

## INTRODUCTORY REMARKS

This volume contains the reports on the research of Polish working-group within the IGCP Project No. 158: Palaeohydrological changes in the temperate zone in the last 15 000 years, subproject B: lake and mire environments.

The IGCP Project No. 158 was initiated by B. Berglund and L. Starkel during the yearly meeting of INQUA Eurosiberian Subcommittee for the Study of the Holocene in Bratislava (Czechoslovakia), in September 1976. Its main aim is to reconstruct the environmental development in the temperate areas of Eurasiatic and North American continents in closest connection with the changes in hydrologic regime caused by climate and human activity. The project consists of two parallel subprojects, based on studies in the fluvial environments (subproject A) and in the lake-mire environments (subproject B), with the common scope of research but differing in approaches and methods.

The wide environmental reconstructions within the subproject B will be built upon the base of a uniform network of reference sites (lakes, mires), representing the natural geographic regions (type regions) distinguished by their geology, climate, vegetation and other natural factors (Berglund 1979). These reference sites are to be investigated by means of a complex of palaeoecological methods, pollen analysis being the principal one, with the aim of getting the full picture of environmental changes, both within the site itself and in the surrounding areas.

A proposal for the subdivision of Poland into such natural regions was first presented during the informal organizing meeting of the international IGCP-158 B working-group, held in Poland, in October 1977. The country has been divided into 12 large regions, the most part of them further subdivided into subregions (Fig. 1).

The map presented here is slightly changed compared with the first version published by Berglund (1979). The changes concern mainly the subdivision of the southern regions (1 and 2), extending on the territories of Poland and Czechoslovakia. Altogether, 28 palaeoecological units of different rank have been distinguished. They are specified in Table 1.

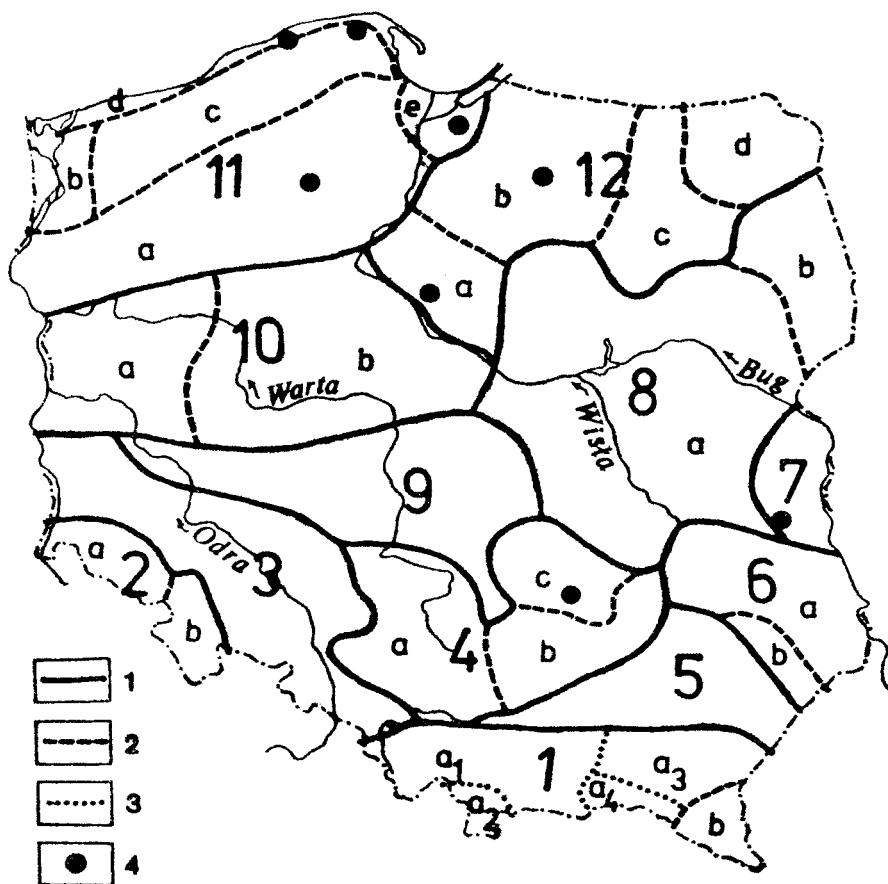


Fig. 1. Map showing the subdivision of Poland into the palaeoecological regions: 1 — boundaries of main regions, 2 and 3 — boundaries of subregions, 4 — location of reference sites presented in this volume within the following regions: 4c — Stopiec, 7 — Lake Łukeze, 11a — Lake Wielkie Gacno, 11c — Lake Zarnowiec, 11d — Kluki, 11e — Lake Druzno, 12a — Lake Steklin, 11b — Woryty. The subdivision is explained in Table 1.

Table 1.

