



IOP NEWSLETTER 49

MAY 1993

CONTENTS

IOP NEWS.....	2
NEWS OF FORTHCOMING MEETINGS.....	2
REPORTS OF RECENT MEETINGS.....	3
RECENT PUBLICATION.....	4
NOMENCLATURE AT TOKYO.....	4
NEWS OF INDIVIDUALS.....	5
OBITUARIES.....	6
THE PLANT FOSSIL RECORD PROJECT.....	7
NAMES AND ADDRESSES OF MEMBERS.....	10

PLEASE MAIL NEWS AND CORRESPONDENCE TO
YOUR REGIONAL REPRESENTATIVE OR TO THE
SECRETARY FOR THE NEXT NEWSLETTER 50.

ELECTION OF OFFICERS

Resulting from the announcement in the last newsletter these nominations have been received. The number is the same as that of the vacancies and so there will not be a ballot. The Executive Committee officers from 1993 - 1998 are

President:

T.N. Taylor, Columbus, USA

Vice Presidents:

J. Anderson, Pretoria, S. Africa

A. Herman, Moscow, Russia

K. Uemura, Tokyo, Japan

Members at Large:

S. Bande, Poona, India

J. Eder-Kovar, Wein, Austria

E. Truswell, Canberra, Australia

Secretary:

M.C. Boulter, London, UK

ADDRESS LIST OF IOP MEMBERS

The addresses listed in IOP Newsletter 47 have been corrected and more recent changes have been added. The list has been reorganised into alphabetical order by family name and printed at the end of this newsletter. The e-mail addresses are included. Under our 1989 Constitution this list also serves as the Electoral Roll. Since there is no need for a ballot this time the Roll is not required.

REGIONAL REPRESENTATIVES

It is important to clarify the distinction between the (traditionally passive) Executive Committee, listed above, and the very definitely active working Regional Representatives, listed below.

North America: E. Taylor

South America: O. Rosler

Africa: H. Anderson

Australasia: J. Douglas

China: Z. Zhou

Japan: K. Uemura

India: B.S. Venkatachala

Russia: A. Gomankov

Central Europe: J. Eder-Kovar

South Europe: B. Meyer-Berthaud

North Europe: M. Boulter

INTERNATIONAL PRIZE FOR BIOLOGY

This annual prize of 10 million yen (and a medal) is offered through the Japanese Society for the Protection

of Science, 5-3-1 Kojimachi, Chiyoda-ku, Tokyo 102, Japan.

Fax 03(3237)8238

The speciality for the 1993 prize is "Ecology". Previous recipients include E.J.H. Corner and P.H. Raven for Systematic Biology and Taxonomy. Fax for a form to help make your nomination before July 1993.

NEWS OF FORTHCOMING MEETINGS

XV INTERNATIONAL BOTANICAL CONGRESS, Yokohama, Japan

August 28-September 3, 1993.

The congress will be held in Asia for the first time. Our Japanese IOP colleagues hope that many IOP members will participate in the Congress and the IOP General Assembly. The deadline for submission of abstracts is before April 10, 1993. The third circular will be distributed to those who will have submitted their pre-registration form.

The official program and palaeobotany symposia are tentatively scheduled as follows.

Aug. 28 Registration and Opening Ceremony

Aug. 29 Palynological Evidence for Major Events in Land Plant Evolution (15.45-18.15)

Aug 30 Late Quaternary Vegetation History and Community Dynamics (9.00-11.30); Poster Session (15.45-18.15)

Aug. 31 Evolution of Pteridophytes and Gymnosperms: Integrating Fossil Evidence (9.00-11.30)

Sept. 1 Early Evolution of Flowers: Palaeobotanical Aspect (9.00-11.30), which is jointly scheduled with Early Evolution of Flowers: Neobotanical Aspect (13.00-15.30); Poster Session (15.45-18.15)

The IOP Business Meeting will be scheduled at lunch time, preferably attached to palaeobotany symposia.

Sept. 2 Morphology and Systematic Relationship of Mesozoic Gymnosperms (9.00-11.30); The

Impact of Environmental Change on Angiosperm Evolution (13.00-15.30)

Sept. 3 Closing Ceremony after morning symposium.

An IOP Dinner is also planned. During the Congress, a small meeting "International Taskforce on Mesozoic Gymnospermous Woods" is organised by Dr David A. Medlyn of Utah State University. Those interested in wood morphology of Mesozoic gymnosperms are welcome.

