dissimilar morphological structures between theropods and birds.

This brings up the whole question within the evolutionary scheme of what is a shared-derived characteristic and what is due to so-called convergence — the development of similar structures in similar environments. It is difficult for me to theoretically understand how convergent evolution could work, due to all the many subtle differences between present similar environments, the rarity and randomness of mutations, the lack of direction and the conservative nature of natural selection, and the multitudinous pathways that organisms could have taken. Regardless, this whole enterprise of deriving evolutionary relationships based on cladistics, big business within evolutionary biology, is subjective. As exemplified by the controversy of linking theropods to birds, what person on Earth can objectively choose which morphological or genetic trait is a shared-derived characteristic and which is due to 'convergence'? The evidence points more to a Creator Who made each organism unique, often with similar structures to be used in similar environments.

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M. J. Oard

New Australian Fossil Find Threatens to Upend Mammal Evolution

A tiny fossil jawbone, found in March 1997 when a rock was cracked open on a beach at Flat Rocks in Victoria (southern Australia), could turn the accepted picture of mammalian evolution upside down.[12] Claimed to be 115-120 million years old (Early Cretaceous in evolutionary/ uniformitarian terminology) based on 'fossil' dating of pollen spores and U-Th-Pb dating of detrital zircon grains in the same rock unit,[3] this piece of bone with four teeth embedded in it (Figure 1) is regard by Dr Tim Flannery, mammologist at the Australian Museum in Sydney, as *'the find of the century'*.[1] Says Richard Cifelli, curator of vertebrate palaeontology at the Oklahoma Museum of Natural History, *'It will have the scientific world at the edge of its seat.'*[4]

The jawbone is a mere 16 mm (about $^2/_3$ of an inch) long with teeth less than 1.8 mm ($^1/_{20}$ of an inch) high that are 'adapted' for slicing and crushing food — a feature not found in monotremes.[1,4,5] The jaw found has three molars and five premolars, which is typical of placentals, compared with marsupials which usually have four molars and three premolars. Leaders of the discovery team, palaeontologists Tom Rich of the Museum of Victoria in Melbourne and wife Patricia Vickers-Rich of the Earth Sciences Department, Monash University in Melbourne, have called the reconstructed animal to which the jaw belonged *Aukstribosphenos nyktos*, a rat-sized, insect-eating creature (see Figure 1) which co-existed with dinosaurs at a time we are told when southern Australia lay within the Antarctic Circle. It then became extinct, presumably leaving no descendants.

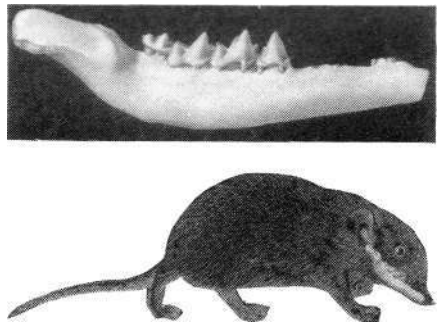

Figure 1. *The 16 mm long portion of jawbone (top), with four teeth embedded in it. A restoration (bottom) shows what the living animal might have looked like (~8.5 cm long) with the jawbone's position highlighted.*

So why all the fuss over these few tiny bones? The family tree of mammals is 'rooted' more than 200 million years ago. Most palaeontologists believe that monotremes arose early and that the 'higher' mammals (placentals and marsupials)

diverged from a common ancestor between 144 and 98 million years ago (in the Early Cretaceous). Most modern mammals are placentals, and are believed by evolutionists to have originated in the northern hemisphere by 100 million years ago (probably in Asia) and then slowly spread across the globe, first to North America and then to everywhere else. The other two mammalian groups, the monotremes and marsupials, are supposed to have struggled to compete with the advancing placentals. Australia, into which the first terrestrial placentals were thought to have migrated only 5 million years ago, is the main remaining stronghold of the monotremes and marsupials.

