

IOP NEWSLETTER 22

INTERNATIONAL ORGANIZATION OF PALAEOBOTANY

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES
SECTION FOR PALAEOBOTANY

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PLEASE MAIL NEWS AND CORRESPONDENCE TO YOUR REGIONAL REPRESENTATIVE OR TO THE SECRETARY FOR THE NEXT NEWSLETTER 23. The views expressed in the newsletter are those of its correspondents and do not necessarily reflect the policy of IOP.

IOP NEWS

Many members of IOP are behind with their payments of dues now set at £4.00 or US\$8.00 a year. Please use the attached form when making your payment. If you pay in £ sterling directly to London please remember to use a cheque which can be negotiated at a London bank.

INFORMAL BUSINESS MEETING OF IOP, Edmonton, Canada, August 1984

There is to be an informal business meeting of IOP during the second IOP conference next summer. As at Reading in 1980 its purpose is to give the membership a chance to express its views on how IOP is operating; the Executive Committee must be accountable to the membership and these informal meetings are one way of achieving this. The next formal IOP General Assembly will take place during the 14th International Botanical Congress in Berlin, 1987.

APPRECIATIONS OF THE LATE T.M. HARRIS

Since IOP Newsletter 21 was printed two more appreciations have been received, one from Professor Ted Delevoryas, USA, and the other from Dr Maria Reymanowna. Copies of these can be obtained on request to the secretary.

REPORTS OF RECENT MEETINGS

ARBEITSKREIS FÜR PALAEOBOTANIK UND PALYNOLOGIE (APP)

The 13th annual meeting of the APP was arranged by Kurt Schroeder in Saarbrücken from 23rd to 25th March 1983. There were 58 participants and papers were given on aspects of Carboniferous and Cainozoic megafossils and palynomorphs from different parts of Europe. The one day field trip visited outcrops of the Carboniferous in the Saar Basin.

NORTH AMERICAN MIDCONTINENTAL PALEOBOTANICAL COLLOQUIUM, Chicago, May 1983

This annual event was organised by G.W. Rothwell and P. Crane. There were 41 participants and the program included 17 informal presentations. Topics ranged from descriptive palaeontology to new techniques to a guided tour of collecting localities in Kansas. Most of the presentations were made by students.

The program concluded with an organisational meeting where the participants enthusiastically endorsed the concept of making the colloquium an annual Spring event. The consensus of opinion was to have the colloquium rotate throughout the mid-continent from year to year, with periodic returns to the Field Museum in Chicago on those years when the topic of the Field Museum Spring Systematic Symposium is appropriate for scheduling the two meetings consecutively. It was also thought to be desirable to extend the length of the colloquium for an additional day and possibly include a field trip, to encourage presentations of new techniques and of theoretical and controversial topics, and to schedule discussion sessions on issues of broad interest.

EUROPEAN PALAEOBOTANICAL CONFERENCE, Montpellier, July 1983

Each of the 70 participants is indebted to Jean Galtier and John Holmes and their colleagues for a well organised conference. The meeting included two full days of excellent papers on subjects of wide palaeobotanical and palynological interest ranging from discussions on the earliest land plants to studies of Quaternary floras, and included reports of plant fossils from the Devonian of Ireland to the Miocene of Africa, from the Triassic of Greenland to the Paleocene of Canada. Of the 37 abstracts that formed a portion of the printed program several papers employed new techniques and interpretations including electron and fluorescence microscopy. Other interesting papers underscored the value of understanding modern depositional environments and sedimentological processes. An interesting paper presented by R.A. Stockey on in situ Palaeocene angiosperm seedlings, and a highly informative poster on seedlings of Baiera by L. Grauvogel-Stamm, graphically demonstrated new advances in understanding aspects of the complete life histories of certain fossil plants. Another interesting paper was presented by E. Friis on anatomically preserved flowers containing pollen of the Normapolles-type. Like the contributed papers, the several posters that were displayed were of exceptional quality and highly informative, and included information ranging from coal ball plants to morphological studies of extant bryophyte spores. An off day midway through the conference provided an opportunity for some to relax on the beach while others toured the southern portion of the Massif Central to botanize and view the countryside.

The organisers scheduled two exceptional field excursions. (I am indebted to L. Matten who participated on both excursions and provided the following comments.) On the first excursion, led by Drs Galtier, Holmes, Doubinger and Feist, the participants had an opportunity to collect Cretaceous charophytes and compressions from Stephanian sediments. Several magnificent specimens of Odontopteris, Annularia, Sphenophyllum and several arthropyte cones were collected on this field trip that ended with a midnight swim and songfest at the Mediterranean. The second field trip led by Drs Roiron, Suc and Vernet visited Pliocene and Quaternary deposits where collections of Glyptostrobus, Laurus, Cupressus, Quercus, Carpinus, Acer and petrified wood were made.

I know I speak for all of the participants in expressing to Jean Galtier and John Holmes, their families and numerous colleagues, our most sincere appreciation for their never ending efforts in making this conference a most exceptional one. Not only did we all participate in an excellent and well organised palaeobotanical conference at one of the leading centers for fossil botany in the world, but all of us were treated graciously by our hosts in Montpellier.