Two Congress Excursions of interest to palaeobotanists have been planned:

Late Cretaceous and Tertiary floras of Hokkaido (Aug. 23-27; leaders H. Nishida & K. Uemura) and South Korea Palaeobotanical observation trip (Sept. 4-8; leader H.Y. Chun). The travel costs for the Hokkaido excursion is wrongly indicated in the Third Circular. That cost of ¥110,000 should be ¥90,000.

For a smooth arrangement of the IOP meeting, it is especially helpful to send a photocopy of your registration form to:

K. Uemura, Dept. Geol., National Science Museum
3-23-1 Hyakunin-cho, Shinjuku-Ku, Tokyo, 169 Japan.
or Fax: 81(Japan)-3-3364-2316

4th EUROPEAN PALAEOBOTANICAL - PALYNOLOGICAL CONGRESS, Heerlen

The fourth European P&P Congress will be at Heerlen, The Netherlands, in the 3rd week of September 1994. Previous meetings were held in Montpellier, Madrid and Vienna.

The local organizing committee is chaired by Dr. H.W.J. van Ameron (Heerlen). General-secretary is Dr G.F.W. Herengreen (Geological Survey, P.O. Box 157, 2000 AD, Haarlem). The first circular will be sent in early 1993 to those who attended the Vienna meeting. For further information please contact the secretary, G.F.W. HERNGREEN

5th INTERNATIONAL WORKSHOP ON PLANT TAPHONOMY, Liege, Belgium, November 19th 1993

This will be at the University of Liege. Services associées de Paléontologie, in the town centre. Prof D. Edwards (Wales) and Prof D. Ferguson (Austria) are the invited keynote speakers.

The first circular is also a call for papers before 15th September 1993. Abstracts should show the title, name and address on separate lines.

The second circular, in June 1993, will give domestic information. You must pay 500 BEF when you arrive on Friday morning 19th November. This includes registration, abstracts, coffee, tea and lunch. It excludes dinner etc. - downtown!

Register before April ends:

Muriel Fairon-Demaret, Université de Liège, Services associées de Paléontologie, Place du XX Août, B-4000 Liège, Belgium.

REPORTS OF RECENT MEETINGS

4TH INTERNATIONAL WORKSHOP ON PLANT TAPHONOMY, Munster, December 1992

On the 2nd December 1992 almost seventy scientists from six European countries converged on the university town of Munster (Germany) for what was to prove to be one of the best meetings of its sort so far.

After a short opening session, we were treated to an excellent expose, laced with magnificent slides, on the taphonomy of explosive volcanic deposits by Bob Spicer (Oxford). As he pointed out, volcanic terrains represent an important taphonomic window, because they capture communities not normally preserved. Moreover, by careful sampling, it is possible to reconstruct the community dynamics in some detail. Since the assemblages are free of the edaphic bias inherent in fluvio-lacustrine thanatocoenoses, they can in addition yield a more accurate palaeoclimatic signal.

One might have been forgiven for assuming that Winfried Remy's contribution was going to be a bit of an anti-climax after Bob's talk. Nothing could have been further from the truth. Professor Remy treated us to a dynamic picture of the *Rhynie* peat (Early Devonian), in which the plants were shown to have adopted a variety of strategies in an attempt to outcompete their neighbours. Once more, careful analysis of the lateral and vertical changes in plant composition is proving to be the key to a fuller understanding of the *Rhynie* plant succession. If any of the participants had come to Munster with the impression that the *Rhynie* charts had been fully worked out, this idea was soon dispelled by Professor Remy. Ongoing work is continuing to yield information on a range of subjects including the phytopathology of *Palaeonitella* and the structure of the gametophytes of early tracheophytes.

Not all plant remains are as exquisitely preserved as those from *Rhynie*. However, as Christa Hofmann (Heidelberg) was able to show, when these are placed in their proper sedimentary perspective, even poorly preserved plant-remains including hash can yield information of great value for palaeogeographic reconstructions. Based on her work on the Upper Carboniferous Bude Formation in S.W. England, she was able to infer a monsoonal climate with alternating dry and wet seasons. During the wet seasons lycopod *Calamites* logs were transported to the flood plains along with coarse-grained sediments. From there, they were sometimes washed into the Cracking Trough by tectonically activated turbidity currents.

Joachim Rabold (Heidelberg) wound up the morning session with an appeal for more tolerance in Germany society, followed by the interpretation of a floodplain forest preserved as stumps under the levee deposits of a major tributary of the Orinoco River. The distance between the tree-stumps ranged from 1 to 10m, with a

mean of 3.9 m. However, as he pointed out the density of the vegetation would be grossly underestimated in an exposure (quarry face or road cut). Using random lines to simulate an exposure, he arrived at a mean distance of 42.8 m between the stumps. This suggests that when attempting to assess forest density from stump horizons, it may prove necessary to divide the apparent distance by a factor as large as 11.

