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## ewsletter Number 6

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March 1996

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The Annual meeting of the Advisory Board and Executive Committee of the European Pollen Database was held in Cracow, February 2-4th

1996. This newsletter comprises a summary of the main subjects which were discussed at that meeting together with the decisions which were made.

### **1. A three year contract between the EPD and the EU**

Since its origin the EPD has obtained its funding from the E.U. programme "Environment and climate" (DG12). The building of the database was first included in the large 'EPOCH' project (leader: J.-C. Duplessy, 1989-1993) and then in the project 'Climate change in Europe during the two last climatic cycles' (leader: A. Pons, 1993-1995). During this interval, some colleagues complained that the database was established on the principle of a gracious contribution by all palynologists and yet is related to research programmes involving a small group of scientists. Our Executive Committee has taken this point of view into account and after a discussion with Y. Troen (scientific commission of the E.U.) decided to make an independent application to the E.U.

A proposal "The EPD. A tool for palaeo-environment and palaeoclimate reconstructions at a continental scale" was submitted in March 1995 by J.-L. de Beaulieu, B. Ammann and B. Huntley. This project was accepted for three years (1996-1998) with the following budget:

- Marseilles-Arles: 116 000 Ecus (Data collection and compilation, printing and mailing the Newsletters, other material needs...)

- Durham: 34 000 Ecus (organization of the Advisory Board/Executive Committee meetings)
- Bern: 20 380 (supervision of the taxa list)

The funding is expected to be available in March 1996. However, we must stress that the previous contract ended in May 1995, and that in order to insure the survival of the EPD during the interim 11 months the Marseilles laboratory had to use its own funding, which was an exhausting financial effort.

During Spring 1995, the EPD was approached by an international group of agronomists working on oak genetics. An application was made to the E.U. (DG VI - Agriculture) to support the study of the oak distribution at different time slices from the beginning of the Late-Glacial. The aim of this study is to reconstruct the migration trajectories and test some hypotheses to explain the present day distribution of genetic types. This 3-year project was accepted and will start soon. A part of the 85 000 Ecus allocated to Marseilles will be used to provide a thesis fellowship (see announcement).

## 2. The present state of the database

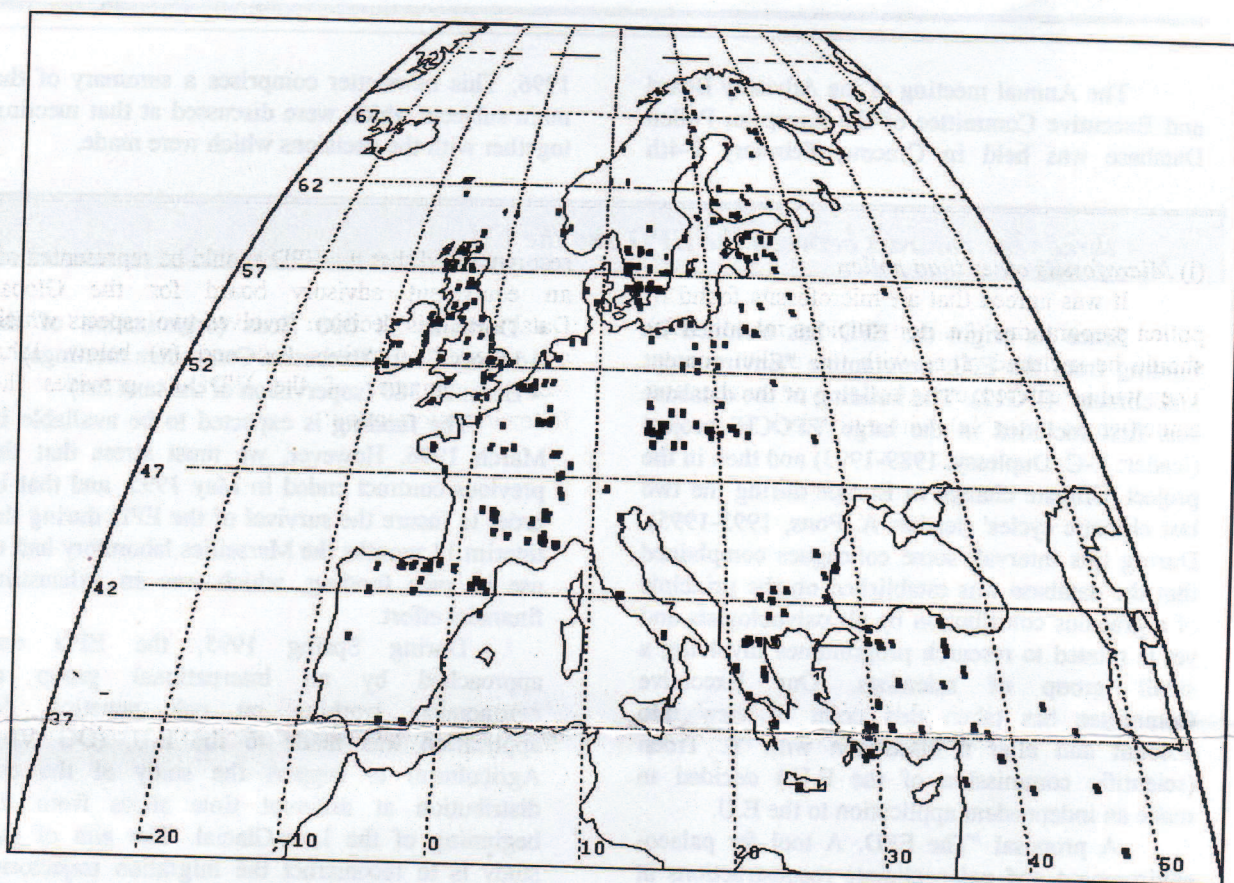
### a. The Central database:

A total of 600 Holocene and Late-glacial (see map) sites are now held in the database, an increase of 200 since January 1994. Of these, 90% were submitted by cooperation network projects, 10% by individuals. Several modes of data input are available: as Word forms on diskette, as TILIA files with associated formfiles, or on paper forms available from Arles. The TILIA program with its implemented forms can be obtained either from the World Data Center (WDC) (see below) or the EPD. One third of the sites are restricted. Further input of data is to be sought by sending postcard requests to authors of journal articles.

Two short-term projects funded from Britain have enabled the collection of interglacial

data. At the time of their termination ca 30 Eemian sites, mostly from southern England, had been collected and submitted recently to the Central database. Data for a further 30 sites from Poland have been made available. 30 Holsteinian/Hoxnian sites have also been collected and submitted to Arles. These interglacial data are now being processed and checked to ensure complete compatibility before their final inclusion in the central database.

It was agreed that the EPD should be extended back in time as far as possible, with an especial focus being placed on long continuous sequences.



### b. Network projects:

**PECO:** The PECO network project, submitted by J. Guiot and J.-L. de Beaulieu, was funded by the E.U. Its objective was to provide six laboratories in Central Europe (Bulgaria, Estonia, Lithuania, Poland, Romania and the Czech Republic) with computer equipment and manpower to allow them to act as regional correspondents of the EPD and contribute to the compilation. As no data were available in Romania, our target was

first to obtain new pollen data with C14 datings. This effort started in Cluj and a series of new pollen diagrams will soon be ready to be published and then included in the EPD. Although the PECO programme is now over, the network is still active and more sites will soon be contributed to the EPD. For instance, the Vilnius team intends to compile 23 more sites, surface pollen data from the Lithuanian lakes and Eemian interglacial data.

At the end of the project the number of compiled sites was as follows:

Centren	Sites (94)	C14	Sites (95)	C14
Cracow (PL)	17	119	7	77
Brno (CS)	9	50	17	8
Sofia (BL)	11	41	2	18
Tallinn (E)	16	132	3	0
Vilnius (L)	5	18	2	4
<b>Total</b>	<b>58</b>	<b>360</b>	<b>31</b>	<b>107</b>

**INTAS:** This project is an extension of the EPD network towards the Former Soviet Union (FSU) in the Frame of the Global Change Studies and Acquisition of New Palaeoenvironmental Data. The duration of the project is 24 months and it officially started on 1st April 1995.