T.N. TAYLOR, Ohio, USA.

SCHLOTHEIMIANA, Madrid, September 1983

The International Working Group of Carboniferous and Permian Compression Floras (Schlotheimiana) had two discussion meetings during the 10th International Carboniferous Congress in Madrid in September. The meetings were attended by about

20 colleagues and took place in the afternoon after the sessions had ended. The first meeting had been suggested and was chaired by C. Alvarez Ramis and was devoted to the genus Sphenopteris. The first topic was the species S. leptophylla Bunbury. Slides were shown and the synonymy mentioned. A lively discussion ensued about the synonymy, homonymy, and the location of the holotype. The main contributors to this discussion were C. Alvarez Ramis, S.P. Stubblefield, C.J. Cleal and E.L. Zodrow. It is clear from the discussion that we will soon hear more about this species in forthcoming publications. Questions dealing with the entire genus were next on the agenda. The form genus Sphenopteris contains about 700 species in the Carboniferous alone. Its highly lacerated shape and high variability make it a difficult genus to work with. Several important points were made: 1, we need a record of good photographs of holotypes, 2, numerous specimens of each species have to be collected and preserved in collections to evaluate the variability properly, 3, the variability has to be documented. Points 2 and 3 concern individual scientists and editors, but point 1 can best be solved by cooperation. To achieve this and make faster progress a working group on the genus was formed. Many problems which exist within the genus can be worked out by cooperation between colleagues and the working group can serve as a clearing house. A discussion ensued about which groups of species are most in need of work but it was decided to postpone this choice until the monograph on fertile species of Sphenopteris by C. Brousmiche is available later this year. There were several other suggestions specifically by Brousmiche and Gestaldo which will be discussed in the communications of the new working group. These will be distributed either by letters, or by announcements in the IOP Newsletter. The coordinator of the Working Group is C. Alvarez Ramis, Madrid. All those working actively with the genus Sphenopteris should contact her.

It might be worthwhile to point out that all the palaeobotanists who have worked intensively at one time or another with the genus, and are alive, were present at the meeting in Madrid.

The second meeting of Schlotheimiana was devoted to general questions. The nomenclature of isolated leaves of lycopods was discussed. This was a continuation of a discussion which started in 1979 at the 9th International Carboniferous Congress. Two specific questions had to be cleared: 1, should a genus have a different name in compression-impression preservation and in permineralisation, or should the same name be used, 2, should there be individual or collective authorship for the paper which will result from this discussion. It became clear that different names for material in different preservational forms, and individual authorship, were clearly favoured by a majority. H. Pfefferkorn will circulate a new manuscript to the participants of Schlotheimiana and anybody else interested early in 1984.

C.J. Cleal proposed a cooperative study of the species Neuropteris ovata. This species is easily identifiable and has a very wide distribution. Several palaeobotanists have proposed that it should be split into several species. Cleal can distinguish two species in the Saar district based on a combination of cuticle and venation characters. Material from many different areas is needed to avoid pitfalls through local bias and to come to conclusions which will be acceptable. It is beyond the possibilities of any one person to travel to all the sites which contain this species. Thus, cooperation between those interested seems to be the best way forwards. Further details will be announced in the near future.

Two very useful suggestions were made by A.A. El-Khalel: all surplus specimens of a study should be deposited with museums on different continents after the study is completed. This would increase the accessibility of material on a world wide basis and improve communications. Secondly, he suggested that those interested should bring specimens of recently described new genera and species to the congress so that colleagues can familiarise themselves with the new taxa.

Schlotheimiana will soon produce an updated address list of those actively working on Carboniferous and Permian compression-impression floras.

H.W. PFEFFERKORN, University of Pennsylvania, USA

FORTHCOMING MEETINGS

ARBEITSKREIS FÜR PALAEOBOTANIK UND PALYNOLOGIE, Freiburg, March 1984

This next meeting of APP will be organised by Dieter Vogellehner, Botanischer Garten, Schanzlestrasse 9/11, D-7800 Freiburg i. Br., West Germany, in Freiburg at the end of March 1984. There will be a day of lectures and a one day field trip to the Carboniferous outcrops in the Black Forest.

MIDCONTINENTAL NORTH AMERICAN PALAEOBOTANICAL COLLOQUIUM, Kansas, April 1984

This will be held at the University of Kansas, Lawrence, in late April 1984. Larry Matten has invited the Colloquium to Southern Illinois University for 1985, and invitations from the University of Michigan, the Ohio State University and Indiana University have been received for future years.

The 1984 colloquium will be organised by Dr C. Haufler, Department of Botany, University of Kansas. Direct enquiries to Dr G. Rothwell, Department of Botany, Ohio University, Athens, Ohio 45701, USA.

SECOND INTERNATIONAL ORGANISATION OF PALAEOBOTANY CONFERENCE, Edmonton, August 1984

This will be held at the University of Alberta, Edmonton, Alberta, Canada T6G 2H6, from August 19th - 26th. For the Second Circular, write to Dr Ruth Stockey of the Department of Botany at that university.