That, at least, has been the established view, until now! *A. nyktos* is the wrong kind of mammal at the wrong time in the wrong place. Palaeontologists will now need to totally revise their interpretation of the early history of mammalian evolution. The known Cretaceous fossil record of placental mammals comes primarily from three areas: Mongolia, Middle Asia (Uzbekistan, Kazakhstan and Tajikistan), and the western interior of North America (see Figure 2).[3] In fact, the most similar jaw to that of *A. nyktos* is found in rocks of the same evolutionary age in Mongolia. If a placental mammal was in Australia more than 100 million years ahead of schedule, says Cifelli, *'all bets are off* as to where placentals originated:

> *'If they were in Australia then, there's no reason they couldn't have been in South America, Antarctica, and perhaps Africa. You could make an argument for any place of origin'*[4]

But some palaeontologists are not convinced, because they say that the evidence is ambiguous — the jaw has an odd mixture of 'primitive' and 'advanced' traits. Rough patches inside this lower jaw, says Cifelli, could

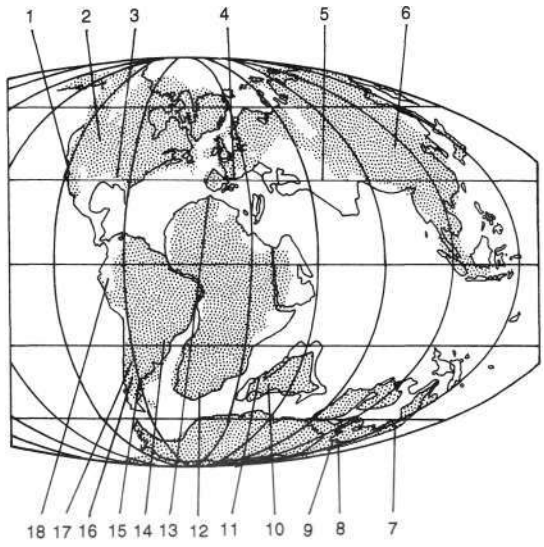

Figure 2. *Palaeogeographic map of land surface (stippled) during the late Early Cretaceous, as interpreted by evolutionists/uniformitarians, showing sites or regions with Cretaceous placental mammals (1-6, 8, 10, 14), and Cretaceous mammal sites or regions in Gondwana with no recognised placentals (7, 9, 11-13, 15-18). Sites are: 1. Baja, California; 2. Western Interior of North America; 3. Mississippi; 4. France; 5. Middle Asia (Uzbekistan, Kazakhstan and Tajikistan); 6. Mongolia; 7. Lightning Ridge, Australia; 8. Flat Rocks, Australia; 9. Dinosaur Cove, Australia; 10. India; 11. Madagascar; 12. South Africa; 13. Morocco; 14. Sao Paulo State, Brazil; 15, 16. Rio Negro Province, Argentina; 17. Neuquen Province, Argentina; 18. Peru.*

be marks common in 'ancient' mammal-like reptiles but absent in 'higher' mammals. However, the main objection is the structure of the talonid basin, a depression at the back of each molar. In placentals this is a single structure, but in *A. nyktos* it is divided into two.

> *'The talonid basin is unlike anything you would expect of a primitive placental mammal',*

says Alfred Crompton of Harvard University.[2]

> *'Frankly, I think it is something new — not a monotreme, not a placental and not a marsupial',*

says William Clemens of the University of California at Berkley.

> *'It's a new group that was either converging with other mammals or running parallel with them, eventually dying out'*[2]

Michael Archer, a palaeontologist at the University of New South Wales, Sydney, suspects that the creature may in fact be an early monotreme.[1] Rich maintains that similar doubts could be raised about several fossils from the northern hemisphere that are generally assumed to be primitive placentals. He also notes that shrew-size fossils like *A. nyktos* might be waiting to be discovered elsewhere.

'You're not looking at elephants. We could have easily missed them; they could be on every darn continent.'[4] *'We can't assume it is not a placental because we know so little about the evolutionary history of mammals on Gondwana ',*

agrees David Krause of the State University of New York in Stony Brook.[2]

Many palaeontologists therefore think the fossil is too fragmentary to start redrafting the evolutionary family tree for the mammals.

'The discovery will force us to take another look at the evidence for an early origin of placentals and to evaluate what features diagnose the major groups of mammals',

says Guillermo Rougier of the American Museum of Natural History in New York.[4] As for Rich, he welcomes the discussion. He hopes, of course, to advance the debate by finding more bones. A complete skull would help, as would other parts of the skeleton.

Quite so. To outsiders, it is amazing how such a tiny piece of bone (less than the width of an adult's thumb) can brew up such a storm of discussion and potentially upend all cherished ideas of the supposed evolutionary history of the mammals. Then again, it illustrates how flimsy such ideas really are, and how little the palaeontologists really know for sure about claimed mammalian evolution. Furthermore, the discovery of this tiny jawbone and teeth, and the frank comments by palaeontologists in the ensuing discussion, confirm what many creationists have suspected for

some time, namely, that there are still more fossils of new creatures to be found which only serve to confuse the evolutionary story. In other words, the fossil record as discovered, while still unimaginably rich, is far from fully explored, and our knowledge of past creatures is woefully sketchy.

