

# EUROPEAN POLLEN DATABASE NEWSLETTER N° 4 ARLES - JANUARY 1994

## INTRODUCTION

The last Newsletter was distributed in November 1992. Our experience has shown that it is quite difficult to prepare a Newsletter every six months.

During 1993 more data have been compiled than the previous year. The pollen counts of about 250 sites (see map) have been sent to the European Pollen Database (including both the Late Glacial and the Holocene). These sites are now fully archived in Arles. The number of C14 dates archived is greater than 1100 and the list of pollen taxa coded in the database now exceeds 1700.

More sites from the Central and the Eastern European countries are expected in the next few months. The first release of the European Pollen database is scheduled for March 1994 and about 400 sites are expected to be available before that date. **These 400 sites certainly do not represent one tenth of the sites studied throughout Europe. We therefore hope that more of you will take part in the EPD project at this advanced stage where the EPD team is able to offer interesting software for database handling.**

## EUROPEAN INITIATIVES

### CENTRAL AND EASTERN EUROPE

Although the Eastern and Central European countries have shown a great interest in the European Pollen Database initiative, the programme EPOCH and ENVIRONMENT (which financed the EPD structure) could not afford their active contribution to the project. The insufficiency or even the lack of computer equipment is the main obstacle. The contribution of the central and eastern laboratories is absolutely necessary in a global

approach to the paleoenvironment and paleoclimate changes during the Late Quaternary. Hence, since the beginning of the EPD project, the members of the Executive Committee and the Advisory Board of the EPD have applied to different European programmes and computer enterprises in order to obtain some support for our Eastern and central European colleagues but with no success.

At the end of July 1992, the EPD learned that the EEC programme "Scientific and Technological Co-operation with Central and Eastern European Countries" could offer them an exceptional opportunity to join the EPD and to complete the coverage of Europe to the East.

August 8th, 1992 was the deadline for the application to the EEC to obtain funds and support for a "Pan-European Network for a common pollen database". The idea of the application sent *in extremis* is to set up regional pollen databases in six eastern European countries all in connection with the EPD.

The application was successful. The network project (planned for two years) starts with the three laboratories involved in the EPD project since its beginning and represented by: J.L. de Beaulieu and J. Guiot (France), B. Huntley (Great Britain), S. Bottema (The Netherlands), B. Ammann (Switzerland) and the six laboratories which will benefit from the funds represented by: M. Ralska-Jasiekowska (Poland), E. Rybnickova (Tchecoslovakia), N. Boscau (Romania), E. Bozilova (Bulgaria), L. Saarse (Estonia), M. Kabailiene (Lithuania).

Four main steps are distinguished during the first year:

1. attribution of a computer equipment to each of the eastern teams (plus a microscope for the Cluj team) (almost done);
2. visit of western experts to eastern and central Europe countries to launch the data compilation programme (including installation of computer and software), planned for January 1994;
3. data compilation;
4. workshop in Arles (March 1994), see announcement at the end of the Newsletter.

We hope that, at the beginning of the second year, the network will be extended to new members. Other applications have been made to the EEC in order to integrate our colleagues in the ex-USSR. A final workshop will be organised at the end of 1994.

#### THE SWEDISH INITIATIVE

In spring 1991, a Swedish working group headed by M.J. Gaillard (member of the advisory board) was created with the following aims:

- inform all palynologists in Sweden about the EPD,
- set up a list of authors willing to contribute to the EPD,
- set up a list of sites to include into the EPD,
- work out pollen taxonomy and nomenclature, and set up a list of the Swedish pollen taxa,
- help the EPD centre in Arles to collect the Swedish pollen data.

In Spring 1992, the results of the working group's activities are as follows:

- the pollen data of 41 Late Glacial sites are sent to Durham (regional centre which compiles the late glacial data) and 75 Holocene sites are promised to Arles by 20 authors.
- a preliminary list of pollen taxa for Sweden was established.

In January 1993 a grant was obtained from the European Science Foundation with the following aims:

- collect the pollen data from all the remaining promised sites to the EPD, beginning with a selection of high priority sites (mainly IGCP 158 sites).
- compile the site and pollen data in the computer format needed for the EPD.
- to use the Swedish contribution for future research with Scandinavian and European colleagues on vegetation history, human impact and climate at a

regional to continental scale.

In September 1993, 23 selected Swedish sites were sent to the EPD. Hans Linderson under the leadership of Dr. M.J. Gaillard and Prof. B.E. Berglund is still compiling more Swedish sites to be included in the EPD.

#### THE FINNISH INITIATIVE

S. Hicks is the co-ordinator for the Finnish contribution to the EPD. In April 1993 S. Hicks sent 34 data sets including pollen counts and site information.

### CO-ORDINATING THE EXCHANGE OF DATA BETWEEN REGIONAL AND CENTRAL POLLEN DATABASES (J. Keltner & R. Cheddadi)

The regional databases have exactly the same structure as the central database (although this does not preclude the creation of tables in addition to those in the central database).