After an excellent buffet lunch in the Palaeobotany Department we returned to the lecture theatre in the Department of Applied Botany for the afternoon session. This was to prove no less interesting than its morning counterpart.

The afternoon session started with a state of the art address on the taphonomy of fruits and seeds by Margaret Collinson (London). In her characteristically lucid manner, Margaret discussed the various factors influencing the final composition of assemblage of diaspores, i.e. production and functional biology, transport and deposition, preservation and collection. Her general conclusion was that more field studies backed up by experimental evidence are urgently required, if we wish to interpret fruit and seed assemblages in a meaningful manner.

An example of the way in which field studies can provide useful information on the formation of fruit and seed assemblages was then presented by Carole Gee and Martin Sander (Bonn). In a semi-quantitative study, they compared the plant detritus left behind on point bars in the River Sieg with the floodplain and riverbank vegetation. It is apparent that while certain elements are missing or underrepresented, other like *Betula*, *Carpinus*, *Larix* and *Fagus* are clearly overrepresented. The nearest source of the *Fagus* cupules is 8 km upstream.

As taphonomic studies progress, it is becoming increasingly apparent that information from diverse sources is required, if we are to be in a position to eliminate some of the biases inherent in our palaeofloristic analyses. In their presentation on the Viktoria Coal-seam (middle Eocene), Walter Riegel (Göttingen) and Volker Wilde (Frankfurt) attempted just that. By combining information from arenaceous foraminifera, dinoflagellates, spores, pollen, leaves, dispersed cuticles and wood, they were able to show that the coal was initially subject to marine influence. As the organic matter built up, fluvial influences became more predominant. In the final stages there was a return to marine conditions, which explains why the top of the coal-seam is bored.

In the final contribution of the day, Klaus Kelber (Würzburg) demonstrated how by examining the preservational state of fossil plants, it is sometimes possible to pinpoint the various phases of desiccation, selective destruction and diagenesis the plant detritus underwent following its abscission and/or death.

The continuing interest in plant taphonomic studies, no doubt fired by such high quality presentations, was reflected at the end of the afternoon, when the delegates agreed to hold the next meeting in one year's time in

Liege (Belgium). In 1994 the Venue will be Bonn (Germany).

For many the day ended with an informal gathering in a Greek restaurant, followed by a visit to a folkloristic pub. For those of us who stayed on until the next day, there was a further opportunity to see round the Palaeobotany Department and make useful contacts. All delegates agreed that the success of this meeting was in no small part attributable to the concerted efforts of Professor Hans Kerp and his dedicated team.

D.K. FERGUSON, Vienna, Austria

RECENT PUBLICATION

PALAEOVEGETATIONAL DEVELOPMENT IN EUROPE

These proceedings of the Pan-European Palaeobotanical Conference in Vienna during September 1991 are now published. There are more than 400 pages organised under the following sections: Quaternary, Tertiary, Mesozoic, Palaeozoic, Taphonomy Biomechanics Biochemistry.

Send 750 Austrian shillings to Dr J. Eder-Kovar, Geologisch-Paläontologische Abt., Naturhistorisches Museum, Burgring 7, A-1014 Vienna, Austria.

NOMENCLATURE AT TOKYO

The International Botanical Congress, scheduled for Tokyo, August 28 - September 3, will have to take a number of decisions on revision of the International Code of Botanical Nomenclature, some of which will have a considerable impact on the work of palaeobotanists. It is perhaps just worth recording briefly the way this slightly bureaucratic system works.

The Code (ICBN) has built into it (as Division III, "Provisions for Modification of the Code") arrangements for its own amendment. At Tokyo, as at all recent Congresses, some four days have been set aside before the main Congress for a meeting of the "Nomenclature Section". This is normally attended by several hundred interested participants, representing only a small fraction of those attending the Congress. That Section debates and makes recommendations on a series of proposals for changes to the Code, which are required to have been published in *Taxon* some months before the meeting. All changes have to be ratified by the Congress itself in its final plenary session; but it is normal to have the recommendations of the "Nomenclature Section" adopted without dissent; by that stage in the Congress, delegates are more interested in the time of their flight home than in debating finer points of nomenclature.

