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TYPE REGION P-n: MASOVIA AND PODLASIE LOWLANDS, NE PART: PODLASIE LOWLAND

The general information below concerns only the surrounding of the Wizna reference area: The Wizna site is situated in the north-eastern Poland in the area of the Biebrza ice-marginal stream way (Pradolina), near the outlet of the river Biebrza into Narew.

Location: 22°30'E, 53°10'N, 104,1 m a.s.l.

Climate: the site is situated in the transitional area between rather warm lowland climates of Central Poland, and cooler and more continental climate of Podlasie region; mean January temperature —5°C, mean July temperature 17.5°C, mean annual temperature 6.5°C. Occasional minimum January temperatures may fall under —30°C. Occasional maximum July temperatures increase to 35°C. Growing season 203 days. Mean annual rainfall 650 mm. West and south-western winds predominate.

The local climate of the lake Maliszewskie surroundings has lower summer temperature, increased air humidity, and lower rainfall in comparison with the plateau areas to the east (Stopa-Boryczka 1986; Kossowska-Cezak et al. M.S.).

Geology: the thickness of Quaternary deposits on the plateau in the Wizna region ranges from 112 to 220 m. The Biebrza ice marginal streamway was formed during the final stage of Middle Polish deglaciation but its present-day morphology is connected with the Vistulian. During its recession the outwash plains and pradolina terrace were developed, which now are situated 2—5 m above the level of mires. The incision of the flood-plain terrace took place more than 13 000 years ago, and was followed since of the Late Glacial (from 12 600 B.P. — Wizna I) by the accumulation of peat and gyttja sediments.

Soils: in the narrow zone surrounding Maliszewskie lake marshpeaty soils predominate. In the Wysoko-Mazowiecka plateau which surrounds peatbog to the south and east there are podzolic and grey-brown podzolic soils, and in the Kolno plateau to the west dust soils of water origin occur.

Vegetation: The Wizna mires are covered with cultivated meadows while the margin of Maliszewskie lake is overgrown by moss-sedge communities. Before the drainage the central part of the peatbog was occupied by the communities of *Caricetum paradoxae* and *Caricetum fuscae*, the river-side parts by *Caricetum gracilis*, *Salici Franguletum* and *Calamagrostietum*, and the lake shores by *Carici elongatae-Alnetum*. The surrounding plateaus are occupied by pine woods, and mixed deciduous forests.

Population: 23,8/km².

Land use in the region of Maliszewskie lake: forest — 39,2%, arable grounds —

32.4%, meadows — 18.8%, pastures — 7.8%, orchards — 0.1%, and fallows — 1.4%.

Reference site: Lake Maliszewskie I (Żurek 1978, Balwierz & Żurek 1987) (Fig. 1). The Lake Maliszewskie is located in the north-eastern part of the complex of Wizna mires covering the land surface of ca. 9000 ha, with max. depth of peat deposit — 6—7 m. The lake is eutrophic and now it is shallow (water depth 1 m) and overgrowing. The surface of the Wizna mires descends from 108 m above sea level in its south-eastern part to 100 m a.s.l. in the south-western one. The higher