Over 350 responses from 34 countries have been received. A third circular will be sent ONLY to those who register. Already, information is available about the field excursion (Cretaceous, Paleocene and Quaternary localities - C\$370), housing and meals (C\$20 single room, C\$4 breakfast, C\$5.25 lunch, C\$7 dinner). Instructions on the preparation of abstracts for the 20 minute presentations are available and FORMS MUST BE RETURNED TO RUTH STOCKEY BEFORE APRIL 1ST 1984. Registration costs C\$125 but only \$75 for students. You will not be allowed to participate at the conference unless you have paid your IOP membership dues (US\$8 or £4) for 1984 - see page 1 of this newsletter. Offenders will be attacked by the IOP treasurer and his aids.

There will also be an IOP "Ukrainian Evening" and an IOP "Steak Barbeque and Dance", all newly devised benefits of IOP membership. On each occasion there will be a competition for the best demonstration of a compression, impression and petrification.

THIRD CONGRESO LATINOAMERICANO DE PALEONTOLOGIA, Morelos, Mexico, October 1984

The first circular is available from the secretary, B.E. Buitron, Instituto de Geologia, Universidad Nacional Autonoma de Mexico, Circuito Exterior, Ciudad Universitaria, Delegacion Coyoacan, 04510 Mexico, D.F. Dr R. Weber is the convenor of a symposium on Late Triassic Floras, and all palaeobotanists anxious to contribute should write directly to him at the Instituto de Geologia.

THIRD INTERNATIONAL CONGRESS OF SYSTEMATIC & EVOLUTIONARY BIOLOGY, Brighton, UK, July 1985

This will be held at the University of Sussex on July 4-10th 1985. As at Colorado (1973) and Vancouver (1980) the aim is to encourage the integration of the work of biologists in adjacent and overlapping fields in the general area of systematic and evolutionary biology. The programme will include 12 half-day symposia devoted to special selected broad interdisciplinary themes, with invited speakers. These topics include: Biogeographic Evolution of the Malay Archipelago; Evolution of angiosperms, with emphasis on the fossil evidence and the plant/animal interactions involved; Evolution of pollination systems; Co-evolution and systematics; Biochemical evolution in plants.

There will also be full provision for intending participants to suggest and arrange symposia of special interest to particular groupings of biologists. Other sessions will provide opportunities for the presentation of papers concerned with particular topics or groups of organisms. There will also be a number of poster sessions.

Accommodation and meals will be available on the campus of the University of Sussex. In addition hotels are available in nearby Brighton, an attractive and historic resort town on the south coast. Further information will be mailed in Spring 1984 to those wishing to be named on the mailing list. For this, and to suggest special topics or other contributions, write to Prof B. Cox, c/o ICSEB Conference Services, 130 Queen's Road, Brighton, Sussex BN1 3WE, England.

14TH INTERNATIONAL BOTANICAL CONGRESS, Berlin, 1987

The programme committee had its first meeting in June this year, in Berlin, and worked out the general shape of the programme for the Congress. It will be held from 24th July - 1st August 1987 at the international Congress Centre in Berlin (West). There will be pre- and post-Congress field trips to various parts of central, south and north Europe, and there will be a special one for palaeobotany. The nomenclature meetings will be arranged before the Congress from 20th - 24th July.

This time, the Congress has its scientific programme organised into just six divisions: Metabolic Botany, Developmental Botany, Genetics and Plant Breeding, Structural Botany, Systematic & Evolutionary Botany, and Environmental Botany. Palaeobotany is represented in the Systematic & Evolutionary Botany division, but individual topics may extend across the boundaries between the divisions. Inter-disciplinary meetings are being encouraged.

The First Circular will be issued during the autumn of 1983 and early replies will help the organisers. The IOP Executive Committee has a Congress Member, Dr Friedemann Schaarschmidt, Forschungsinstitut Senckenberg, Senckenberganlage 25, 6000 Frankfurt 1, West Germany, who is responsible to IOP members for helping with the organisation of palaeobotany at the Congress. He is also a member of the appropriate Programme Committee for the 14th I.B.C. Please write to him with your suggestions and to ask for all the details as they become available.

OBITUARIES

MARJORIE ELIZABETH JANE CHANDLER 1897-1983

M.E.J. Chandler, MA, who died on October 1st 1983, was internationally known for her researches on the fossil fruits and seeds of the older Cenozoic, especially of southern England. Born in 1897, the daughter of a jeweller, she was educated locally at Leamington Spa, England, and went by scholarship to Newnham College, Cambridge, in the austere days of the first World War. Here, she read for the Natural Sciences Tripos, obtaining first class honours in Part 1; as she was the only candidate for Part 2 the authorities declined to set the examination. At Cambridge she came under the influence of A.C.Seward and J.E.Marr. It was the latter who sent Miss Chandler to Mrs Reid, widow of Clement Reid FRS, at Milford-on-Sea, England, to work with her on a palaeobotanical problem. In the event, she lived with Mrs Reid until the latter's death in 1953. Together they investigated the rich floras of the Bembridge Beds and of the London Clay, leading to the classic volumes published by the British Museum in 1926 and 1933. Miss Chandler continued her researches after Mrs Reid's retirement, extending them to the other horizons of the Eocene and Oligocene, much of the results being published as an impressive series of volumes by the British Museum (Natural History). There were numerous smaller publications as well. This research, her life's work, brought her into contact with palaeobotanists worldwide, who appreciated the unravelling of this chapter of fossil plant history in terms of modern tropical botany.