This project involves eight research teams from the FSU states and the New Independent States (NIS). These data will be used to reconstruct climate changes and to map vegetation dynamics. The project is divided into 2 sub-projects: one is

intended to compile existing data from the Northern Eurasian territories and the second to promote the acquisition of new, high resolution, pollen data from the Eurasian continent. A great number of pollen data (of variable quality and level of resolution) are available in the FSU and the NIS. An average of 10 to 20 sites are expected to be compiled by each team and 60 to 120 sites will be supplied to the EPD in the future. Concerning the acquisition of new palaeoecological data, the Western Ukraine was chosen for collaborative field work by the Universities of Cambridge (Department of Plant Sciences) and Amsterdam (Institute of earth Sciences, Free University), the Lvov institute (Institute of Geology and Geochemistry, Ukrainian Academy of Science) and the University of Moscow (Laboratory of Evolutionary Geography, Institute of Geography, Russian AS). This work, planned for summer 1995 was delayed (for technical reasons) to summer 1996.

### 3. Changes and additions to the database

#### (i) *Microfossils other than pollen*

It was agreed that all microfossils found in pollen preparations (*i.e.* non-silicious microfossils) should be included along with the pollen counts. They will be entered, using both a type number and name (where available), with authority.

A recommendation was also made that the database should establish links with other databases, especially diatom databases.

#### (ii) *Modern pollen*

A European Pollen Monitoring Programme will be initiated in July 1996 as an INQUA workshop (see announcement). Data produced by this programme will differ from the modern pollen data already included in the database (mostly from mosses and lake sediments) in that it will be influx data (from pollen traps) and new data for each site will become available yearly. These data, together with the relevant ecological background information, will be accepted provided it is submitted in a standard TILIA format.

#### (iii) *The accessibility of EPD data via World Data Centre-A*

It was agreed to make the unrestricted European pollen data accessible from the World Data Centre -A for Palaeoclimatology's Global Pollen Database at Boulder, Colorado, *via* a European node. Details of restricted data will only be available from the EPD. The Advisory Board

recommended that the EPD should be represented on an equivalent advisory board for the Global Database. This decision involves two aspects which are detailed in points (iv) and (v) below. John Keltner, manager of the WDC-A, provides the following information:

#### *Data Formats from the World Data Centre-A for Paleoclimatology*

Fossil pollen data from the World Data Centre-A for Paleoclimatology (Boulder CO, USA) are available in a variety of different formats. The most comprehensive format is the database tables themselves (currently in Paradox). These tables contain all of the data for all sites, but require the user to own and understand how to use Paradox (or other software that can read Paradox tables). Additional formats have been created to allow users to retrieve the data for individual sites. Four such formats have been created to date. Other formats may be created where these would be generally useful. The available formats include: 1) .TIL Tilia files and forms; 2) .P15, summary files (percentages for the top 15 pollen types at each site); 3) .ASC files (complete counts in a simple ASCII text format); 4) .F70 files (North America only - counts for a common set of 70 pollen types). The Tilia and .ASC formats contain the author's data, without modification. The .P15 and .F70 files are derived

data products, where, for instance, taxa may have been combined.

WWW: <http://www.ngdc.noaa.gov/paleo/paleo.html>

Ftp: <ftp.ngdc.noaa.gov>

Gopher: <gopher.ngdc.noaa.gov>

**(iv) The addition of an extra field for data entry**

A decision was made to add an extra field for plant taxonomic families in connection with data entry. Dr Eric Grimm, manager of the North American Database explains the need for this as follows:

In the past year several changes have occurred regarding the relation of the North American Pollen Database (NAPD) with the World Data Center-A (WDC) for Paleoclimatology housed at the National Geophysical Data Center (NGDC) in Boulder, Colorado. These changes have occurred because of the development of the Latin American Pollen Database (LAPD) and made possible by John Keltner's move to a permanent data manager position at NGDC.

