line leading to birds.

A dinosaur-like animal was recently found in Tanzania.¹³ Evolutionists are reticent to call it a dinosaur because it is too "old". It is classified as a member of the Silesauridae. This suggests to the evolutionists that the evolution of crocodiles and birds was rapid and happened earlier than previously thought.¹⁴

A 'temporal or time paradox' exists between the supposed first bird dated at 150 Ma and the 'feathered dinosaur' ancestors of birds dated at about 125 Ma. The sequence is reversed from that expected by evolution. But now evolutionists believe they have solved the temporal paradox. A new supposed feathered dinosaur was found in China that is now claimed to be 155 Ma, about the time expected for the evolution of birds.¹⁵ But there is one big problem with this supposed transition in that it had feathers on its feet. It was, therefore, four-winged, like Microraptor. So, the evolutionists have 'solved' their temporal paradox by now having to believe that the evolution of flight first went through a four-winged stage only to lose the long foot feathers.16

Human abilities pushed back in time

Evolutionists of course believe that man's abilities evolved in conjunction with his biological evolution. Early man was thus both primitive biologically and technologically. But as research continues, new human abilities are found to be increasingly older, causing surprise within evolutionary quarters. For instance, music and the ability to play musical instruments are an indication of fully human behavior. Bone flutes have been found in



Figure 2. Different echinoderm groups recorded In the middle Cambrian of north Spain. A: The gogiid eocrinoid *Gogia gondi*. B: Cothurnocystid stylophoran. C: The cinctan *Lignanicystis barriosensis*. D: The edrioasteroid *Cambraster cannati*. E: Isorophid edrioasteroid. F: Stromatocystitid edrioasteroid. G: The eocrinoid *Ubaghsicystis segurae*. H: Ctenocystoid. I: Lichenoidid eocrinoid. (From Zamora, ref. 27).

archaeological sites in Europe back to about 30,000 years BP within the evolutionary time scale. But a new discovery in southwest German caves places bone and ivory flutes at more than 35,000 years old, possibly as old as 40,000 years, demonstrating a well-established musical tradition by that time.¹⁷ Although Neandertals were supposed to have been in Europe up to about 30,000 years ago, the flutes are attributed to modern humans. Is it possible that evolutionary bias has excluded the Neandertals from being the musicians?

And speaking of human 'inventions,' the evolutionists have now found evidence that man was able to weave and possibly dye flax as far back as more than 30,000 years ago in what is now the Republic of Georgia.^{18,19} Moreover, copper smelting by man has recently been dated at 7,000 years BP, an extension back of 500 years.²⁰

Many more time extensions

Many odd creatures have been discovered in the Burgess Shale of southwest Canada. Scientists assign many of these to new phyla.²¹ The same creatures have since been found elsewhere in the world and assigned the same 'age'. The 'Burgess Shale fauna' supposedly disappeared in the Middle Cambrian. But now they have been discovered in the Lower Ordovician of Morocco, extending their range upward by about 25 Ma.22 Also at the same location, some organisms previously thought to be higher on the evolutionary "tree" were also found, including cheloniellid and horseshoe crab fossils and fossil marks, which are "... the oldest unequivocal examples of these groups, pushing their likely origins back into the Cambrian."23 Bioturbation was rare-a common problem for geologists, since it would be expected during the proposed time frame. This problem is also seen elsewhere.24

Bryozoans are invertebrates characterized by colonial branching growth of a calcareous skeleton. Bryozoans have a wide fossil range, from the Ordovician to the present, and specific species are used as index fossils. Recently, a bryozoan was discovered in the Upper Cambrian in southern Mexico, pushing the origin of this phylum back 8 Ma.²⁵ With this discovery, all skeletalized metazoan phyla now extend back into the Cambrian.

Bryozoans are not the only problem. The middle Silurian supposedly marks the time of the sudden appearance of vascular plants in the fossil record. Earlier, less evolved land plantsliverworts, hornworts, and mossesare supposed to have been present but their fossil record is sparse. A new report of seven Appalachian carbonaceous fossils provides evidence that complex multicellular eukaryotes colonized the land at least 25 million years earlier than vascular plants.²⁶ The exact taxonomy of these plant parts could not be identified, so scientists had to rely on carbon isotopes to determine the terrestrial origin of the plant fossils, assuming of course that their interpretation of carbon isotopes is correct.

Another range change has occurred with the discovery of diverse fossil echinoderms from the middle Cambrian of northern Spain, which pushes back the records of several types (figure 2).²⁷ These fossils suggest that the echinoderms diversified as early as the early Cambrian.

In another case, the record of living groups of bony fish originated in the Devonian (about 400 Ma). Prior to that time, paleontologist had found only isolated teeth and scales. But a new fossil of a bony fish has been found in southern China in the Silurian. This pushes the origin of bony fish back about 18 Ma.²⁸

Up until recently, crustacean feeding specializations were thought to have remained simple until well after the Cambrian. However, the discovery of a sophisticated feeding apparatus in an Early Cambrian arthropod has pushed back the major expansion of large-bodied, particle-handling arthropods by more than 100 Ma.²⁹

Finally, another 'living fossil' has been found. A type of tiny damselfly supposedly disappeared from the fossil record 250 to 300 Ma ago, but has been found alive in Australia.³⁰ Why hasn't it been found in younger rocks?

