

FOSSIL RECORDS

The fossil history of the fern-like parent stock of the Cycadales from Mesozoic times could be anything from 200 to 300 million years, according to Professor Dr. P. Greguss, of Szeged University, who has done extensive research on the anatomical features of the group.

There is general agreement that the Cycads, as we know them, had their origin in the Carboniferous or Permian period, when some of the world-wide coal measures were being formed and the Dinosaurs roamed our countryside, estimated at over 50 million years ago.

In his account of the Geology of South Africa, Alec du Toit, 1926, when dealing with the fossil wood beds in the Uitenhage Series of the Cretaceous System, states that some of the beds are crowded with the broad fronds of *Zamites*. These are fossil Cycads. In setting a geological age for these, du Toit agrees with Seward's conclusion that the flora is related to that of the Upper Jurassic. He lists nine genera of fossil Cycads with a total of 12 species. These were found from Pondoland in the east to the Gamtoos River Valley in the west, with most of them from the Sundays River Valley. *Zamites recta*, which du Toit figures, could, with good reason, be compared with the modern species, *Encephalartos longifolius*, which is found today in the mountains in the catchment areas of the two rivers mentioned.

In the Annals of the S.A. Museum of 1927, dealing with The Fossil Flora of the Upper Karoo Beds, du Toit described an incomplete specimen from Maclear which he considered was another species of *Zamites*, nearest in affinity to the Indian fossil, *Z. rajmahalensis* (Morris) du Toit.

Dr. E. Plumstead of the Witwatersrand University, informs me that a few remnants of Cycads (*Otozamites*) of lower mid Jurassic age have been found interbedded with the Drakensberg lavas in Portuguese East Africa and northern Zululand and that other fragments have been recorded in formations of Upper Jurassic age on the coast of Zululand.

Incidentally Dr. Plumstead has recently described three new species of *Zamites* in fossil material from Antarctica.

Because the Cycads have survived for such a very long period of time with relatively little modification, they are often referred to as living fossils.