There are some 320 proposals for change going before the Tokyo Congress. The vast majority of these

are only of most peripheral interest to palaeobotanists. However, three items will have a considerable impact on the way we handle the names of fossil plants, if they are adopted. The first of these relates to the language in which a new species of fossil plant must be described. The other two items relate to the basis on which both new and old names are recognised as valid.

Latin, English or whatever?

A proposal coming to Tokyo is that any new taxon of plants (fossil or non-fossil) published on or after 1 Jan 1996 must have a diagnosis in Latin or English (Prop.221: see *Taxon* 42 (1), p.237, Feb.1993). For neobotanists this represents a release from the requirement of a Latin diagnosis (and will be opposed by some on those very grounds!). But for palaeobotanists, who at present can give a diagnosis of a new species of fossil plant in any language, it is a restrictive clause! If it were adopted, a diagnosis in Russian, Chinese or even in French, all of which are acceptable at present, would not be so after 1996. The change has considerable attraction for English-speaking palaeobotanists, since most palaeobotanists in the non-English speaking parts of the world would opt for an English rather than a Latin version. But opposition will probably come from the main body of botanists who see this as a threat to the "scientific heritage" of a Latin-based classical botanical literature. I would be surprised if this change were to be adopted in Tokyo.

Registration and NCU lists

A number of proposals relate to the validation of newly published names (the concept of "Registration of names"). Other related proposals deal with protecting well-established names from displacement by priority of earlier synonyms, by the compilation of lists of "Names in Current Use". The ideas behind these changes were reviewed in IOP Newsletter 37, December 1988, and need not be repeated here. Much fuller treatment of the subject in the wider context of all plant names is given in *Taxon* 40 (4), 669-677, (Nov.1991) and more recently in vol. 42(1), pp.191, 222 et seq.(Feb.1992).

The proposals for Registration, if adopted, will take care of the formal process of validation of newly published names (including those of fossils). This will involve the sending of any publication containing the description of a new taxon to one of several "registering offices". The date of registration (i.e.date from which the taxon is regarded as valid) would be the date on which the new description, effectively published, was received by the office. Names which did not get registered in this way would not be valid.

The concept of "protection" of names by placing them on lists of nomina protecta (so-called "names in current use", granted such protected status after a specified lapse of time) are covered in a series of proposals. These are designed to offer various strategies of first, recognising the principle of protection of names in this way, and second, the act of granting formal protection to specified lists of plant names. Palaeobotanists will probably be aware that although a draft list of fossil plant

generic names "in current use" was derived from the Plant Fossil Record (thanks to valiant efforts by Mike Boulter and many colleagues) it is widely accepted that the list is not in a sufficiently refined state to be granted formal status as a list of protected names. It is still uncertain which groups of plant taxa will have potentially acceptable lists, eligible for consideration by the Tokyo Congress. But it is likely that the principle of protection of lists of genera, at least, will be adopted. Arrangements for approval of lists, group by group, in later Congresses, would then need to follow.

The outcome of voting on these proposals will have considerable significance for the future handling of fossil plant names. It is a pity that the cost of getting to Tokyo will keep away so many of the younger palaeobotanists who will be most affected by such changes.

W.G. CHALONER, Egham, Surrey, U.K.

NEWS OF INDIVIDUALS

R. GIVULESCU, Cluj, Romania, received the Academy of Sciences award for his new book: "Flora fosila a Miocenului superior de al Chiuzaiba, Romania".

J. WATSON has submitted the following contribution to this column: "Joan Watson has moved to a refurbished 4-room suite on the fourth floor of the Williamson Building at Manchester University. Apart from the new fume-cupboard attractive features include views of the Pennines to the east and Waterhouse architecture to the west, parquet floors, Gauguin-inspired decor by Sanderson, tea by Fortum & Mason. Visitors will be most welcome."

ELSE MARIE FRIIS, Head of the Section of Palaeobotany, Swedish Museum of Natural History, Stockholm, has been awarded the Nils Rosen Linnaeus prize by the Royal Physiographic Society of the University of Lund. Nils Resen was a zoologist once attached to this university. The prize amounts to more than 216,000 Sw crowns and was awarded for her "epoch-making studies of small fossil angiospermous flowers from Cretaceous times, a scientific achievement throwing new light on the early evolution of flowering plants". It was presented to her at the annual festival of the Society on December 2nd 1992.

ELMAR KEDING recently graduated from the University of Greifswald in north east Germany after specialising in Tertiary fruits and seeds with help from Dieter Mai. He is one of many young palaeobotanists in Europe without a job. An Erasmus grant from the EEC allows him to work at the University of East London on the Plant Fossil Record project and other things.