Dr Vera Markgraf (University of Colorado) is the Coordinator of the LAPD, which has an advisory board of palynologists who work in Latin America, including Mexico, Central America, South America, and the West Indies). Advisory Board members represent institutions from Latin America, the United States, and Europe. At the organizational workshop for the LAPD, held in November, 1994, plans were made to combine the LAPD and NAPD into a single database.

The master database tables for the NAPD/LAPD database are now housed at the WDC, rather than the Illinois State Museum. Thus, the NAPD and LAPD are now subsets of a "Global Pollen Database" (GPD). In addition to western hemisphere data, the GPD also contains data from Siberia and other parts of the Former Soviet Union.

Database projects from other parts of the world are also planning to contribute data to the GPD and function similar to the NAPD and LAPD. These projects include the Indo-Pacific Pollen Database, the Chinese Pollen Database, and the Pollen Database for Siberia and the Russian Far East. The various database projects submit completed Tilia files and forms to the WDC, where the data are incorporated into the master GPD tables. New pollen-types are added to the master

pollen variables (P\_vars) table as new data are submitted. No changes are made to pollen variable names. In the global database no effort is currently made to harmonize pollen-type names on the basis of pollen morphology from different pollen-database projects. However, sporophyte taxonomic nomenclature is standardized and fully referenced.

At the present time, the non-restricted portion of the EPD is available from the WDC. These data are in tables separate from the GPD. The EPD Advisory Board recommended that the non-restricted data be incorporated into the GPD tables. This merger will permit queries to be made to a single database without regard to any particular boundaries, for example from the circum-polar region. The merger has no adverse implications for the high taxonomic precision of the EPD, and all EPD pollen taxa will be retained.

During the discussions of the Advisory Board meeting, it was discovered that the EPD was using some fields in the P\_vars table differently from the GPD. EPD has been using the AccVar# to hold the pollen morphological hierarchy developed by the EPD Pollen Morphological Working Group. The GPD has been using this field for nomenclatural synonyms. In the past year a new field has been added to the P\_vars table for the pollen morphological hierarchy. The existing hierarchical field is used for the sporophyte taxonomic hierarchy. The Advisory Board recommended that EPD alter the EPD P\_vars table to conform to GPD usage. This change is mechanical only, and no loss of EPD morphological information will occur.

**(v) Data restriction:**

The question of restricted data was discussed since the EPD is the only database that has such a restriction. The EPD's policy with maintaining a restricted data classification has been to provide a means of involving original workers in data use and thereby to encourage data submission. Many contributors have taken advantage of this possibility. However, the database manager reported that so far there have been no requests for the use of restricted data. It was agreed that the protocols should be changed to include a renewable time-expiry of 3 years on data restriction. The relevant changes to the protocols occasioned by the decisions made under points (iii), (iv) and (v) are set out below.

**PROTOCOLS FOR THE EUROPEAN POLLEN DATABASE**  
*As revised 3 February 1996 - Cracow*

The following protocols for the database were discussed and agreed by the Advisory Board at its meeting in Cracow. In the event that additional changes are necessary in the future, all

database contributors and users will be notified and the changes will be published in the Newsletter. The current protocol will also be distributed with any data transferred from the EPD to a user.

### **A. Data**

1. Data must consist of the original counts, not percentages or digitized data.
2. The database must contain the original taxonomic identifications, with exceptions of exact nomenclatural synonymy. As primary entries, taxa will not be lumped into higher taxonomic groups in the database. For practical reasons, higher-level hierarchies will exist within the database in two ways; the first will be according to pollen morphology, the second according to plant taxonomy.
3. Data will be classified as restricted or unrestricted. All data will be available in the EPD, although restricted data can be used only as provided below.
4. Unrestricted data are available for all uses, and are included in the EPD portion of the World Data Center- A (Paleoclimatology) and the EPD portion of the Global Pollen Database, which are distributed from various electronic sites globally.
5. Restricted data may be used only by permission of the data originator. Appropriate and ethical use of restricted data is the responsibility of the data user.
6. Restrictions on data will expire three years after they are submitted to the EPD. Just prior to the time of expiration, the data originator will be contacted by staff of the EPD with a reminder of the pending change. The originator may extend restricted status for further periods of three years by so informing the EPD each time a three-year period expires.

