



IOP NEWSLETTER 52

SEPTEMBER 1994

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PLEASE MAIL NEWS AND CORRESPONDENCE TO
YOUR REGIONAL REPRESENTATIVE OR TO THE
SECRETARY FOR THE NEXT NEWSLETTER 53.

President: Prof T N Taylor (*USA*)
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IOP NEWS

THE IOP IS ON THE INTERNET

Four facilities from the IOP are freely available on the Internet, the newsletter, the PFR2 (Plant Fossil Record database version 2) database, a public message file called PalaeoTalk, and a set of pictures showing the potential of the hypertext system. You can access these facilities through the IOP Home Page, most easily with Mosaic through the World Wide Web. Look for it in the biodiversity home pages of the Australia National University (ANU) or through our own URL:

<http://sunrae.uel.ac.uk/palaeo/index.html>

Please understand this is still experimental, that the PFR2 database contains numerous transcription errors and the data have not been checked against that in the original literature. Of course, that may be unauthorised as well, even though it is in a so-called 'refereed' publication.

PalaeoTalk is an informal public message service, like a listserver, and the hypertext demonstration shows something of the potential of the Internet as a means of exchanging palaeontological information, text, line drawing and photographs.

REPORT OF ACTIVITIES 1991-1994

The following report was submitted to the IUBS office for presentation at its General Assembly in Paris, September 1994.

Throughout this period the Organisation has operated in the same way as has been the custom since the middle 1970's: three newsletter a year, and presentations and meetings at the Botanical Congress and one other (Paris 1992) Conference adjacent to the International Palynological Congress. At the 1993 Tokyo Congress Professor T.N. Taylor was elected IOP President as was a new Executive Committee, according to our 1988 constitution.

Membership is maintained at previous levels of about 2,000 world-wide. Of these, about 400 are from countries with easily exchangeable currency who pay their Regional Representatives. Their addresses are registered by the secretary who maintains the list as a electoral role. The remainder are from countries of the Former Soviet Union and South America, India and China. The newsletter is distributed to these members with some difficulties and plans are being developed to improve the service.

The Section is proud to be leading the world of biodiversity database systems. PFR2 (the Plant Fossil Record database, version 2) is installed on the World

Wide Web of the Internet. This gives open access to descriptions of type specimens and to details of more than three quarters of a million extinct plant occurrences. These are plotted on world maps and the original references are displayed. Data can be retrieved at the user's terminal.

IOP V - SOLICITATION FOR SYMPOSIUM TOPICS

Suggestions for symposium topics for the IOP conference in 1996 are solicited. Please contact Steven Manchester (address below) with a title, a brief description of the logic and importance of the topic, and a list of the organizers and the probable speakers. In the event of a large number of proposals, the organizing committee will pick on the basis of the breadth of interest and timeliness of topic. Note that symposia will be about three hours long. Please respond by January 1, 1995.

Steven R. Manchester, Florida Museum of Natural History, University of Florida, Gainesville, FL 32611. FAX 904-846-0287

Email: steven@nervm.nerdc.ufl.edu

IOP V - SOLICITATION FOR WORKING GROUP SCHEDULES

Working groups in paleobotany who wish to hold special meetings at the time of the 1996 IOP conference should contact Bruce Tiffney in order to arrange for scheduling. Please indicate the size of the working group and the approximate length of time required for the meeting. Please respond as soon as possible, but no later than Jan 1, 1996.

- Bruce H. Tiffney, Dept. of Geological Sciences, University of California, Santa Barbara, CA 93106. FAX 805-893-2314; email: tiffney@magic.ucsb.edu

Fifth Quadrennial INTERNATIONAL ORGANISATION OF PALEOBOTANY CONFERENCE Santa Barbara, California, USA June 30 - July 5th, 1996

The fifth International Organisation of Palaeobotany Conference (IOPC-V) will take place on the campus of the University of California at Santa Barbara (UCSB), Santa Barbara, California, USA in 1996. It will start on the evening of Sunday June 30th and end with breakfast on Friday July 5th. The meeting is timed to allow participants to attend the 9th International Palynological Congress which will take place the preceding week in Houston, Texas.