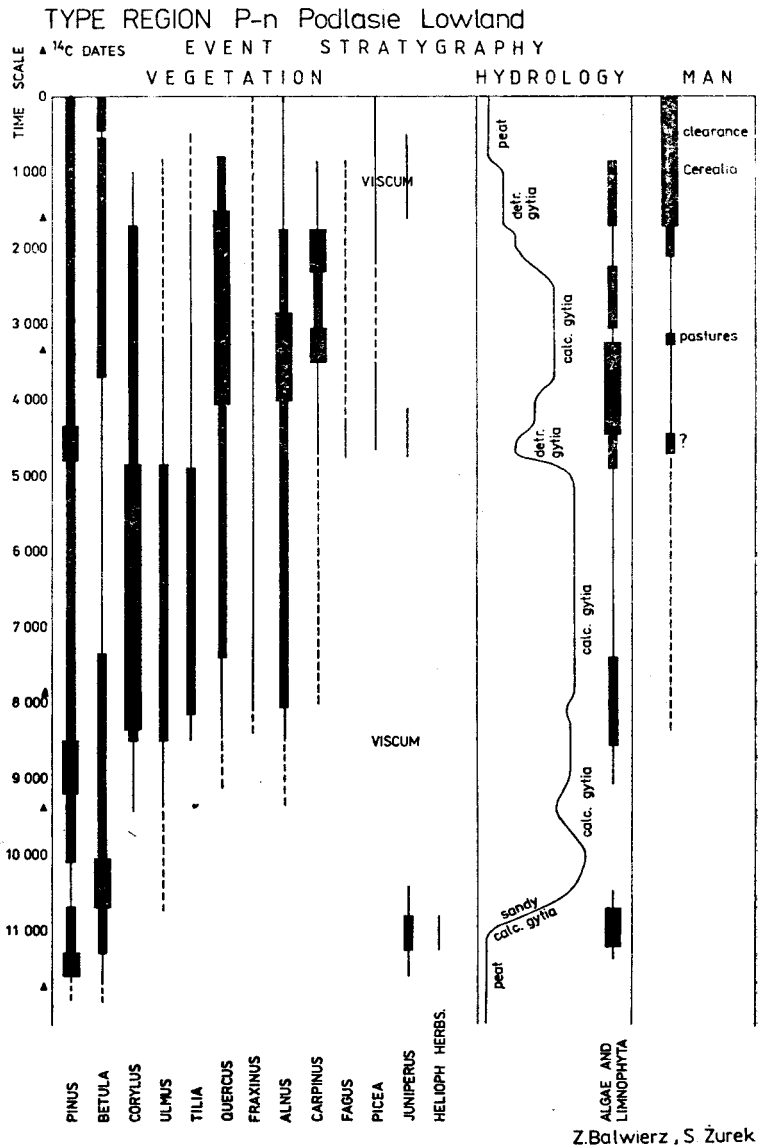

Fig. 2. Table „Event stratigraphy" for Jez. Mal. I site

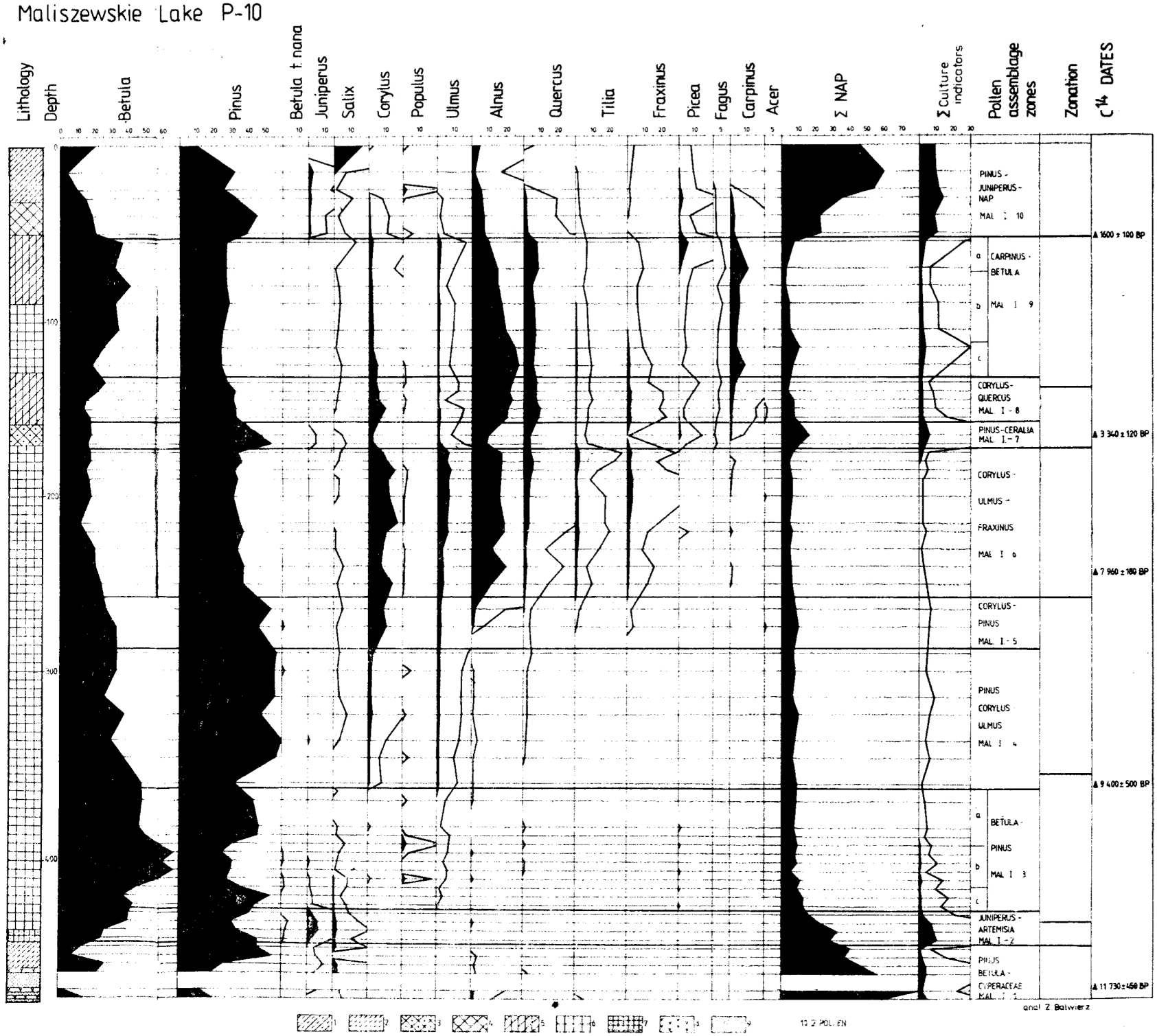

Fig. 1. Simplified pollen diagram: 1 — moss-sedge peat, 2 — moss peat, 3 — detritus gyttja mixed with peat, 4 — detritus gyttja 5 — detrital-calcareous gyttja, 6 — calcareous gyttja, 7 — sandcalcareous gyttja, 8 — organic remains, 9 — sand, 10 — culture indicators: *Artemisia*, *Chenopodiaceae*, *Plantago*, *Rumex acetosa/acetosella*, *Polygonum aviculare*, *Cannabis*, *Fagopyrum*, *Centaurea cyanus*, *Cerealia*

area which surrounds peatbog on its south and west sides rises to 120—130 m a.s.l., the outwash plain terrace on its eats side rises to 108—112 m and the flood-plain terrace of Narew in the north reaches 102—104 m a.s.l. (Żurek 1968, 1975). The lake has an outflow, and the subsurface inflow from the outwash plain and plateau. Lake surface 80 ha, the maximum sediment depth — 22.5 m.

Age range: 11 460 — 0 B.P.

10 pollen assemblage zones and 6 subzones, 5 ^{14}C dates:

Mal. I-1 151±170 cm, *Pinus-Betula-Cyperaceae*, Allerød, 11 730 B.P.
Mal. I-2 433±454 cm, *Juniperus-Artemisia*, Younger Dryas
Mal. I-3 468—433 cm, *Betula-Pinus*, Preboreal period
- a *Betula-Pinus*
- b *Betula-Populus*
- c *Betula-Pinus*

Mal. I-4 288—368 cm, *Pinus-Corylus-Ulmus*, Boreal period, older part, date 9400 B.P. at the bottom
Mal. I-5 258—288 cm, *Corylus-Pinus*, Boreal period, younger part
Mal. I-6 173—258 cm, *Corylus-Ulmus-Fraxinus*, Atlantic period, older part, date 7960±180 B.P. at the bottom
Mal. I-7 163—173 cm, *Pinus-Cerealia*, Atlantic period, younger part
Mal. I-8 138—163 cm, *Corylus-Quercus*, Subboreal period, older part
Mal. I-9 53—138 cm, *Carpinus-Betula*, Subboreal period, younger part
- a *Alnus-Carpinus*