It is interesting to realise that this considerable body of work was carried out with very limited resources, and with very primitive equipment for dissection, microscopy and photography, which most present-day workers would regard as utterly inadequate. She lived and worked in the country from choice, residing in a small village in west Dorset after Mrs Reid's death, and although once offered the chance of a post at the British Museum (Natural History), she preferred the slender and somewhat precarious position of being an outside "unofficial worker" of that institution, a state of affairs maintained for her by two successive Keepers there, W.N. Edwards and Dr E.I.

White. She retired from this in 1968 but kept in touch with current developments and was latterly very pleased that Dr M.E. Collinson was carrying on her work. The limited opportunities for women in her early days, the shoestring budgets of all her work, and much of what most people would regard as hardship, had not embittered Miss Chandler. She took it as natural, maintained a robust commonsense, and said recently that she: "had done what she wanted in life". Most people, with much better opportunities and facilities, will hope very much to be able to say the same eventually.

K.I.M. CHESTERS, ex British Museum (Natural History)

JAN MULLER 1922-1983

On the 5th October 1983 Dr Jan Muller died at his home in Oesgstgeest near Leiden at the age of 61 after a short illness.

He was trained at first in tropical agriculture at the "Colonial Agricultural College" at Deventer, since war circumstances prevented him to work at the university. But in the first years of the war he had to be in hiding from the German occupying power in the reclaimed northeast Polder of the Zuiderzee. There he got a temporary and secret appointment in the Botanical Division of the Laboratory of the Northeast Polder at Kampen, under the supervision of the plant ecologist Dr W. Feekes. Feekes introduced him to a project which involved pollen analysis, palaeobotany and zoological investigations of the alternating peat deposits in the new land, then not under cultivation. This investigation was carried out in cooperation with the young Utrecht student in geology, B. van Raadshoven, who for the same reason stayed in the new Polder. The work resulted in their first publication, "Het Holoceen in de Noordoost-polder" in *Tijdschr. Kon. Ned. Aardrijksk. Genootsch.* LXIV, 2, 1947.

After the war, Muller worked with Shell, first as an assistant geologist charged with palynological research, so beginning his career as a top-ranking palynologist. After his early work at The Hague he moved with the company to Venezuela and Borneo, to gain experience for his pioneering publications. More and more he became interested in applying precision to Pre-Quaternary pollen and spores. During this time he developed an eye for the significance of palynology to palaeobotany and plant taxonomy, as well as for geology. His commitments to his family, especially the schooling of his children, helped him decide to leave the tropics and return to The Hague.

After his return, Professor C.G.G.J. van Steenis, the Director of the Rijksherbarium at Leiden, appointed him as a palynologist to that important centre of plant taxonomy. Then he was able to unfold his natural gifts of pioneering investigations on pollen morphology within the framework of taxonomic projects. He worked particularly with the Dipterocarpaceae, Ochnaceae, Rhizophoraceae, Sapindaceae and Sonneratiaceae. He also published on the early and primitive angiosperms, the early differentiation of the angiosperms, the form and function in angiosperm pollen, a comparison of fossil angiosperm pollen floras in different continents, and many other topics. His wide interests and his modern approach made him an esteemed contributor to palaeobotanical congresses. He trained and supervised many graduate and postgraduate students and many foreign palaeobotanists and palynologists visited to seek his advice and help.

He has been Vice-President of the International Commission for Palynology and in 1978 he received an honorary doctorate from the University of Amsterdam. He took this distinction in his own modest way but his near friends and colleagues knew how much it was appreciated by him.

Jan Muller was an industrious scientist and was always happy at his microscope. But he also loved outdoor life, camping, botanising, bird watching and, not generally known to his colleagues, sailing in his seaworthy boat.

By his numerous publications, Jan Muller will live on; they will outlive those of us who remember his appealing personality and mourn his unexpected passing. He leaves a wife, daughter and son.

F.P. JONKER, Asperen, The Netherlands.

TIMOTHY HUGH JEFFERSON 1956-1983

Timothy was the son of a clergyman now living in Sheffield, England. He obtained his first degree in geology from Liverpool University and came to Cambridge in 1977 with a NERC studentship to work on Mesozoic fossil plants as a CASE student with the British Antarctic Survey. In the 1978-1979 season his field work in Alexander Island, at about 72° South near the Antarctic peninsula, resulted in an excellent collection of Cretaceous fossil wood and information on fossil trees in situ together with an extensive leaf flora interestingly preserved in a thick pyroclastic formation. His dissertation for a PhD degree was submitted successfully in May 1981. He was awarded a Harkness Fellowship (1981-3) for travel in the United States and spent most of his time in Ohio State University, Columbus, and in the University of Arizona, Tucson, as well as some time in the neighbourhood of Mount St. Helens. He wrote in early August 1983 from Columbus discussing plans for the NERC Post-doctoral Fellowship which he had recently been awarded. In mid-September he died tragically in an accident near the foot of Artisonraju in the Cordillera Blanca, Peru, where he had gone between fellowships.