The purpose of IOPC-V is to encourage professional interaction among paleobotanists from around the world. The first circular will be mailed to IOP members and other paleobotanists in the Fall of 1994. Those wishing further information may contact Steven Manchester or Bruce Tiffney.

Scientific Program. Two concurrent symposia will be held each morning, and two concurrent contributed paper sessions each afternoon. A different poster session will be exhibited each day. Working groups and other special interest groups may meet during the evenings, or on Friday. The contributed paper sessions will include papers of a similar content in the same session to the degree possible. In order to allow the maximum number of different contributions, each participant will be allowed to present only one oral paper, although they may be co-authors on additional papers. In the event of a very large number of contributed papers, the organizers may request that some papers be presented as posters.

Locale. Santa Barbara is one of the most beautiful cities in North America, bounded to the north by mountains reaching 1200m and to the south by the Pacific Ocean. The city's attractions include two internationally-recognized botanical gardens, a major zoo, an outstanding art museum, a large natural history museum, a symphony orchestra and two opera companies. The beautiful, rugged, country to the north of the city offers hiking, horseback riding, and some of the finest chardonnay and pinot noir wines in California. The UCSB campus is 20 km west of the city of Santa Barbara and about 180 km north of Los Angeles, and is adjacent to the Santa Barbara airport, served by three major airlines. Access is also possible by personal vehicle, train and bus. The conference facilities are on the University campus, overlooking the Pacific Ocean. Weather will be moderate, with lows between 13° and 15° C and highs between 20° and 25° C.

Housing and Food. All participants can be housed on campus, adjacent to the conference facilities. A University housing plan (including full meals) is recommended as the most economical and convenient option, which also allows participants the maximum opportunity for discussion and interaction. A list of hotels will be provided, but participants should be aware that Santa Barbara is a resort town, and the lowest room prices will cost about as much as room plus food at the University.

Field Trips. On Friday following the meeting, participants may explore the local area on their own, or join trips to one of the two Botanic Gardens in Santa Barbara, to several of the local wineries in the

Santa Ynez valley, or to explore native vegetation on a nature reserve.

Two major paleobotanical excursions are planned after IOPC-V to avoid conflict with the Palynological Congress. Each trip will last approximately 7 days.

(1) Western North American Tertiary (Organizers: Howard Schorn, Nan Arens). Tour begins in Berkeley (Paleobotanical Collection, Museum of Paleontology), and proceeds across the Sierra Nevada (with stops to examine living vegetation) to Tertiary collecting sites in Nevada, returning to San Francisco.

(2) Rocky Mountains and Great Basin (Organizers: Patrick Herendeen, Kirk Johnson, William D. Tidwell). Tour begins in Salt Lake City, Utah, and ends with a visit to the Denver Museum of Natural History in Denver, Colorado, with visits to Paleozoic, Mesozoic, and Cenozoic localities in central and eastern Utah, southwestern Wyoming, and northern Colorado. The excursion will also include an introduction to the modern flora of the Great Basin and Rocky Mountains.

Organizing Committee. Patrick S. Herendeen, The Field Museum, Chicago, Illinois Steven R. Manchester, University of Florida, Gainesville, Florida Kathleen B. Pigg, Arizona State University, Tempe, Arizona Judith E. Skog, George Mason University, Fairfax, Virginia.