OBITUARIES

JEN HSII, 22nd August 1910 - 18th November 1992

It was a very sad day for us that on the 18th of November, 1992 Professor Jen Hsii Passed away in Beijing. He was born on the 22nd of August, 1910 in Anhui Province, China. After he graduated from the Department of Biology, Qinhua University in 1933, he took up teaching and did his researches on morphology and anatomy of living plants for more than ten years at Peking University, Southwestern Associated University and Yunnan University. As a Visiting Professor, he studied palaeobotany and palynology with the famous scholar, Professor B Sahni from 1943 to 1946 and also from 1948 to 1952 at the Lucknow University, India. He was awarded a degree of Ph.D. in 1946 at that university. After returning to China, Professor Hsii worked at the Nanjing Institute of Geology and Palaeontology, Academia Sinica and the Institute of Geology, Ministry of Geology, China. In 1959, he founded the Laboratory of Palaeobotany in the Institute of Botany, Academia Sinica. And then he studied there and devoted the most time of his life to palaeobotany and palynology in the laboratory. He was elected to be a Member of Academia Sinica in 1980.

In his scientific career, Professor Hsii engaged in researches in the various field of botany, mainly including studies of morphology and anatomy of living and fossil plants, spores and pollen, and Chinese floras of most geological ages. He published more than 60 scientific papers and 6 books. Some very important researches done by Professor Hsii are :

- 1) Anatomy and life History of Selaginella sinensis.
- 2) structure and growth of the shoot apex of Sinocalamus beechcvano McClure.
- 3) further research on Homoxylon rajmahalennse Sahni.
- 4) Devonian Plants and spores of Yunnan Province, China.
- 5) Late Triassic flora of Baoding, Sichuan, China.
- 6) Glossopteris Flora from Southern Xizang (Tibet).
- 7) Late Cretaceous and Cenozoic Vegetation in China.

The successes in these projects achieved by Professor Hsii promoted the development of botany, especially, of palaeobotany in China.

He visited the UK, Sweden, France, USA and Canada. He established very good relationship and co-operation with the colleagues of Countries in the world. As colleagues and students of Professor Hsii, We will remember him forever and continue to develop palaeobotany and palynology in China.

CHENG-SEN LI

EVA PLANDEROVA November 8th 1932 - November 22nd 1992

The whole palynological and geological society was deeply shocked by the sad news about the tragical death of RNDr. Eva Planderova, Dr Sc, on November 22, 1992. She left us suddenly and unexpected in full

health amidst active work, after the success of her international symposium "Paleofloristic and paleoclimatic changes during Cretaceous and Tertiary", which she organised in Bratislava by herself in the days of September 14-20, 1992. On her desk scientific problems have remained in the middle of work, which she already could not finish.

A most painful aspect of her death is that we are losing not only a prominent research worker in the branch of palynology, but also a good-hearted human with high moral qualities, who was always willing to help and advise other colleagues.

RNDr. Planderova was born on November 8, 1932 in Komarno (southern Slovakia). Her love of nature led her to the Faculty of Natural Science of the Comenius University in Bratislava where she studied (1952-1957) biology and specialised in botany, to which she remained true also in the time of her activities at the Dionyz Stur Institute of Geology in Bratislava. Here she performed not only professionally, but also organising activity. In the frame of a small team of collaborators in the field of the Neogene, owing to her tenacity and perseverance, she was taking part in palynological investigation of the Tertiary in Slovakia, mainly of the Neogene where the main point of her work was. Her results largely contributed to solution of stratigraphical conditions in general maps 1:200,000 of southern Slovakia and inner Neogene depressions. On the basis of these works in the team of the Neogene Department also investigation of Miocene biozonation could be carried out, in the frame of which micro-floristic zonation of the Miocene in the Central Paratethys (the work of 8 volumes "Chronostratigraphie und Neozonotypen...") was elaborated.

During her active work she gradually entered into professional co-operation with many scientific palynological institutions, mainly in Europe. She joined international correlation programmes, concerning problems of the Miocene, but also of the Late Paleozoic. She lectured her results at international conferences, symposia and seminars. In the frame of the plans of the Dionyz Stur Institute of Geology she also took part in solution of stratigraphy of older formations, the Mesozoic and Early Paleozoic in the Nizke Tatry Mts. She presented her results in more than a hundred works, published in various journals, also abroad, and in many unpublished works deposited in the archives of the Dionyz Stur Institute of Geology and Geofond. Her last work is the monograph "Miocene microflora of Slovak Central Paratethys". In this she gives a synthesis of her biostratigraphical investigations and Slovakia.