Palaeobotany has lost the services of a most lively, enthusiastic and enterprising young man whom many will remember from meetings such as that of the Palaeontological Association in December 1982 when he received their President's Award for his presentation of a paper.

We join with his family, his fiancée Miss Amy Karowe, and his many friends, in mourning the loss of a life of so much promise.

N.F. HUGHES, Cambridge

(Tim's family wish to create in his memory a modest fund from which grants can be made to help young research scientists wishing to undertake small projects in the field. It will clearly take time and thought to ensure the proper administration of such a fund, but meanwhile a special bank account has been opened in which any gifts received will be placed. Please send contributions to the IOP Secretary, or to 8 Canterbury Avenue, Sheffield S10 3RT, England.)

REQUESTS FOR HELP

W.G. CHALONER, Department of Botany, Bedford College, Regent's Park, London NW1 4NS has been asked by the Royal Society to write a biography of Tom Harris for publication in the Biographical Memoirs. If any IOP members can offer any notes to supplement the appreciations included in the last newsletter and acknowledged in this one, he would be very grateful. All such help will be acknowledged, and if quoted directly a copy of the quotation will be submitted in context for prior approval.

J. FRANKS, The Manchester Museum, The University, Manchester M13 9PL explains that his institution's financial support is in danger of being withdrawn. He asks that those IOP members who have used the museum's facilities write to him explaining "the quality of our collections, the work which is done here and the museum's value to national and international scholarship."

NEWS OF INDIVIDUALS

M.E. COLLINSON has been awarded a Royal Society 1983 University Research Fellowship in the Department of Plant Sciences, King's College, 68 Half Moon Lane, London SE24 9JF, England. The fellowships are intended "to assist in the recruitment of very able young staff to university departments, primarily for research". She thanks all those who have supported her in her previously unestablished position, and plans to continue her work on Tertiary floras.

S. ASH, Weber State College, Utah, USA, will spend 9 months sabbatical from November 1983 in Pretoria with Drs Heidi and John Anderson.

R. RAYNER is now at the Bernard Price Institute, Witwatersrand University, Milner Park, Johannesburg 2001, South Africa. He came from Cardiff, in Wales, and is already deeply involved with Gondwana lycopods. He is organizing the cataloguing of the vast collection of plant fossils at the Bernard Price Institute.

E. PLUMSTEAD celebrated her 80th birthday on 16th September 1983 with part of her family in the Karroo. IOP sends her congratulations.

M. WHITE from the Australian Museum, Sydney, is visiting South Africa for a few weeks to study the collections of fossil plants.

G. RETALLACK plans to make a short visit to South Africa in March 1984.

W.F. HARRIS, Wellington, New Zealand celebrated his 80th birthday on 18th June 1983.

The Palynological & Palaeobotanical Association of Australasia newsletter 7 includes a biographical account of his contributions to palynology.

SALES OF FOSSILS

A number of coal balls and slides of fossil plants are currently being offered for sale by a London dealer. There appears to be some confusion regarding the origin of the material. Those considering purchasing such material have been asked by Alan Howell, Keeper in Geology at Bolton Museum, Civic Centre, Bolton, UK, to contact him at that address in the first instance.

BIBLIOGRAPHY

INTERNATIONAL BIBLIOGRAPHY OF PALAEOBOTANY & PALYNOLOGY

This venture of H. Pfefferkorn and W.H. Gillespie is now in its third year of operation and the organisers have sent an overview of their past and future activities:

The bibliography was started to give palaeobotanists and palynologists fast and inexpensive access to the world literature of the previous year. The major features of the bibliography are: 1, production early in the year, 2, low cost, and 3, cooperation with existing regional bibliographies and palaeobotanical and palynological groups. A discussion of each point will clarify the intentions and actual achievements.

1. The bibliography has been distributed in April 1981, March 1982, and will again be mailed in March 1984. The fast production is essential because an annual bibliography is the equivalent of a newspaper and helps to increase current awareness of the literature. The early release is achieved through the use of citations typed in camera-ready form by the authors. This procedure eliminates retyping, proof reading and correcting, and production is faster, cheaper and less prone to error. This year we tried a different method, namely computer typesetting. The result is that the bibliography will be mailed by the end of November 1983. We beg your forgiveness and will not repeat this performance. Actually, this attempt to give an improved format to the bibliography has proved that our earlier simpler method is the better one.

2. So far the bibliography has been sent free of charge and we will be able to do this again next year. However, at some point the recipients will have to pay for printing and mailing. Then it will be of importance to know that offset printing of the bibliography is rather inexpensive. Printing and postage within a country would probably cost around \$3 and with international air mail \$6.

The best way to handle this part would be for us to send camera-ready copies of the bibliography free to colleagues in the different countries who would print, distribute and organise the bibliography locally. This would reduce costs of postage and would eliminate the need for international transfer of money. Another arrangement can be made with other countries where the bibliographies will be sent

in bulk and distributed locally. We will do the distribution for areas where neither possibility exists.