BRUCE H. TIFFNEY, University of California, Santa Barbara, California

NEWS OF A RECENT MEETING

6TH ARGENTINE PALEONTOLOGICAL AND BIOSTRATIGRAPHIC CONGRESS, Argentina, April 1994

More than 250 participants were in attendance at Trelew, Argentina from April 3–8th, 1994. The focal point of the congress was the Museo Paleontologico Egidio Feruglio, the same Feruglio for whom the conifer family Ferugliocladaeae (Archangelsky and Cuneo, 1987) is named. Numerous contributed papers and posters focused on invertebrates, vertebrates and plants within an systematic, paleoecological and biostratigraphic context. A special symposium title 'Paleobiology of fossil plants: new insights and perspectives' provide a unique forum for discussion and interaction. Each of the participants was allotted fifty minutes followed by ample time for lively discussion. Participants

included: Dianne Edwards (Cardiff) – Early terrestrial ecosystems; Winfried Remy (Münster) – Ecological pressures on Lower Devonian gametophytes and sporophytes; William C. DiMichele (Washington) – Community dynamics in Late Paleozoic ecosystems; Volker Mosbrugger (Tübingen) – Biomechanical patterns in plant evolution; Gar W. Rothwell (Athens) – Pteridophytic evolution and reproduction; Sergio Archangelsky (Buenos Aires) – Southern hemisphere seed plant evolution during the Paleozoic-Mesozoic transition; Hans Kerp (Münster) – Northern hemisphere seed plant evolution and cuticular analysis; Kevin Nixon (Ithaca) – Cladistics in paleobotany; Edith L. Taylor (Columbus) – Enigmatic seed plants; Peter R. Crane (Chicago) – A multidisciplinary perspective of angiosperm diversification; David L. Dilcher (Gainesville) – Eocene plants: link between the northern and southern hemisphere; Edgardo J. Romero (Buenos Aires) – Early angiosperm leaf morphotypes from Patagonia; William L. Crepet (Ithaca) – Reproductive strategies of early angiosperms; Thomas N. Taylor (Columbus) – Fungal interrelationships. It is anticipated that the papers will be published in a special volume in 1995. A mid-congress excursion provided the opportunity to view a portion of the museum's paleontological park and to experience an ecosystem in which the vegetation belongs in a desert, and penguins belong somewhere other than living in holes in the ground! On a post congress paleobotanical field trip we travelled nearly 2500km.

Highlights included the floristically rich early Permian Rio Genoa Formation, the type locality for *Ferugliocladus*; a Tertiary silicified forest; and the 60m long trees dotting the landscape of the Jurassic Petrified Forest National Monument. A stop at the La Golondrina Basin (Middle-Upper Permian) provided the participants the opportunity to collect *Glossopteris*, *Gangamopteris*, *Sphenophyllum* and *Asterotheca* on the slab! The opportunity to see and experience Patagonia was well worth an occasional inconvenience (e.g. a 'freshening breeze' of 180km/hr (but, as pointed out by Sergio Archangelsky – "its not windy in April in Patagonia"), two broken fuel pumps, four flat tires). It was an excellent trip in which everyone ate well and 'sampled' the fine red wines of Argentina as we journeyed through the country. The Congress organizers (Rubén Cúneo, Ana Archangelsky, Carlos Asaro, Alicia Villa and Olga Giménez) are to be congratulated for organizing and hosting a truly exceptional meeting, and to Rubén Cúneo and Ana Archangelsky, I can only echo the sentiments of the paleobotanists in attendance; "this was the best meeting that I ever attended."

T.N. TAYLOR, Columbus, Ohio, USA

NEWS OF FORTHCOMING MEETINGS

ORIGINS OF SEED PLANTS, Stockholm, Sweden, November 24-5th 1994.

A mini-symposium and workshop on 'Seed plant origins, structure and systematics' will be held at the Royal Academy of Sciences, Stockholm, Sweden on Thursday November 24. Lectures will be broad and general in approach and address aspects of Rudolf Florin's contribution to our understanding of seed plant structure and phylogeny viewed from the perspective of modern systematic studies. Speakers will include V.A. Albert (Uppsala, Sweden) J.A. Doyle (Davis, California) E.M. Friis, B. Jonsell and P. Kendrick (Stockholm, Sweden), G.W. Rothwell (Athens, Ohio), R.A. Stockey (Edmonton, Canada), P.B. Tomlinson (Petersham, Massachusetts).