The central database in Arles is in charge of assigning codes and numbers to every new data item. The site, the core, the author, the taxa ... of a specific site will all have unique codes in the database. For example, every site is uniquely identified by its Site# and independent of all others. These numbers are the basis of an internal system that guarantees the uniqueness of data in the Pollen Database and these numbers carry no external meaning for users of the database. Site#'s assigned by the central database are in the positive range. The central database will never contain any number less than 1. Regional databases, when they enter new sites, assign negative numbers to Site#.

When a compiling centre sends its data to the central database, the negative codes are then re-assigned positive and unique codes. The re-assignment of the positive codes in the central database is made using a script. On receipt of the data, the central database will verify that all required information is present (e.g. that every site has a name) and confirm that there is no duplication of existing data. Following verification, the data accession script will add the data to the central database. This script will replace any regionally assigned numbers with ones from the positive range reserved for the central database. A record may be

kept of such replacements, if required.

## **ACTIVITIES OF THE EPD WORKING GROUP ON POLLEN TAXONOMY AND NOMENCLATURE 1992-1993 AND NEEDS OF FINANCIAL SUPPORT**

(M.J. Gaillard)

In April 1992, during the EPC workshop in Arles, the EPD advisory board (AB) met to discuss several important points, such as the difficult question of consistent pollen taxonomy and nomenclature for the database. A preliminary list of European pollen and spores taxa had been prepared by Annabel Gear (Durham, UK), mainly based upon higher plant taxonomy and nomenclature according to *Flora Europaea*. The general opinion of the AB's members was that we needed a list, the structure of which should follow pollen taxonomy instead. Therefore, it was decided that a working group should take on this question and concentrate in a first stage on the taxa already entered in the database. The urgent tasks were to harmonise taxonomy and nomenclature, and to identify synonyms. H.J.B. Birks (JB, Bergen, Norway) and M.J. Gaillard (MJG, Lund, Sweden) offered to lead this group and organise working meetings. The following members were proposed: Annabel Gear (AG) and Rachid Cheddadi (RC, EPD-Arles, France), and several specialists having a good experience of pollen morphology, taxonomy and nomenclature in several parts of Europe: Sylvia Peglar (SP, Bergen, Norway, NW Europe), Ruth Drescher-Schneider (RDS, Graz, Austria; S Alps and S Europe), Jacqueline van Leeuwen (JL, Utrecht, The Netherlands and Bern, Switzerland; N and S Alps), J.L. de Beaulieu (JLB, Marseilles, France; S Alps and Mediterranean area), MJG (N Alps and NW Europe), JB (NW Europe).

This group should work on a first revision of the EPD pollen & spores taxa list, that should be checked later by specialists for E and SE Europe: Magdalena Raslka-Jasiewiczowa (Krakow, Poland) Elisabetha Bozilova (Sofia, Bulgaria), Sytse Bottema (Gröningen, SE Europe).

The working group met 3 times during the past year:

1. September 1992, Aix-en-Provence, France (8th

IPC Congress), a half day. Present: JB, MJG, JL, AG, RC. The future strategy of the working group was discussed in detail. It was decided that the first working meeting would take place in November 1992 in Bern.

2. November 1992, Bern, two full days. JB, SP, JL, LW, RDS, RC and JLB. AG and MJG should have attended the meeting but were unfortunately hindered by severe health problems. A first revision of the EPD taxa list (state November 1992, ca 1000 taxa) was performed to ca. 2/3 (ca. 700 taxa).

3. April 1993, Bern, 2 full days. Present: MJG, SP, RDS, JL, RC and JLB. The first revision of the ca. 700 taxa was refined and revision of the ca. 1000 taxa of the EPD taxa list (state November 1992) was completed. The future of the working group was discussed and the following decisions were taken:

- The revised list of taxa will be prepared for distribution to all EPD contributors by MJG (and checked by the other members of the group). The document will be ready soon.

- The list of new taxa entered in the database since last November and the revision will be checked by the other members of the group. Should be available in Autumn 93.

- With increasing number of sites entered in the database, the list of new taxa will probably continue to grow. A working group will have difficulties to cope with the need of checking taxonomy and nomenclature in the long term for the following reason: the members of the group are active researchers with little extra time for voluntary work, and/or researchers having presently no permanent work and no (or very modest) salary.

In the long run, this will lead to two major problems:

- (1) revision of the list will take too much time, and
- (2) researchers with no or little salary will soon find it unfair to make voluntary work for the EPD.

Solutions to these problems were discussed. The best alternative would be that the EPD find financial support to pay a good specialist presently unemployed or only part time employed (if possible, a member of the working group). This person would be responsible of the first revision of the new taxa list coming from Arles, that would be then checked by the other members of the working group. This procedure would speed up significantly the work of

the group and would avoid the need for too many meetings and travel costs.

