

PRELIMINARY RESULTS OF PALAEOBOTANICAL INVESTIGATIONS
OF THE FRESH-WATER NEOGENE DEPOSITS OF DOMAŃSKI WIERCH
AND ORAWA (WEST CARPATHIANS)

by *Maria Łańcucka-Środoniowa*

The preliminary descriptions of plant fossils which occur in fresh-water deposits of Domański Wierch are contained in papers by W. S z a f e r (1950, 1952). He assumed there the presence of the following stratigraphic series: Middle or Upper Miocene, Upper Miocene or Mio-Pliocene, and — probably — also Pliocene.

Geological descriptions of the sediments were given by K. B i r k e n m a j e r (1954a, 1958a, 1960a) and J. U r b a n i a k (1960).

The present palaeobotanical investigations are dealing mostly with the samples from a deep bore-hole situated at the summit of Domański Wierch. As a whole about 80 plant forms have been preliminarily recognized (Łańcucka-Środoniowa 1963), which can be arranged into the following groups:

Trees: *Abies*, *Acer campestre*, *A. palmatum*, *A. sp.*, *Betula*, *Carpinus betulus*, *Cephalotaxus*, *Fagus*, *Liquidambar europaea*, *Liriodendron*, *Magnolia Kobus*, *M. sinuata*, *Meliosma europaea*, *Morus*, *Ostrya* (?), *Parrotia fagifolia*, *Phellodendron*, *Picea*, *Pinus*, *Populus*, *Prunus*, *Pterocarya*, *Quercus*, *Styrax*, *Taxus*, *Tsuga*, *Zelkova Ungerii*.

Shrubs: *Aralia*, *Berberis* (?), *Cornus*, *Corylus*, *Crataegus* (?), *Hamelis*, *Ilex* (?), *Juniperus* (?), *Sambucus*, *Staphylea*, *Rosa*, *Rubus*, *Viburnum*.

Lians: *Actinidia faveolata*, *Clematis* (?), *Vitis teutonica*, *V. sp.*, *Tetrastigma*.

Field and ground layer: *Ajuga*, *Alchemilla*, *Caryophyllaceae*, *Euphorbia*, *Hypericum*, *Labiatae*, *Lycopus*, *Potentilla*, *Ranunculus*, *Selaginella pliocaenica*, *Solanaceae*, *Thalictrum*, *Urtica*, *Viola*, moreover *Musci* (*Trachycystis Szaferi*) and *Fungi* (*Polyporites*, *Rosellinites*, *Trematosphaerites*).

Marsh vegetation: *Carex*, *Cyperaceae*, *Decodon globosus*, *Diclidocarya Menzelii*, *Juncus*, *Menyanthes*, *Potamogeton*, *Polygonum*, *Scirpus*, *Sparganium ramosum*, *S. sp.*, *Typha* (?).

A characteristic feature of the above flora is the scarcity of conifers. In the whole column of sediments (in the bore hole), 228 m thick, have been found only single (1—4) needles of *Abies*, *Tsuga*, *Pinus*, *Picea* and *Juniperus* (?), and one indeterminable cone. Also in the rich fossil plant material got from the superficial outcrops at Domański Wierch have been found only two not determined needles, one seed of *Taxus*, one seed of *Cephalotaxus*, and one damaged cone of *Picea* or *Keteleeria*. May be, some more information on the presence of conifers will be obtained from the forthcoming investigations of lignites, which are very frequent in the deposits.

The fossil flora of the lignite-bearing clays of Orawa is also rich and of interest. The preliminary investigations show the presence of more than 40 taxons, among which characteristic are conifers, especially from the families *Taxodiaceae* and *Cupressaceae* (*Glyptostrobus*, *Sequoia*, *Taxodium*, *Thuja*), as well as marsh plants (*Carex* *Cyperaceae*, *Decodon globosus*, *Dulichium spathaceum*, *Menyanthes*, *Potamogeton*, *Proserpinaca*, *Sparganium*, *Spirematospermum*, *Typha*). Of special interest is the presence of *Musci* (under investigations by B. Szafran), of *Sinomenium Miltzeri*, and of a seed identical with that described as *Tetrastigma* from the lignite horizon at Domański Wierch (Szafer 1950).

The present palaeobotanical investigations, though not yet finished, indicate the possible presence of two stratigraphic stages within the Neogene fresh water deposits of the area:

1. Lignite-bearing clays (Orawa and the bottom part of the Domański Wierch section) are probably Tortonian.
2. Clays, conglomerates etc. overlying lignite-bearing clays at Domański Wierch are probably Sarmatian.

*Institute of Botany
of the Polish Academy of Sciences,
Kraków*