3. The representatives of regional palaeobotanical and palynological societies, associations, or groups could add the distribution of the international bibliography to their services. Local representatives are also in the best position to distribute the request for citations and we will be glad to supply the information to them. For the second year, the Paleobotanical Section of the Botanical Society of America has used the information to enlarge its annual bibliography and include the citations from other countries. This is just one example of how the international bibliography can be incorporated in the existing activities of a palaeobotanical or palynological group.

Below, you will find a request for citations for the bibliography for 1983. Please send the information to us, by air mail, before January 31st 1984.

REQUEST FOR CITATION, 1983

The bibliography will be produced from camera-ready copy sent by the authors. The bibliography will be distributed locally in the People's Republic of China, India, West Germany and adjacent countries (APP), North America (Paleobotanical Section), Romania, the United Kingdom and the USSR. In these areas citations will be collected by the person in charge if they have identified themselves to you separately from this newsletter. Otherwise, and for those from all other parts of the world, citations should be sent to the address given below. The bibliography will be mailed free of charge by the end of March 1984 to those who respond by sending an address label.

Please type the citations of your publications which were published in 1983.

Follow the examples and instructions below. Use of single space is essential. Type on white paper. Citations will not be retyped. Do NOT use abbreviations. Publications in non-Latin alphabets should be transcribed into a Latin alphabet and the title of the paper should be given in addition in English, or French, or German in parentheses. Citations should not be wider than 16 cms.

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- 4 Kaiser, G.J. & Barka, H. 1983. Did the first vascular plants really "conquer" the land? Journal of Unlikely Events, v. 731, p. 1-47, 3 fig., 5 tables, 77 plates, 1 map.
 - 7 Kaiser, G.J. & Barka, H. 1983. Did the first vascular plants really "conquer" the land? Journal of Unlikely Events, v. 731, p. 1-47, 3 fig., 5 tables, 77 plates, 1 map.
 - 3 Regnir, X.Y. 1983. Why the fossils lie. Shoofly Press, Neustadt, Pennsylvania, USA, 321pp., 17 fig., US\$137.50.

All references should be indexed: please tell us in which chapter of the bibliography your citations should appear by writing or typing the chapter designation on the margin beside the citation. This designation will be cut off before the camera-ready copy is assembled. Please type the citation several times if it belongs in several chapters and label each for the appropriate chapter. Chapter designations are:

- | | | |
|----------------------|------------------------|---|
| 1-Technique | 7-Paleozoic | 13-Quaternary |
| 2-Review | 8-Paleozoic Palynology | 14-Quaternary Palynology |
| 3-Book | 9-Mesozoic | 15-Non-Fossil (but applicable to fossils) |
| 4-General | 10-Mesozoic Palynology | |
| 5-General Palynology | 11-Tertiary | 16-PhD theses |
| 6-Precambrian | 12-Tertiary Palynology | |

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USA

REVISION OF INDIAN SPECIES OF *Glossopteris*

A review of the book: "Revision of the Indian species of *Glossopteris*" by Chandra and Surange, 1979, has appeared in IOP Newsletter 14, February 1981. According to the reviewer intercontinental correlation would undoubtedly be facilitated if a revision of the genus *Glossopteris* could be undertaken to this standard of presentation for other parts of Gondwanaland. It is a very serious recommendation. I received and read the book not long ago. After reading the first five pages and the Conclusions too, my problem is what is to be followed in general to facilitate intercontinental correlation, and how a flora study is to be done in particular based on the premises laid down in the book under discussion.

It seems that Chandra and Surange did not identify any species described, for example, from Australia. Thus we may end up with revisions for all Gondwana continents without cross references for intercontinental correlation. By the way, Chandra and Surange stress that their method is for local stratigraphy (page 80) solely for practical purposes.

Let us say that in our utilitarian age nobody is indeed interested in such a futile academic study as intercontinental correlation. How is the method proposed by Chandra and Surange to be useful for local stratigraphy? I mentioned that it seemed that the authors could not identify any species described from Australia. Actually, they could not identify any species, not even from India. The book is not about *Glossopteris* species, and it is also not a revision. The book is about "taxa" made by the authors. What the taxa are, except that they are arbitrary categories, the authors do not explain, and consequently the reader does not know. The process of stratigraphical research is reversed: it is not the horizons that are indicated by the presence of members of certain species, but the taxa are formed according to the already known horizons, thanks to Feistmantel.

The entire study is based upon the following assumption: "The classification of *Glossopteris* fronds into different species is bound to be very artificial as the sterile fronds can not show relationships" (p. 2). Thus the classification of leaves at species level is very artificial. But the leaves "can be classified into distinct taxa (described as "species") on the external morphological characters However, it is not possible to say whether the taxa differ specifically, generically or even at a higher level" (p. 79). Is it then possible to say at which level are the leaves in a taxon identical? The taxon *G. tortuosa* Zeiller, for example, is not identical with the species *G. tortuosa* Zeiller. The restoration of the taxon (Plate 43, fig. 2) does not show the specific characters of *G. tortuosa*. The difference between taxon and species is even more striking in the case of *G. browniana*, when the restoration was based on one drawing of Brongniart. Nevertheless, the venation of the taxon is entirely different to that in the drawing given by Brongniart to illustrate a leaf of the species *G. browniana* (Plate 38, fig. 1). There are many more examples of the restorations not representing the species for which they are named. How can these formed and dissimilar taxa be the markers of the same horizons as the corresponding species are?