Conclusion

These finds demonstrate that the confidence that evolutionists project to the public on the order in the fossil record is dramatically overstated. Furthermore, the corollary confidence in the geological time scale is also suspect; ongoing empirical discoveries seem to undermine it at every step. Therefore, a healthy skepticism in both the fossil record and the rock record, as interpreted by secular scientists for many years, seems appropriate. Larger questions about their very validity also seem overdue.

References

- Oard, M.J., Evolutionary fossil-time ranges continue to expand, *Journal of Creation* 23(3):14–15, 2009.
- Oard, M.J., How well do paleontologists know fossil distributions? *Journal of Creation* 14(1):7–8, 2000.
- Oard, M.J., Are fossils ever found in the wrong place? Creation 32(3):14–15, 2010.
- Niedźwiedzki, G., Szrek, P., Narkiewicz, K., Narkiewicz, M. and Ahlberg, P.E., Tetrapod trackways from the early Middle Devonian period of Poland, *Nature* 463:43–48, 2010.
- Janvier, P. and Clément, G., Muddy tetrapod origins, *Nature*, 463:40–41, 2010.
- Subin, N., Your Inner Fish: A Journey into the 3.5 Billion-Year History of the Human Body, Vintage Books, New York, 2009.
- Walker, T., Tetrapods from Poland trample the *Tiktaalik* school of evolution, *Journal of Creation* 24(1):39–42, 2010.
- Walker, T., Is the famous fish-fossil finished? *Tiktaalik*, the transitional star, an evolutionary dead end, *Creation* 32(3):38–39.
- El Albani, A. *et al.*, Large colonial organisms with coordinated growth in oxygenated environments 2.1 GYR ago, *Nature* 466:100– 104, 2010.
- Donoghue, P.C.J. and Antcliffe, J.B., Origins of multicellularity, *Nature* 466:41–42, 2010.
- Niedzwiedzki, G., Szrek, P., Narkiewicz, K., Narkiewicz, M and Ahlberg, P., Tetrapod trackways from the early Middle Devonian period of Poland, *Nature* 463(7227):43–48, 2010; nature.com/nature/journal/v463/n7277/ pdf/nature08623.pdf.
- Choiniere, J.N., Xy, X., Clark, J.M., Forster, C.A., Guo, Y. and Han, F., A basal Alvarezsauroid theropod from the early Late Jurassic of Xinjiang, China, *Science* 327:571–574, 2010.
- Nesbitt, S.J., Sidor, C.A., Irmis, R.B., Angielczyk, K.D., Smith, R.M.H. and Tsuji, L.A., Ecologically distinct dinosaurian sister group shows early diversification of Ornithodira, *Nature* 464:95–98, 2010.
- Airhart, M., Asilisaurus kongwe: challenges the age of the oldest dinosaur, geology.com/ press-release/asilisaurus-kongwe/, accessed 23 July 2010.

- Hu, D., Hou, L., Zhang, L. and Xu, X., a pre-*Archaeopteryx* troodontid theropod from China with long feathers on the metatarsus, *Nature* 461:640–643, 2009.
- 16. Witmer, L.M., Feathered dinosaurs in a tangle, *Nature* **461**:601–602, 2009.
- Conard, N.J., Malina, M. and Münzel, S.C., New flutes document the earliest musical tradtion in southwest Germany, *Nature* 460:737–740, 2009.
- Balter, M., Clothes make the (Hu) man, Science 325:1329, 2009.
- Kvavadze, E., Bar-Yosef, O., Belfer-Cohen, A., Boaretto, E., Jakeli, N., Matskevich, Z. and Meshveliani, T., 30,000-year old wild flax fibers, *Science* **325**:1359, 2009.
- Bower, B., Dating the dawn of copper making: find may alter views on time, place of metallurgy's origins, *Science News* 178(2):8, 2010.
- Gould, S.J., Wonderful Life: The Burgess Shale and the Nature of History, W.W. Norton & Company, New York, 1989.
- Van Roy, P., Orr, P.J., Botting, J.P., Muir, L.A., Vinther, J., Lefebvre, B., el Hariri, K. and Briggs, D.E.G., Ordovician faunas of Burgess Shale type, *Nature* 465:215–218, 2010.
- 23. Van Roy et al., ref. 22, p. 217.
- Froede, C.R., Jr, Sediment bioturbation experiments and the actual rock record, *Journal of Creation* 23(3):3–5, 2009.
- Landing, E., English, A. and Keppie, J.D., Cambrian origin of all skeletalized metazoan phyla—discovery of Earth's oldest bryozoans (Upper Cambrian, southern Mexico), *Geology* 38:547–550, 2010.
- Tomescu., A.M.F., Pratt, L.M., Rothwell, G.W., Strother, P.K. and Nadon, G.C., Carbon isotopes support the presence of extensive land floras pre-dating the origin of vascular plants, *Palaeogeography, Palaeoclimatology, Palaeoecology* 283:46–59, 2009.
- Zamora, S., Middle Cambrian echinoderms from north Spain show echinoderms diversified earlier in Gondwana, *Geology* 38:507–510, 2010.
- Coates, M.I., Beyond the age of fishes, *Nature* 458:413–414, 2009.
- Harvey, T.H.P. and Butterfield, N.J., Sophisticated particle-feeding in a large Early Cambrian crustacean, *Nature* 452:868–871, 2008.
- Coppedge, D., Flying fossils found, *Creation Matters* 15(1):5, 2010.