

## THE PALYNOLOGY OF THE MESOZOIC

by

Jadwiga ZIAJA

Palynological investigations of the Mesozoic i. e. investigations of the flora, using pollen and spores (called also sporomorphs) and occasionally of algae were started in Poland by M. Rogalska who published several important papers on pollen and spore analysis of Jurassic coal and other sediments (1954, 1956, 1962). She also gave a survey of the stratigraphy of the Lower and Middle Jurassic from the Polish Lowland (1976) based on palynology. The papers of T. Orłowska-Zwolińska and M. Pautsch also dealt with Mesozoic palynology, mainly that of the Triassic. M. Waksmundzka is working on the palynology of the Cretaceous. T. Marcinkiewicz is working on Mesozoic megaspores.

Palynological investigations of the Polish Mesozoic are interesting, because there are many localities not yet studied from this point of view. Such investigations are complementary to work on plant megafossils and on the geology of a locality. For example the flora of the Jurassic clays from Grojec near Kraków was described by Raciborski (1894), then by Reymanówna (e. g. 1963, 1968, 1973) and sporomorphs from this locality were described as recently as 1986 (1).

The Lower Cretaceous locality Lipnik near Bielsko was described from the geological point of view in 1963 by Geroch and Nowak and the plants, such as the fern *Weichselia reticulata* and the conifer *Frenelopsis hoheneggeri* were described in 1965 by Reymanówna. The description of dinoflagellate cysts (6) will be an addition to the subject.

The cooperation of a palynologist with a palaeobotanist who is describing a megafossil is interesting. Such joint investigations may result in new suggestions as to the botanical affinities of dispersed sporomorphs. An example of such cooperation is a paper being prepared for publication, the results of which have already been published in the form of an abstract lecture. The paper deals with Jurassic ovules containing pollen grains (2).

Parallel investigations on a mega- and palynoflora of one locality can give a fuller picture of the flora living in the past. An attempt at this type of research was carried out in Odrowąż in the Holy Cross Mts. Preliminary results were presented in the form of a poster during the XIVth International Botanical Congress in West Berlin (4) and during the palaeobotanical Congress excursion in Poland (5).

The samples of Mesozoic sediments are prepared for investigation according to generally used methods of maceration in acids. The basic tool is the light microscope and also the scanning electron microscope (3). Future use of the transmission electron microscope is planned which allows recognition of the structure of the wall of spores and pollen grains on sections.

Detailed knowledge of the structure of pollen grains of unknown botanical affinity may lead one day to the recognition of pollen grains produced by the earliest angiosperms which occur also in the Mesozoic.

### References

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The cooperation of a palaeobotanist with a palaeogeographer who is describing a megafossil is interesting. Such joint investigations may result in new suggestions as to the botanical affinities of dispersed spores. An example of such cooperation is a paper being prepared for publication, the results of which have already been published in the form of an abstract lecture. The paper deals with Jurassic ovules containing pollen grains (5).

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References  
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