The symposium will be followed by a workshop to be held at the Swedish Museum of Natural History on November 25 and an informal discussion meeting among invited speakers and participants during the week of the meeting. Contributions to the workshop and discussion meeting will be more specific and address questions on seed plant phylogeny such as relationships of seed plants to other early vascular groups and homologies in cones, flowers and other reproductive structures.

The meeting in the Academy is free and there is no registration fee. Those interested in attending or requiring further information on the meeting and workshop should contact either Else Marie Friis or Paul Kendrick, Department of Palaeobotany, Swedish Museum of Natural History. Box 50007, S-10405 Stockholm, Sweden, Fax:(46) (8) 666 4221; email: Pb-else@hamster.nrm.se and Pb-paul@hamster.nrm.se.

AMERICAN ASSOCIATION OF STRATIGRAPHIC PALYNOLOGISTS, October 10-14 1995. 28th Annual Meeting, at Ottawa, Ontario, Canada.

Symposia, Technical Sessions, Posters, Field Trip. Details: Ms Susan A Jarzen, Canadian Museum of Nature, PO Box 3443, Station 'D', Ottawa, Ontario, Canada K1P 6P5, FAX (613) 954-4724. Plans are underway for a full-day Special Session on Quaternary Palynology. For details contact Dr Pierre Richard, Laboratoire Jacques-Rousseau, Laboratoire de paleobiogeographie et de palynologie, Département de géographie, Université de Montréal, C P 6128, succursale A

THE FUTURE FOR PALYNOLOGISTS AND PALAEOBOTANISTS

IOP Newsletter 46 included two articles on this subject; they attracted some informal discussion but very little in writing. The April 1994 edition of *Palaeoaustral* (the new newsletter of the Palynological and Palaeobotanical Association of Australia, edited by Mike Pole, Hobart) contains a substantial letter on this subject. It is written by Marjorie Muir and parts of it are reproduced here with permission.

"I share your concerns for the future of Palaeobotany and Palynology. I always enjoy the Newsletter, and it keeps me in touch with what some (at least) people are doing. I am not active now, having had to take early retirement because of ill-health, but I can still see the decline of what was a thriving discipline (Palynology) some 20-30 years ago. When I started out as a palynologist, in 1960, there were many more palynologists in industry than in the universities. Now it is the opposite way round. I always keep an eye open for jobs for a number of my palynologist friends, some of whom are working as school teachers in order to keep in some touch with science. There just aren't any jobs, and it is not just because of the recession either, although that doesn't help. It seems to me that many people in authority in industry and in the universities see no need for further palynological work, although there are so many problems that would be of major stratigraphic significance if they could be solved. The greenhouse effect (if any) offers tremendous opportunities for palynology of the Recent, and there are very few people interested in or financially able to do that. In industry, of course, at the moment, the recession and lack of exploration effort is the excuse for not hiring palynologists, but I believe that even scientific management thinks that we now know everything that is to be known about stratigraphic palynology. How wrong can you be?

"....It is essential that we do look forward to the next twenty years for Palaeobotany and Palynology, not only in Australia, but world wide. There is only one dedicated Palaeobotany Institute still active, the Sahni Institute in India, and the Palaeobotany Group at Utrecht has a not entirely secure future. So many other palaeobotanists have taken early retirement, or retirement at the normal retiring age, that there is a