There have already been many artificial classifications of *Glossopteris* leaves causing the "sorry state of affairs" in which the study finds itself. The intention of the authors of artificial classifications was to generalise from the characters of leaves a kind of "restoration" of an idealised taxon to make the application of names easier. How far can such a generalisation go before it amounts to a mis-identification? Thus, we the palaeobotanists of all Gondwana continents are advised to make taxa strictly for the horizons of every continent. What shall we know when we have finished our exercises? Apart from this academic question, we have to know the recipe for how to make a taxon out of a species.

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(Chandra & Surange will be replying to these comments in a future IOP newsletter)

RECENT PUBLICATIONS

COURIER FORSCHUNGSINSTITUT SENCKENBERG

Volume 56 of this journal contains 185 pages and was published in 1982. It contains papers presented of the 1982 APP meeting in Dassel near Gottingen, with photographic plates for the first time. There is also a guide to the field trips to the region near Gottingen (Permian algal reefs, Wealden coal, Tertiary brown-coal and the Pliocene leaf locality at Willershausen) and an annual bibliography of APP members. The volume costs 30DM and is available from Dr F. Schaarschmidt, Senckenberg Museum, Senckenberganlage 25, 6000 Frankfurt 1, West Germany.

REVISTA

This is the journal of the Instituto de Geologia, Universidad Nacional Autonoma de Mexico, Circuito Exterior, Ciudad Universitaria, Delegacion Coyoacan, 04510 Mexico, and can be obtained from that address through Dr R. Weber.

Volume 4 part 2 costs about 3.3333US\$ and contains seven palaeobotanical and palynological papers which were read at the 4th Colloquium in Mexico in 1980. They include work from the Precambrian, Triassic, Cretaceous and Eocene.

ASOCIACION LATINAMERICANA DE PALEOBOTANICA Y PALINOLOGIA

Boletin 8 was published at Buenos Aires in 1982. It includes the Latinamerican bibliography of palaeobotany and palynology from 1979-1980 as well as papers on Carboniferous compressions fossils and nomenclature. Copies are available from Prof O. Rosler, DPE - Instituto de Geociencias - USP, Cx. Postal 20899, 01498 Sao Paulo, SP - Brazil.

BOOK REVIEWS

ISKOPAEMYE CVETKOVE RASTENIYA SSSR, volume 2, Ed. A Takhtadzhyan, 1982, Nauka, Moscow, 9 roubles 40 kopeks (In Russian) (FOSSIL ANGIOSPERMS OF THE SOVIET UNION)

This book reviews plant megafossils from the families Ulmaceae, Moraceae, Cannabaceae, Urticaceae, Fagaceae and the Betulaceae. It mentions 367 taxa from 39 genera, including 29 recent ones. 196 taxa have been described from leaf material and 156 on the basis of carpological evidence from seeds, fruit scales, endocarps and involucre. Another 8 are based on wood specimens and 7 on flowers preserved in baltic amber. Several new taxa and combinations have been made. There are two new genera based on the endocarps of the Cannabaceae and Betulaceae, whose seeds combine the features of some recent genera and species of Alnus, Betula and Duschekia or Alnaster. The descriptions and determinations of the carpological remains include, in most cases, the anatomical structure of fossil fruits and seeds as well as their modern equivalents. Unfortunately, in the case of the fossil leaves, only morphological features are given with no regard to the vital, and in some groups decisive, cuticular characters. Leaf remains from three families out of the six described in this second volume, the Betulaceae, Fagaceae and Ulmaceae, are among the sediments most frequently found in the Tertiary, especially those of the Neogene in the territory of the whole of the Holarctic. They constitute a difficult subject of investigation because of the occurrence of the leaves of the same morphological type within different genera (eg Castanea-Castanopsis-Quercus, Carpinus-Ostrya-Betula-Alnus). The lack of incontestable distinctive criteria make even the generic distinctions of these groups difficult to prove, unless they are supported by cuticular analysis. The difficulties in establishing the systematic position of the fossil taxa of leaf impressions are illustrated by the genus Ushia Kolak, from the Palaeogene of the USSR, conventionally placed in the Fagaceae. It has a characteristic nervation resembling, in respect of some features, the leaves of the Fagaceae, and in some other respects the leaves of the Betulaceae such as Alnus and Duschekia. Considering the shape of the leaves and the nature of the leaf margins, the genus Ushia was also compared to leaves of Viburnum in the Caprifoliaceae. The second

interesting family, also temporarily left in the Fagaceae, in Phyllites kryshtofovichii (Klimova) Iljinsk. et Ablaeu, from the Miocene of the Far East. Leaf remains of this taxon, just as for the genus Ushia, correspond in the authors' opinion to the leaves of Nothofagus. The evidence for the occurrence of Nothofagus in the Tertiary of the Far East would be of great importance for studies on the evolution of this genus, especially from the point of view of plant geography. A considerable number of type specimens mentioned come from outside the Soviet Union. Many come from Poland, particularly from the flora of Sosnica. There are many references in this book to a Sarmatian age for this flora, while no mention is made of the evidence for a Lower Pliocene age, based on palynological evidence (Acta. Palaeobot. 14, 3, 1975). The fossil flora from Stare Gliwice Buhlovian Beds does represent a Lower Sarmatian age (Roczn. Pol. Tow. Geol., 33, 2, 1963) and not the Tortonian or Middle Miocene (pages 73 & 142).