She was developing great activity in organising various palynological actions, in the last time in organising an international symposium, the first in Slovakia. With great ardour she was leading the session and excursions, with pleasure about the successful action.

Although she died early, she has left a great deal of active work and has remained in our thoughts and hearts as an example of diligence and devotion.

MAGDA KONZALOVA. Praha. Czech Republic

PAULINA SNOPKOVA. Bratislava. Slovakia

A.K. ANANIEV

For me, the Ananiev bombshell fell in 1954 with his first papers on the Devonian flora of the Saian-Altai Mountain Region. This is an important palaeobotanical region in Siberia that I locate for my friends by stating that it is just north of Outer Mongolia. Earlier short notes on the plants, documented by him, had had little impact outside the then Soviet Union. But Ananiev's paper had many of us rushing to translators of Russian writings.

Ananiev's great monograph of 1959 listed the Lower, Middle, Upper Devonian plants from many of the numerous good localities in the area, compared them in detail with those of the rest of the world, analysed the floras of the three major subdivisions of Devonian, showed that his floras were an exact counterpart of those in western Europe and eastern North America, and added considerable new taxonomic data as well. When not busy describing plants or localities, he was busy participating in stratigraphic, mineralogical or other geological activities. Two later papers that I find particularly intriguing are his 1968 study of what we now call *Sawdonia* and another in 1969 on *Psilophyton*. *Sawdonia* is the nicest genus I know to illustrate for an audience how identical fossils can be found circumglobally. I am happy to have a beautiful specimen of his *S. ornata* to go along with others from the rest of the world.

Ananiev left me with one enigma. He gave me at the International Botanical Congress a bottle of vodka that he explained was 100 years old. The problem is that the bottle had a metallic screw top cap. Were metallic screw top caps even invented 100 years ago? Anyhow the vodka was good.

H. BANKS. New York. USA

W.G. CHALONER. London, writes: "I offer this brief addition to Harlan Banks' fitting tribute to Ananiev, and his commentary on what his work meant to Devonian palaeobotany.

"As Banks indicated, Ananiev lived all his working life in Tomsk, and his opportunities to get out and meet other palaeobotanists, even in Russia, seem to have been sadly curtailed. For all that, or perhaps because of it, he was very keen to make contact so far as it was allowed, with palaeobotanists in the rest of the world. I exchanged brief letters and more important, offprints with him; the net gain was assuredly mine! But at his request I also sent him a small volume of poetry by Robert Burns. Burns' writing had been translated into Russian in a way which had apparently retained something of the original Scottish vernacular. His poems had become popular there partly as a result of that, but undoubtedly also because the political message that they were perceived to contain made them an item

of Western literature which was acceptable to the Establishment (much as was the case with Charles Dickens' works). But Ananiev wanted to see Burns poems in their original language, even though he would obviously have had difficulty (like any Englishman) in understanding them!

"I only met Ananiev once, at the Novosibirsk International Palynological Congress meeting in 1971. He not only came to the meeting, but brought many of his Devonian fossil plants with him. These included a number of figured and type specimens which he allowed to be passed around quite a sizeable audience, at an impromptu evening seminar and slide show that he gave. His keenness to show his exciting fossils to palaeobotanists and palynologists from outside Russia gave him a most generous and rash disregard for the hazard of damage to which he was exposing those precious specimens! He also brought with him, and gave to many people, slabs of the Devonian "paper-coal" comprised of cuticles of *Orestovia*. This was another example of his remarkable generosity with fossil material, which is still treasured by one of its recipients."

THE PLANT FOSSIL RECORD PROJECT

The entity-relationship (E-R) diagram on page 9 summarises the latest developments in structuring this work. All stages in the process are far from complete but the basic interactions and computer programming is finished.

The first version of the database, PFR1, is still available attached to its own programme manager called Textmaster. Write to the IOP Secretary for more details. There are plans for a second version to be available by the end of this year with records of more fossil genera, modern genera with fossil species, and some fossil species of fossil genera.

PLANT FOSSIL OCCURRENCES

The project is starting to develop Records of Plant Fossil Occurrence (PFO), which aims to record every plant fossil identified authoritatively. Each Record will include details of the species, genus and family of the fossil, the location and region where it was found, and the author of that information (whether it be a bibliographic reference or a museum specimen label or etc.).

Priority in this IOP project is being given to remains of plants that may have been environmentally sensitive and which are known at any time from the present to a hundred million years ago. We expect that searches of a near-complete database will contribute to:

- reconstructions of change in climate, sea level, etc.