- b *Betula*
- c *Quercus-Picea-Carpinus*

Mal. I-10 0-53 cm, *Pinus-Juniperus*-NAP, Subatlantic period, date 1600±100 B.P.

Because of a small number of radiocarbon dates the simplified pollen diagram has been based on the depth scale. The curve which is marked as Culture indicators comprises the following taxa: *Artemisia*, *Chenopodiaceae*, *Plantago*, *Rumex acetosa/acetosella*, *Polygonum aviculare*, *Cannabis*, *Fagopyrum*, *Centaurea cyanus* and *Cerealia*.

For the „Event stratigraphy" table (Fig. 2) the calculation of sedimentation was based on 4 ^{14}C dates made for the pollen profile, the date 10 200 B.P. generally accepted as the beginning of the Preboreal period, and 4000 B.P. for the first *Quercus* culmination. The appearance of curves of thermophilous trees, their course, maxima and decreases in early Holocene show high similarity to the pollen diagram of Woryty (Pawlikowski et al. 1982). The succession of trees during the Holocene, and their participation in the composition of forests is surely characteristic for a much larger area than the area of Wizna, and then the pollen assemblage zones could be treated as regional zones. The appearance of first anthropogenic indicators, including mainly *Cerealia* in the layer dated at 3340±120 B.P. (indicated in the table „Event stratigraphy" with a question mark), results most probably from disturbances of deposit, which caused the contamination of older gytia with the younger peat, as shown by the latest investigations not published yet. The ^{14}C dating of this layer is not reliable and cannot be used for age calculation. The results presented here are of preliminary character, as the studies of the reference sites are not yet completed.

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