And if relatives of this new tiny creature may yet be found on every continent, where did the mammals evolve? On every continent at the same time!? Why should we creationists then be berated for believing that all the land mammal baramins (kinds) were created instantly all at once, each individual fully-formed and fully-functioning from the hand of the Creator on the sixth day of that first week when time began? After all, the evolutionists are looking at the record of the Flood and they have still not found the evidence to refute what the Creator has told us about the true history of the world.

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A. A. Snelling

The 100,000-year Milankovitch Cycle of Ice Ages Challenged

The August 18/August 25, 1997 issue of **U.S. News and World Report** published a special edition on the mysteries of science. Such mysteries include: How old is the universe? Is there life on other planets? Were dinosaurs cold blooded? What causes ice ages? And even why should males exist? Some of these mysteries appear to be puzzles only because of the evolutionary paradigm. In writing about what causes ice ages, Traci Watson admits:

> *'Yet despite efforts of marine geologists, atmospheric chemists, oceanographers, and more, no one knows what caused the ice ages*'.[1]

Interviews with researchers produced comments that the mystery is *'a killer'* and *'It's embarrassing*'. Watson goes on to add:

> *'If they tried, scientists could hardly invent a more difficult mystery to crack.*'[1]

Although scientists cannot explain what caused the ice age, they believe they know the periodicity of multiple Pleistocene ice ages.[2] This periodicity is mainly based on statistical correlations between oxygen isotope ratios from micro-organisms down deep-sea cores with northern, high-latitude, solar radiational changes. These radiational changes are produced by periodic differences in the Earth's orbital geometry. This is the Milankovitch mechanism. The comparison was accomplished by applying spectrum analysis to time series of oxygen isotopes and radiational changes. Spectrum analysis is a technique that finds the main frequencies of the fluctuations in a time series. The timing of ice ages was 'verified' in 1976 when deep-sea core variables matched the Milankovitch periods of 100,000 years (the eccentricity cycle), 42,000 years (the change in the tilt of the Earth's axis), and both 23,000 and 19,000 years (the precession of the equinox).[3] Since 1976, ice ages between 2.5 million years and 1 million years ago in geological time have supposedly followed the tilt cycle, every 41,000 years, while ice ages over the past 1 million years occurred every 100,000 years, correlated to the Earth's eccentricity cycle.

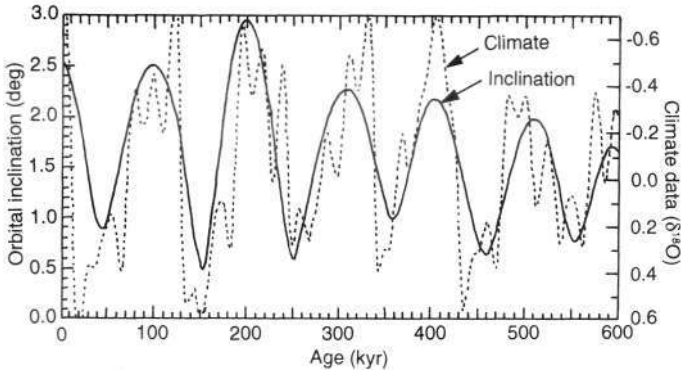

Figure 1. *Comparison of orbital inclination (solid line, lagged by 33 kyr) and $\delta^{18}O$ climate data (dotted line) from SPECMAR*[7]

Interestingly, the Milankovitch theory thrives in spite of enumerable difficulties.[4-6] Perhaps the most serious problem is that the eccentricity cycle has almost no radiational effect on the Earth! Scientists recognise the weakness of the Milankovitch mechanism, especially the eccentricity cycle:

> *'The problem is that the orbital changes in themselves are not big enough to make or to melt ice sheets.*'[2]

For over 20 years, scientists have been casting around for a secondary boosting mechanism to aid the Milankovitch mechanism.

Recently, Richard Muller and Gordon MacDonald have not only challenged the eccentricity cycle as the cause of the 100,000-year periodicity, but also find that the other Milankovitch periods sometimes do not show up in deep-sea cores (see Figure 1).[7-9] Analysing Ocean Drilling