- better understandings of plant migrations and extinctions through different changes in environment
- observations on changes in biodiversity and environment through geological time
- establishment of patterns in biological and environmental processes as monitored by scientists.

A PFO Record Creation Programme is available either on floppy discs from the IOP office. Everyone interested can have access to a copy. When you receive your PFO Record Creation Programme please use it to assess how you might make Records within your specialism. They might be from the literature, from a particular collection, or from some other source such as a field trip collection. They will be from an age and a region (and perhaps from a particular taxonomic group) with which you are familiar. Fields 5 and 6 have a pop-up menu to choose the new standard geo-botanical regions developed by Hollis, S. & Brummitt, R.K., 1992. (World Geographical Scheme for Recording Plant Distributions. TDWG. Pittsburgh.)

The stratigraphical scheme for Fields 7 and 8 is after Harland et al 1982 (except that the Cenozoic Era ends before the Quaternary to help searches. The easiest way to proceed is to take a concise data set. This may be a single catalogue, a published monograph, a published review or commentary on a flora of a geological horizon, or whatever: a concise entity, a single named observation.

NEW DATA OFFERED FOR PFR

Several palaeobotanists and palynologists have kindly offered their existing databases to IOP's project. Some of these exist in magnetic form and need a lot of work from computer programmers to reorganise to the PFR formats. These include:

- Ravn's Taxon of pollen and spore species occurrences;
- Tralau's Catalogue of Palaeobotany & Palynology bibliographies These include full bibliographic details as well as keywords about taxonomic content for many of the articles
- Eder-Kovar's Vienna Natural History Museum catalogue of curated specimens
- van der Burgh Dutch Geological Survey fossil plant collections.

Others need even more work because usually they exist as private collections of unique index cards, and are the result of decades of hard work. They often have pictures or drawings which can be scanned into the databases quite easily, but for proper searching and concise storing the text needs to be typed as ASCII code. Optical Character Reading makes this relatively easy from typed originals. If you have such a catalogue please donate its content to IOP for wider use, preferably typed by a word-processor.

PFR IN JAPAN

Kazuhiko Uemura, Department of Geology, National Science Museum, Tokyo, has applied for a "Grant-in-Aid" from the Japanese Ministry of Education, Science and Culture, for the PFR project in Japan. Many scientists there are becoming involved:

- T. Kimura: Palaeozoic and Mesozoic plants
- A. Momohara: Quaternary plant megafossils and carpology
- H. Nishida: Permineralized plant fossils
- M. Suzuki: Fossil woods
- K. Tanimura: Fossil diatoms
- T. Yamanoi: Palynomorphs
- K. Uemura: Tertiary plant megafossils.

They propose to incorporate an unpublished catalogue into the database. It includes details of Cenozoic plant fossils and was prepared by Dr T. Tanai. The catalogue includes plants from the Russian Far East, the Korean Peninsula and China

OTHER INTERNATIONAL GEO-BOTANICAL DATABASE PROJECTS

Numerous interdisciplinary activities are being established to increase our understanding of biodiversity and global changes. Inevitably these projects need catalogues of taxonomic and environmental information and suddenly lots of people are making databases. There is overlap and poor communication between some of these groups and this list is to help simplify the confusion but does not pretend to be complete.

1. Modern plants:

1.1 International Organisation for Plant Information (IOPI) to establish a world checklist of vascular plants

Secretary: A. George, CSIRO Division of Wildlife & Ecology, PO Box 84 Lyneham, Canberra ACT 2602, Australia

1.2 Biodiversity Information Network (BINS.21) plans to manage global diversity information

V. Canhos, Base de Dados, Rua Latino Coelho, 1301 Parque Taquaral, 13087-010 Campinas, Brazil, e-mail: dora@bdt.ftpt.ansp.br

1.3 International Working Group on Taxonomic Databases for Plant Sciences (TDWG)

1.4 International Legume Database and Information Service (ILDIS)

2. Geological and environmental data:

Data & Information System within the International Geosphere-Biosphere Programme. (IGBP-DIS).

