

The origin of grass pushed well back into the ‘Mesozoic’

Michael J. Oard

Creationists are often challenged on the fossil record. Evolutionists commonly confront us with such questions as: if practically all fossils are the remains from a pre-Flood environment, where was such and such an organism at a particular time within the geological column? One of those challenges has been the first appearance of grass, which supposedly evolved in the Cenozoic. ‘Why aren’t grasses found in pre-Cenozoic rocks?’ evolutionists charge.

There are several possible answers to such questions within the Flood paradigm, such as ecological zonation, differential burial of organisms, extreme Flood violence destroying organisms and ignorance of the real fossil distribution. The last is important because evolutionists are constantly extending the range of fossils with further collecting.¹

Mainstream geologists had always believed that grass originated in the Cenozoic (uniformitarian terms and dates will be used for argument purposes only), since grass fossils were only found in Cenozoic strata. They believed that grass occurred late in evolution, possibly because of the appearance of grazing mammals that evolved during the mid Cenozoic, according to the story.

This story has turned out to be an argument from ignorance. Just because grass has never been found, or at least only as rare traces, in the early Cenozoic and the very late Mesozoic does not mean that grass did not exist during this time or before. Previously, traces of presumed grass pollen had been recovered in strata dated 60–70 Ma with unequivocal macrofossils no earlier than Late Paleocene (~55 Ma).

Scientists have now discovered grass from dinosaur coprolites found

in India.^{2–4} These coprolites are dated about 70 Ma and likely came from a titanosaur sauropod, which was associated with the coprolites. The grass in the fossilized dung was determined by the discovery of phytoliths, which are silica structures found in grass. The grass was an abundant but minor proportion of the plant material, which included conifers, cycads and palms.

What especially surprised everyone was that the grass from the family Poaceae was already *diversified*. Furthermore, the range of grass morphotypes is similar to that found in *modern* grass leaves. They had thought that grass diversified in the Late Eocene (~35 Ma). In fact, Poaceae are uncommon, either as pollen or macrofossils, until the Middle Miocene (~13 Ma ago).⁵ So, now grass diversification has been pushed back well into the Mesozoic, much earlier than thought based on fossils and molecular clock dating.⁶ Dolores Piperno and Hans-Dieter Sues conclude:

Therefore, the conclusion that a considerable amount of pre-Tertiary diversification occurred among the Poaceae, leading to a much earlier emergence and radiation of the major BEP clade [one of two major groups of grasses] than had been previously thought on the basis of fossil and molecular clock data, is well supported.⁷

From a creationist point of view, this study pushes back another taxon in the continued extension of fossil ranges with further research.¹ Moreover, we can ask, why hadn’t grass been well documented from earlier than the mid Cenozoic? Could it be that the Flood was too catastrophic for its preservation? We also wonder what other fossils will be found in much earlier and much later strata, according to the uniformitarian geological column.

The coprolites also bring up an interesting question in relation to the Flood paradigm. Where did the dinosaurs obtain grass and other

vegetation during the Flood? The coprolites certainly mean that the dinosaurs died soon after eating. I suggest that these dinosaurs were *not* overwhelmed at the very beginning of the Flood but later, allowing for a time of terrestrial habitation (including eating) as the waters rose. The dinosaurs could have already inhabited relatively higher areas before the Flood, or else had fled to higher ground at the start of the Flood. But, then when these dinosaurs were overwhelmed by the Floodwaters, their demise and deposition within the strata was quick. Such an idea would favour the creationist hypothesis of ecological zonation and possibly the fleeing of the animals to higher ground as the Floodwaters continued to rise on the earth. Furthermore, this could offer support for the idea that the Ark did not start floating until Day 40 because it was built on higher ground.^{8,9}

References

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- Note: see also Catchpoole, D., Grass-eating dinos: A ‘time-travel’ problem for evolution, *Creation* **29**(2):22–23, 2007.