#### Subdivision of Poland into the type regions and subregions

1. Carpathians (=Polish Carpathians) (Karpaty)
  - a. Western Carpathians (Karpaty Zachodnie)
    - a<sub>1</sub>. Western Beskids (Beskid Zachodnie)
    - a<sub>2</sub>. Tatra Mts. (Tatry)
    - a<sub>3</sub>. Jasło-Sanok Depression and Dynów Foreland (Doły Jasielsko-Sanockie and Pogórze Dynowskie)
    - a<sub>4</sub>. Low Beskid (Beskid Niski)
  - b. Bieszczady Mts. (Bieszczady)
2. Sudetes (Sudety)
  - a. Central Sudetes
  - b. Eastern Sudetes
3. Silesia Lowland (Nizina Śląska)
4. Silesia-Little Poland Uplands (Wyżyny Śląsko-Małopolskie)

- a. Silesia-Cracow Upland (Wyżyna Śląsko-Krakowska)
- b. Nida Basin and Miechów Upland (Niecka Nidziańska and Wyżyna Miechowska)
- c. Holy Cross Mts. (Góry Świętokrzyskie)
5. Sandomierz Basin (Kotlina Sandomierska)
6. Lublin-Wolhynia Uplands (Wyżyny Lubelsko-Wołyńskie)
  - a. Lublin Upland
  - b. Roztocze
7. Lublin Polesie (Polesie Lubelskie)
8. Mazovia-Podlasie Lowlands (Niziny Mazowiecko-Podlaskie)
  - a. Mazovia-South Podlasie Lowlands (Nizina Mazowiecka and Południowopodlaska)
  - b. North Podlasie Lowland (Nizina Północnopodlaska)
9. Northern Foreland of Little Poland Upland (Północne Przedpole Wyżyny Małopolskiej)
10. Great Poland-Kujawy Lowlands (Niziny Wielkopolsko-Kujawskie)
  - a. Lubusz Lake District (Pojezierze Lubuskie)
  - b. Poznań-Gniezno-Kujawy Lake Districts (Pojezierze Poznańskie, Gnieźnieńskie, i Kujawskie)
11. Western Pomerania (Pomorze Zachodnie)
  - a. West Pomerania Lake District (Pojezierze Pomorskie)
  - b. Szczecin Lowland (Nizina Szczecińska)
  - c. Baltic Coastal Zone (Pobrzeże Bałtyku)
  - d. Baltic Shore (Brzeg Bałtyku)
  - e. Vistula Deltaic Area (Żuławy Wisły)
12. Eastern Pomerania (Pomorze Wschodnie)
  - a. Dobrzyń Lake District (Pojezierze Dobrzyńskie)
  - b. Olsztyn Lake District (Pojezierze Olsztyńskie)
  - c. District of Masurian Great Lakes (Kraina Wielkich Jezior Mazurskich)
  - d. Suwałki-Augustów Lake District (Pojezierze Suwalsko-Augustowskie)

The first meeting of Polish scientists interested in the problems presented by the IGCP Project No. 158 was organized in March 1978. Then, the working group for subproject B was formed and the first reference sites were proposed on the basis of previous investigations.

The IGCP projects work with the 5-years time schedule and the first period for the project No. 158 ends in 1982. On this occasion, Polish group presents the first published results for the XI INQUA Congress in Moscow, 1982. This volume contains the reports on current research at 8 reference sites, the state by the end of 1980. In most cases the preliminary results are presented, however in two cases, when the research is finished (M. Hjelmroos' and M. Latałowa's papers), reports contain a summing up of results, the full-data paper being in print or published.

The most part of research has up till now concentrated in North Poland (6 reference sites). This will provide us soon with the information sufficient to establish the regional pollen assemblage zones and to trace the history of natural environment in this part of the country, at least during the last 12 000 years. One of rather serious difficulties delaying the progress of work in these areas is the predominance of lakes with the highly calcareous bottom sediments what makes the  $^{14}\text{C}$  datings inaccurate. In such cases the investigation of additional profiles from the neighbouring peatbogs and their correlation

with the main lacustrine profiles is necessary. On the other hand, the sediments of oligotrophic lakes, though suitable for the radiocarbon measurements, will often represent the extremely poor habitats in both the lake itself and its surroundings, which are not always representative for the whole region. These of the North-Polish reference sites which are well dated (Lake Żarnowiec, Lake Wielkie Gacno, Woryty) show close connections between the environmental history of areas they represent and those of South Scandinavia.

The pollen data from the Lublin Polesie in East Poland, a region with the vegetational history practically unknown up till now, show some interesting aspects in the development of plants communities, as the *Artemisia*-dominated vegetation type in the Late-Glacial, or the very early appearance of first deciduous trees (*Ulmus*), reflecting the strong influences of continental climate coming from the south-east.

The new investigations in the Świętokrzyskie (Holy Cross) Mts. in South Poland confirmed the general lines in the forest development of that area known from previous studies, but changed essentially their chronology.

The next few years should bring the information about the environmental development from the reference sites in the other mountainous regions of South Poland (Carpathians, Sudetes) being now under investigation. The most urgent task for the second period of the project execution is to extend the research to the central and western parts of Poland.

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