### **B. Contributors**

1. Can declare data unrestricted or restricted, but are strongly encouraged to provide data in unrestricted form so as to allow widespread use.
2. Can ask to verify that data in the database are correct. As a matter of general policy, the central database should routinely return to the data originator a hardcopy printout of the data as they

are entered in the database for optional verification by the originator.

3. May use any unrestricted data.
4. Can obtain copies of application software and the database itself for use on his/her own computer.
5. Should receive a periodic newsletter or report concerning the database.
6. Can ask at any time that his/her data be withdrawn from the database or that their status (unrestricted or restricted) be changed.
7. May, by so informing the EPD, extend the restricted status of a data set after the standard three years.
8. In the case of a dispute regarding inappropriate use of restricted data, the Advisory Board will serve as arbitrator.

### **C. Users**

1. Must ask permission from the data originator for use of restricted data.
2. Should, as a matter of courtesy, inform data originators of the uses being made of their data.
3. If the contributor wishes, should show the contributor results of analyses and manuscripts for publication for critical comment.
4. Should cite, in any publication using data from the database, the contributors' original publications describing their data.
5. Should send contributors reprints of publications that use their data.
6. Should acknowledge contributors for use of unpublished data and for any advice they may have provided.
7. No user can pass data on to another party. All users must obtain data from the central database.
8. Normal ethics apply to co-authorship of publications. The contributor should be invited to be a co-author if a user makes significant use of a single contributor's data, or a single contributor's data comprise a substantial portion of a larger dataset analyzed, or a contributor makes a significant contribution to the analysis of the data or to the

interpretation of the results. This guideline applies to unrestricted as well as to restricted data.

9. The data are available only to non-profit-making organizations and for research. Profit-making

organizations may use the data, even for legitimate uses, only with the written consent of the Advisory Board, who will determine or negotiate the payment of any fee required.

#### 4. Data distribution:

A suggestion has been made that the EPD might be included in MEDIAS, a French state-funded data collection centre at Toulouse. This seems to offer opportunities for CD-ROM data distribution and for data provision in European-specific formats. As it was agreed that the European pollen unrestricted data should be available at the WDC and in order to avoid duplicated efforts, a decision was made that MEDIAS should be only a mirror site. In other words, the data will always be first submitted and

available at the WDC, then MEDIAS will make a "copy" of the global pollen databases for European users on its server. Downloading data, maps, software and utilities from MEDIAS will be faster from Europe. According to MEDIAS, such a mirror site is feasible and can soon be available. In order to clarify the financial implications, funding application procedures and technical aspects, discussions between the WDC, the EPD and MEDIAS are underway.

#### 5. Use of EPD data to date

Do please remember that the EPD data are now available for use and that one of the main aims of the database is that the data should be used for as varied a range of projects as possible, be they national or regional in scale. Obviously the network needs constantly to be filled in to enable more and more detailed syntheses. There are probably several such projects underway which have not yet reached the publication stage or which the EPD is unaware of. The following list gives some examples of ways in which EPD data has been used so far. We will try to update this in following newsletters and would be grateful for information for this section. We would also hope

that publications involving the use of EPD data would refer to the source in their acknowledgements.

Peng, C.H., Guiot, J., van Campo, E. and Cheddadi, R. (1995). The variation of terrestrial carbon storage at 6000 yr BP in Europe: reconstruction from pollen data using two empirical biosphere models. *Global Ecology and Biogeography Letters*, 22: 2581-2591

Prentice, I.C., Guiot, J., Huntley, B., Jolly, D. and R. Cheddadi (1996): Reconstructing biomes from palaeoecological data: a general method and its application to European pollen data at 0 and 6Ka. *Climate Dynamics*, 12:185-194.