Office Tour 26, Université Pierre et Marie Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France. fax 33 1 4427 6171

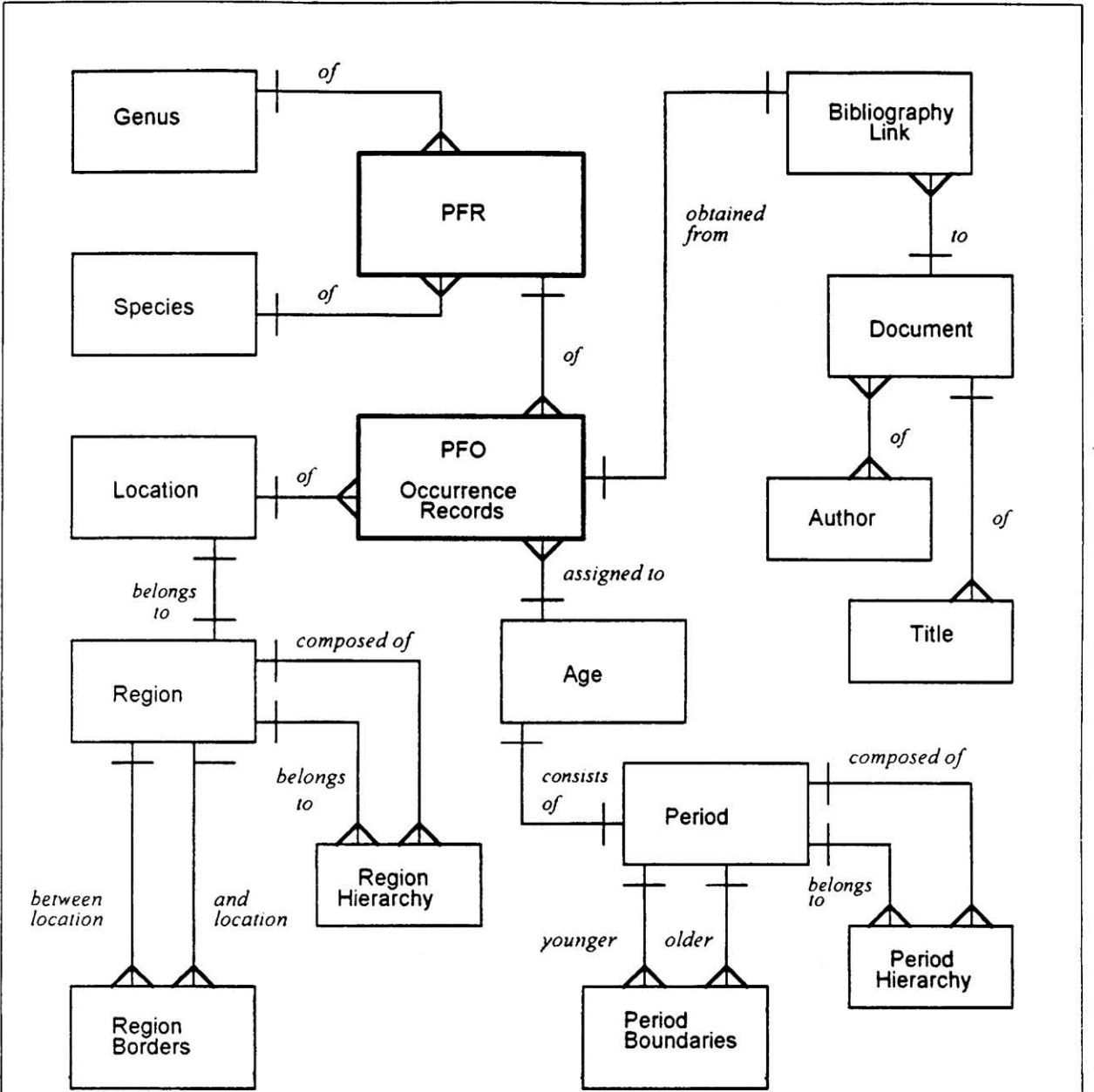
3. Quaternary:

European Pollen Database (EPD) can be integrated with PFR

- BUT scales of space and time are very different

- EPD has a lot of quantitative data mostly Holocene and Late Glacial. megafossils need to be added.
 EPD version 1 available end 1993.
 Prof Brian Huntley, Environmental Research Centre, University of Durham, South Road, Durham DH1 3LE, UK.

4. Archaeobotany:
 4.1 Dr G.A. Pashkevich, Institute of Archaeology AS, ul. Vydubetskaja 40, Kiev, Ukraine 252014
 4.2 Dr Schultze-Motel, Institut für Pflanzengenetik und Kulturpflanzenforschung, Correnstrasse 3, D (O)-4325 Gatersleben, Germany



E-R- Diagram : Structure of the PFR database on Oracle v 6.0 (M.Lhotak UEL 1993)

A

Entity Table
'A'

A

One to Many Relationship
between entities 'A' and 'B'

A

One to One Relationship
between entities 'A' and 'B'

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