

## BOOK REVIEW

KNOBLOCH, E. — MAI, D.H. (1986): Monographie der Früchte und Samen in der Kreide von Mitteleuropa. — Rozprawy Ustr. ust. geol. 47, 219 pp., plates I—LVI, 52 figs. in the text.

May be ordered: ARTIA Aussenhandelsbetrieb, Ve Smečkách 30, 111 27 Praha 1, Tschechoslowakei, PF 790.

This monograph on the fossil fruits and seeds from the Cretaceous of Central Europe is based on the specimens of a collection of twenty years (1962—1982). The localities studied are as follows: Czechoslovak Socialist Republic (Peruc Member, Klikov Formation, the Coniacian and Santonian in northern Bohemia, flysch in the Moravian Carpathians); in the German Democratic Republic (Quedlinburg, Walbeck, Eisleben); in the flysch in Poland; in Hungary (Senonian in the Bakony Forest Mountains); in Austria (flysch around Vienna, Gosau Formation in Tyrol); in the Federal Republic of Germany (Cretaceous in northern Bavaria, Hergenrath Member in the vicinity of Aachen) and in the Netherlands (Hergenrath Member in southern Limburg). Macro-remnants from 114 localities were studied. All stages of the Upper Cretaceous (Cenomanian, Turonian, Coniacian, Santonian, Campanian Maestrichtian) were investigated

270 species from 85 genera were determined or described; 2 new genus and 162 new species. As botanical affinities the following taxa were established: *Taxodiaceae*, *Pinaceae*, *Zingiberaceae*, *Typhaceae*, *Magnoliaceae*, *Nymphaeaceae*, *Hamamelidaceae*, *Platanaceae*, *Ulmaceae*, *Moraceae*, *Urticaceae*, *Juglandaceae*, *Rhoipteleaceae*, *Theaceae*, *Pentaphragmaceae*, *Saurauaceae*, *Clethraceae*, *Ericaceae*, *Cyrillaceae*, *Droseraceae*, *Rutaceae*, *Sapindaceae*, *Sabiaceae*, *Mastixiaceae*, *Araliaceae*, *Aquifoliaceae* and *Icacinaceae*.

The results of this monograph are very important from paleobotanical point of view, too. Most of the plant microfossil data from Europe are from the *Normapolles* group with unknown or with discussed botanical affinities. Really, the fossil fruits and seeds are unique to solve several problems of the evolution of the angiosperms. A great part of the families from the Central European Cretaceous are of Laurasian origin. The remnant assemblage refer to evergreen subtropical and temperate vegetation in the Northern Hemisphere. Some families have questionable botanical

affinities, or with both Laurasian and west Gondwanan regions. It is necessary to emphasize the stratigraphic and paleophytogeographic importance of this work.

With this monograph we have a new basis and opportunity to create new paleobotanical and paleobiological synthesis in respect of the angiosperm evolution and the changes in the vegetation character of the Cretaceous — Tertiary boundary. The 56 plates with high quality photographs, several prepared by SEM techniques are a very important basic document in the determination of the fossil seeds and fruits of the Senonian.

This book is recommended for all researchers working on the vegetation history of the Upper Mesozoic and the basal Tertiary.

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