#### 6. Plans for EPD use

Priority efforts should be:

- to establish default radiocarbon chronologies for as many sites as possible. This work is already underway and about 100 sites now have a default chronology available in the database. One should mention that it is possible to archive several chronologies for the same site in the DB.
- to include existing age models in the database. Those who have contributed pollen data for which an age-depth model is available, please provide it to the EPD.
- to ensure that new data include the published age model.

- to distribute chronologies as interpretative, not original, data.

It is most probable that in the future the E.U. will not support a simple effort of data compilation. Therefore, a possible way to continue to be funded will be to devise a series of programmes based on research tables developed from the EPD and of easy access to non-specialists. For such purpose, it is also necessary to seek a permanent position for a database manager. The Advisory Board/Executive Committee wrote a letter to the CNRS supporting an application from the LBHP for a research engineer position.

## 7. Administrative structure of the EPD

The Members of the Advisory Board will come up for re-election (or replacement) on 5-yearly staged basis, following nomination by the Advisory Board and/or National Groups. Both Dr Bas van Geel and Dr Andrei Andreev were invited to join the Advisory Board and Professor Magdalena Ralska-Jasiewiczowa was elected Vice-Chairperson. The members of the Executive

Committee are signatories to the EU contract and therefore they (or their Universities) are committed for the term of the EU contract.

The Executive Committee and Advisory Board will meet annually to report on and discuss the activities of the preceding year and to produce the annual newsletter. The next meeting of the Board is to be in Durham, England, in February/March 1997.

### Contact details are set out below:

The year in brackets following each AB member's name indicates the year in which that person comes up for re-election.

#### Data-base Manager

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## Announcements

 The Laboratory of Botany and Palynology seeks a student to carry out thesis research on Oak migration trajectories using the European Pollen Database.


The aim of the project is to produce maps at different time slices starting from the Late-Glacial to the present and to make comparisons with the present day distribution of oak. This research study

will be conducted in close collaboration with the data-base manager of the EPD and the agronomists and requires good skills in manipulating palaeo data and computing.

Applications from the European Union are welcome. The grant will start on October 1<sup>st</sup>, 1996. The fellowship is 7000 FF (Tax free) per month for 36 months.

***Please send CV to:***


Dr. J.-L. de Beaulieu  
Faculté de St Jérôme  
LBHP - Boite 451  
13397 Marseilles - France

 The launching meeting of the European Pollen Monitoring programme will be held at Kuusamo and Hailuoto, Finland 4 - 8th July, 1996. This programme aims to set up a network of pollen deposition monitoring stations through Europe to

produce annual influx data. The launching meeting will review data gathered so far and establish protocols for the network. Requests for the 2nd circular should be addressed to:

Dr Sheila Hicks  
Department of Geosciences and Astronomy  
University of Oulu  
Linnanmaa  
90570 Oulu, Finland

## *Call for data contribution*

 The effort of data compilation is still the very active side of the European Pollen Database. For those who have pollen data to contribute please contact the Arles centre. All data available in the database can now be requested by any scientist for research from the centre.

In certain areas (see the map) data are still lacking. Therefore, your contribution to fill in the 'gaps' or to increase the spatial resolution of the pollen sites will be much appreciated by all our community.

## *New Book Information*

### **Palaeoecological events during the last 15,000 years**

**Regional Syntheses of Palaeoecological Studies in Lakes and Mires in Europe**

Edited by B.E. Berglund, H.J.B. Birks, M. Ralska-Jasiewiczowa and H.E. Wright

Research into palaeoecological events since the last deglaciation has progressed significantly in the last 15 years. Such research involves multidisciplinary stratigraphical studies of lake and mire deposits, using a variety of field study sites. A synthesis of the work carried out in Europe is presented here, dealing with both biotic and physical environmental changes, including climate, hydrology, vegetation, human impact and

soils. Regional syntheses are based on approximately 500 key sites, covering around 100 different regions. The aim is to take a consistent approach so comparisons are possible.

This book forms the final results of the UNESCO/IGCP project 158B, and follows on from the 'Handbook of Holocene Palaeoecology and Palaeohydrology' published by Wiley in 1986.

**Price: £ 100**