There are a number of errors by many authors concerning the ownership of type specimens. Most of the specimens of the Sosnica flora are the property of the Institute of Geological Sciences at Wroclaw University, for instance. The specific epithet of Fagus attenuata Goep., used for the fruit cups of beech from the floras of Krynka and Kodor (table 26, figs. 4-9), is an illegitimate one, because the leaf impression from Sosnica is the type of this name.

In the Wroclaw collection we find the original specimens of Quercus pseudocastanea from Malczyce, explained as gone missing on page 92. There is no reason to make the new combination Castanea gigas (Goep.) Iljinsk. for the leaf impression of Quercus gigas Goep. from Sosnica, the nervation features of which are characteristic for the genus Quercus, and not for Castanea. It is also unfortunate to use the name Betula dubiosa Hollick in connection with the lectotype of Alnus macrophylla from Sosnica, just as A. Hollick did for the first time for the fossil leaves from the Tertiary of Alaska. Relations between the fossil forms of birch, known apart from Sosnica from only a few parts of the Neogene of Europe under the illegitimate name of Betula macrophylla (Goep.) Heer, and numerous finds in the Tertiary of Arctica, are not explicitly defined and demand further investigations. In the light of the recent investigations, the oak cupule from the Pliocene of Domanski Wierch, shown on Table 63 figs. 2 & 3, belongs to the taxon Quercus sapperi (Menzel) Mai ex Hummel ssp. latisquamosa Hummel, similar to one of the subspecies of the East Asiatic species Quercus acutissima Carr. (Pr. Muzeum Ziemi, 36, 1983).

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FERNS AND ALLIED PLANTS with special reference to tropical America. R.M. Tryon and A.F. Tryon, 1982. Springer-Verlag, Berlin. 857pp, 2028 Figs. DM428 (c.\$171) ISBN 3-540-90672-X.

This physically weighty and lavishly presented book, although mainly on living ferns, will be useful to palaeobotanists and palynologists. After the general introduction American ferns and allied plants are dealt with by chapters devoted to each family. These accounts cover synonymy, general description, other somewhat variable comments on the family, a key to genera and a short reference list. There is an indication of phylogeny and a brief mention of the fossil plants assigned to that family. However, the treatment is not all uniform in these respects.

Generic accounts span such topics as synonymy, description, systematics, ecology spore morphology and cytology. They indicate the great range of variation in characters that may be found within a genus. Where genera are divided into subgenera or sections, the characters are treated reasonably evenly. For each genus a map shows its distribution in the neotropics and sometimes a key to the American species is included. These accounts have useful illustrations of very good quality showing habit, frond outline, venation pattern, the position and arrangement of the sori, any special features of the genus and examples of spore morphology. The book is particularly useful in its presentation of sem photographs of (presumably unacetolysed) spores reflecting the interest and work of A.F. Tryon. She is currently preparing a more comprehensive survey for publication.

There are some curious features in the text of the book. The word petiole is used rather than stipe, the vulgar 'stomates' replaces stomata throughout, and fronds are usually called leaves. The perpetuation of the term sporocarp for the

reproductive structure of Marattia is particularly unfortunate. The description of the family Ophioglossaceae does not wholly tally with that of the genus Ophioglossum. The sequence of the families and genera in the classification of pteridophyta, given in the introduction, does not correspond to some of the phylogenetic views expressed later in the text.

The information on related fossil taxa is often surprisingly meagre. For example, in the account of Marattiaceae, no mention is made of Psaronius nor of the very interesting work on Palaeozoic Marattiales by Millay, Mapes and others.

Whilst often pointing out the need for recent monographic work on some genera, the authors have felt able to designate centres of origin some paragraphs later. Many supposed centres of diversity of Asian genera relate to the area most studied by prolific authors. Perhaps this correlation may also hold for the Americas?

The work is somewhat inaptly titled: the contents basically cover only those pteridophytes that occur in the Americas, and those that do not are either left out or given scant treatment, mainly in the reviews of spore and cytological data. While the book is lavishly illustrated and brings together information for a wider range of taxa than any other currently available book, it is by no means the comprehensive and authoritative work claimed by the publisher's advertisement. It is a useful addition to, but no replacement for, such well-valued works as Copeland's Genera Filicum and Ogura's Comparative Anatomy of Vegetative Organs of the Pteridophyta. In view of the urgent need to conserve resources, many trees must have been felled unnecessarily, and heaps of china clay dug up, to provide the wide margins, often up to a third of the page width, and thus to contribute to the appallingly high price of the book.

J.M. CAMUS, London.