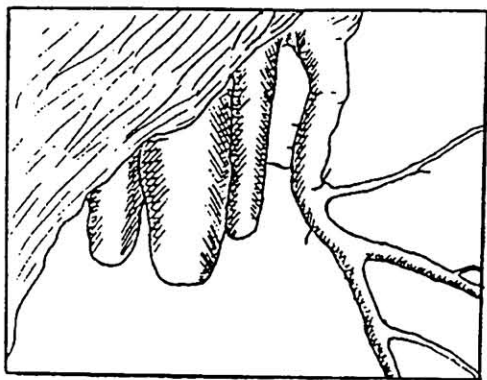
danger of there not being the critical mass necessary for really good science. One thing that can be done is for active palaeobotanists, whether, at the beginning, mid-point, or the end of their careers, to keep in touch, by means of this newsletter, through frequent seminars, conferences, and participation in non-palaeobotanical, but related, conferences. Another way to re-invigorate a science is through the cross-disciplinary approach. I remember the great excitement in the late 60's and early 70's with the discovery by Brooks and Shaw of how sporopollenin formed. That led to numerous meetings, including the Sporopollenin Symposium which I organised in London, which was attended by people from about 7 different disciplines. It led to a great extension of all our knowledge, including the chemists who assured the meeting that plant leaf cuticles could not be preserved as fossils because they would hydrolyse in water! It nearly came to blows! What the palaeobotanists had been looking at for the previous 100 years was undoubtedly an illusion! However, the chemists went back and did some experimental work and found that indeed it was possible for cuticular material to be preserved, given the right conditions.

"The problem that most work is done by post-grads and short term funded researchers is a serious one, and one that must be addressed if we are to have any Universities doing research by 2010. This is a general problem, not unique to Palaeobotany/Palynology, but requires action on the part of all academics. This action of course will take away precious time from applying for research grants and reporting on the results, but it has to be dealt with. The government is miserly in its approach to universities, and cavalier in the way it treats scientists, and perhaps someone could come up with a brainwave as to how we are to improve the situation. The government is the major source of funding for universities, and must be made aware of the situation that academics cannot work well without the security of tenure. I know it is not fashionable to suggest long term employment (feather-bedding the unions would call it), but it is essential. There can easily be instituted the normal checks on a lecturer's performance, with efficiency bars at suitable intervals etc, so what is wrong with tenure?

"....It is a depressing picture, but universities have gone through the same problems before (in the 1930's), and survived. But in the past, academics had tenure, which meant that however badly they were paid, they could take on mortgages and bring up families, with some degree of confidence. Now that situation doesn't obtain, and must be corrected."

A KEY TO Ginkgo's SURVIVAL

This is to draw the attention of palaeobotanists to mistery organs of *Ginkgo biloba* L., commonly known by dendrologists as chichi, especially in Japan, but a name that has not been mentioned in most text-books on botany and palaeobotany since A.C. Seward's (1933) 'Plant Life Through the Ages'. In 1989 I was very astonished by these organs that I saw on one of two female trees of *G. biloba* in the Jagellonian University Botanical Garden in Krakow (Figure). I pointed them out to M. Reymanovna and D. Zdebska, in my company, who shared with me my surprise. It was a good stimulus for thinking of the special paper which is in print now. Chichi are aerial exogenous adventitious roots produced by *Ginkgo* trees and hang down around the trunk (not necessarily old ones as suggested A.C. Seward).



Ginkgo biloba, Krakov, Bot. Garden

Aerial roots are known in young trees, for example in Japan (Takami, 1955) and in Germany (Von Kameyer, 1957-1958). Aerial roots are similar in their form to the young stilted roots of mangrove plants in the early stage of the root development. In the Krakow tree they are connected with callus formation. The similar mode of chichi formation was observed by K. Fujii in 1895 and D. Tredici in 1992 (in China by Tredici, 1992). The stable morphology of these organs in the Krakow tree showed that their shape and growth are connected with the activity of the apical meristem. The formation of the adventitious exogenous aerial roots of the callus is well known to occur in the culture of the artificial vegetative propagation of *Ginkgo* by cutting stems (Kobendza, 1957) and leaves or petioles (Baranova, 1949). Callus root formation from leaf petioles also took place in ancient ginkgophytes, for example in the lately published paper by H. Maheshwari and U. Bajpai (1992). It is possible to observe some callus roots in one of the samples of *Rhipidopsis densinervis* Feistm. (text-fig.11, p1.4, fig.2). The most important