The members of the Executive Committee and Advisory Board, the compilers and all data contributors have to be aware of two facts:

1. pollen and spores taxonomy and nomenclature have to be consistent for a good useful database. It is therefore, a work of primary importance, and
2. this work is very time consuming. The revision of the first taxa list (ca. 1000 taxa names) required, besides the mentioned meetings, several hours of work for each of us before and after the meetings. We consider, therefore, that it would be worth (and obvious) that the EPD finances this essential part in the establishment of a functional database.

### HOW THE POLLEN TAXA ARE CODED IN THE EPD

In the EPD the original pollen taxa are archived following the author's identifications. As mentioned in the EPD protocol, the only changes that the EPD makes are synonyms according to *Flora Europaea* (e.g. Poaceae will be stored as Gramineae).

However, there is an option in the table which stores the pollen taxa. This option allows the original counts to be extracted using a "Higher taxa" or "Accepted taxa" list. During its last two meetings in Bern the "pollen taxonomy group" tried to set up the "Higher taxa" and the "Accepted taxa" list for all the pollen taxa coded in the EPD. The idea or the meaning of these "Higher" and "Accepted" taxa might be clearer using *Quercus* as an example:

<b>Higher</b>	<i>Quercus</i>	
<b>Accepted</b>	<i>Quercus ilex</i> -type	<i>Quercus robur</i> -type
<b>Original</b>	<i>Q. ilex</i> / <i>Q. coccifera</i> / <i>Q. robur</i> / <i>Q. petraea</i>	

This schema shows the "Accepted taxa" assignments (i.e. the accepted name is *Quercus ilex*-type although some authors may have used *Quercus ilex*/*Quercus coccifera*) and the "Higher taxa" assignments (i.e. *Quercus* is the Higher order taxon to which both *Quercus ilex*-type and *Quercus robur*-type belong).

### EUROPEAN POLLEN DATA DISPLAY

(C. Goeury & R. Cheddadi)

The most recent software in the EPD is named GRAFSITE. The aim of GRAFSITE is to display a map of Europe with all the sites available in the EPD, according to their geographical co-ordinates, then with a mouse the user can visualise (and if needed print) the pollen diagram. Its use is very simple since all the functions are interactive with a mouse through icons.

GRAFSITE displays only the main taxa in the diagram. The user might print the latter diagram using several types of printers (Laser, Paint Jet, ...). Several other options are also available such as viewing the diagram in a three dimension space.

The diagram displayed is in colour and a specific taxon keeps the same colour in all diagrams displayed which makes the visual comparisons easy and fast.

GRAFSITE will be distributed free of charge to all contributors after March 1994.

### REPORT ON THE IGBP PAGES WORKSHOP "GLOBAL PALEO-ENVIRONMENTAL DATA" AUGUST 23-25, 1993 BERN

The aim of this meeting was to review all the existing databases. E. Grimm and J.-L. de Beaulieu presented the NAPD and the EPD respectively.

PAGES would like to encourage "regional initiatives" and also to develop a world database centre (Boulder Colorado) for paleoenvironmental data. The question of how to harmonise proxy data from very different sources and of very different nature could not be solved within a few years.

A direct question was: will the EPD agree to transfer its data to a larger PAGES database. The "preliminary" answer was that when the EPD opens everybody will be able to have access to the EPD data, including PAGES, but that the release of "restricted data" offered to the EPD certainly cannot be considered.

The greatest benefit of this meeting was to show the interest of a large community in the development of paleoenvironmental databases and that the pollen databases are pioneers in these initiatives.

**OPENING WORKSHOP OF THE  
EUROPEAN POLLEN DATABASE**

**"PAST VEGETATION AND CLIMATE  
FROM POLLEN DATABASES"**

3-5 March 1994 in Arles, France.

This workshop is organised to mark the official opening of the European Pollen Database, supported by the ENVIRONMENT programme of the CEC, and the launching of the pan European network for a common pollen database supported by the COPERNICUS programme (PECO) of the CEC. The workshop will assemble the main actors of the European Pollen Database (advisory board,

executive committee, regional and related databases managers, those responsible for each element of the network, possible correspondents for future extensions and contributors).

Presentation of research projects and examples of pollen databases is planned during this workshop: vegetation dynamics and migration processes; vegetation, biomass and climate reconstruction; anthropogenic action on vegetation; boundary conditions for climatic models; data-model comparison...

All contributions concerning the use of the pollen databases are welcome for this workshop.

---

*Please return this form to:*

*EPD, Centre Universitaire d'Arles, Place de la République, 13200 Arles, France.*

**BEFORE January 30th, 1994**

Name:

Address:

I plan to attend the meeting

Yes / No

I intend to present a communication

Yes / No

Title:

---

**BONNE ANNEE!**

**HAPPY NEW YEAR!**