observation on the Krakow tree was that some aerial roots stopped in their growth and before reaching the ground produced the vegetative branches (text-fig., to the left). As observed by F.A. Dallimore and S.G. Harrison (1966), in China and Japan, aerial roots "on reaching the ground develop true roots and produce leafy branches". So this natural vegetative propagation, not typical for a tree, is characteristic for *Ginkgo*. The unusual mode of the vegetative propagation seems to be the evolutionary innovation into the Ginkgophytes as a group for the long history of seed plants. In combination with the vegetative regeneration of chichi described by D. Tredici (1992), and forming the cotyledonary buds it 'played a role in the survival of *Ginkgo*' (using the phrase by D. Tredici, 1992), being the important advantage in the natural propagation strategy of this ancient woody plant.

N. SNIGIREVSKAYA, Saint Petersburg, Russia

THE UNIFORMITARIAN DOGMA "The Present is the Key to the Past" IS NO LONGER SUITABLE FOR GEOLOGICAL SCIENCE

The question is raised: Why do so many geologists, mostly in English-speaking countries, reject presentations of the Earth expansion theory? Perhaps these scientists follow the traditional dogma of Sir Charles Lyell's *Law of uniformitarianism* established in 1830. Lyell had derived his dogma from the *Four Laws of Uniformitarianism* signed in 1662 by King Charles II.

Religious brother-wars had raged in England around 1646. On the one side King Charles I with his army and his conviction of the correctness of the dogma of the Anglican Church. On the other side were the Calvinistic Puritans and the armies led by Oliver Cromwell. In 1648 the war was won by Cromwell, and in January 1649, Charles I was executed. Finally, in 1660, the oldest son of Charles I succeeded in his desperate struggle against the Puritans and became King Charles II. In order to prevent further religious brother-wars, he instituted the *Four Laws of Uniformitarianism* in 1662, for the purpose of establishing religious peace. These laws confirm the uniform cult of the Church of England, its system of religious belief, worship, and rites and ceremonies written down in the Common Prayer Book of 1559, which was established by Queen Elizabeth I. Understandably, these laws have always been considered a great blessing.

In 1648, based on biblical genealogy, the famous Archbishop of Armagh, James Ussher, pronounced that the creation of the Earth had occurred in 4004 B.C. Of course, Charles II accepted the preaching of his stout, royalist archbishop. Until the beginning of the nineteenth century, this idea was also accepted by nearly everyone, especially in English-speaking countries. But then it became obvious that the Earth was not created in 4004 B.C. because it became known that several ancient cultures already existed at that time. A new religious idea developed: the 'infancy catastrophism theory'. Did it not seem convenient to visualize Noah's sin flood of 40 days as a most recent event in a series of relatively short catastrophes that had overwhelmed the globe? The 'Catastrophism' preachers made prophecies of coming catastrophes and enjoyed, as today, their profitable living.

Philosophical underpinnings were needed to curb these wild fantasies, and in 1830 Lyell was successful in establishing Hutton's geologic concept of 1788 formulated as 'The present is the key for the past'. He traced this concept back to King Charles II Four Laws of Uniformitarianism. James Hutton's was the first active geologic researcher and is considered the 'Father of modern geology'. Of course, at that time neither Hutton nor Lyell had any idea that the earth had been in existence for some 4,500 million years. Both assumed an unchangeable permanence of creation. They assumed that the Earth could never have changed. But the discovery of a lush *Glossopteris* flora of Upper Permian time in the central Transantarctic Mountains by the Taylors (1993) shows that the present is not always the key of the past.

It is understandable that very conservative geologists of English-speaking countries rely on Lyell's somewhat rigid framework. But the Earth expansion theory is not a religious doctrine opposed to the authorized dogma. It is not atheistic or hostile to religious interests. Yet, the uniformitarianism dogma is stalling the advancement of geologic science. Discussions are invited to study the pros or cons of the many published indications which seem to prove the Earth expansion concept.

[Reprinted with thanks from the CIMP Newsletter 46, 15th April 1994, as an abstract to a lecture at the 26th annual meeting of AASP, Baton Rouge, October 1993]

G.O.W. KREMP, Tucson, USA.

DAMAGE FROM USING COMPUTERS

These short remarks are on the paper by A.M. Ziegler *et al.* 'Early Mesozoic phytogeography and climate' – Phil. Trans. R. Soc. Lond. B (1993) 341: 297–305. The paper looks very beautiful and very, very modern: a lot of graphics, new terms, partial explanation of a special computer program and very small maps for huge areas. I think that one implication of papers like this is that conscientious Russian and Chinese paleobotanists collected a great deal of material (congratulations!) but these old fashioned and primitive scientists could not get real conclusions from their material. Instead, it is done in such a reviewing paper by modern Americans – users of computers. Let us look what are the results of introducing "some rigor into phytogeography" after "floral lists... have been subjected to an ordination study". Below [in square brackets] I give comments to parts of the Conclusions section on page 303 of Ziegler *et al.*'s paper.

- "The floras of the early Mesozoic fall into three main climatically related biomes, the dry subtropical, the warm temperate and the cool temperate"

[This is a very well known fact. Even in the reviewing paper it is written that the biomes are 'basically' the same in Krassilov, 1981 and Vakhrameev, 1991 (published in Russian in 1964 and 1970). These phytogeographical units were introduced under the terms 'belts' by T. Harris in 1937. They were known already by O. Heer (1876) who discussed a climatic interpretation of Siberian ginkgophytes.]

- "...no hint of the cold temperate, arctic or glacial climates that exist at these latitudes to-day".

[It is a part of the first issue raised above, which was discussed many times, at least by Vakhrameev, Meyen and Krassilov and O. Heer.]

- "The biome zonation seems to be much better defined in the Jurassic than the Triassic".

[This is a very well known fact which was discussed at least by Vakhrameev, 1970, 1978 and Dobruskina, 1970, 1978, 1982. This and the first of these conclusions are repeated in the Summary on page 297 together with additional conclusions.]

- "The transitions between these biomes remained at relatively constant latitudes, from the late Triassic to the early Cretaceous, suggesting climate stasis over a long interval".

[Meyen described this fact even in his popular books (1981 and others) and showed in the map the position of this boundary in the late Permian, Triassic, Jurassic and Cretaceous.]

- "Climate changes, perceived locally, appear to be the result of continental motion, rather than true global change".

[This contradicts the statement above. Which kind of continental motion can result from such small fluctuations of the boundary of 'biomes' inside one big continent? In any case it is out of the resolution of such investigations.]

In my opinion, it is not only a repetition of well known things which the authors try to pass as new achievements. The damage is much more. Such computer games are calling the scientists of the real research - long and difficult. The illusion is created that the computer itself gets new conclusions and it is not necessary to know the material itself. It permits work without any respect to predecessors, without any knowledge of what has been done before.

I.A. DOBRUSKINA, Jerusalem, Israel.

PALAEOBOTANICAL BIBLIOGRAPHY

EUROPEAN PALAEOBOTANY & PALYNOLOGY 1992-3

This publication is now available. Send £5.00 to Professor B.A. Thomas, Department of Botany, National Museum of Wales, Cardiff CF1 3NP. Please make your cheque payable to 'National Museum of Wales'.

We were unable to cover the cost of producing the 1990-1 publication by the number of books we sold and so, unfortunately, unless the sales of this 1992-3 bibliography increase it is unlikely we will be able to produce future issues.

EXCHANGE OF LITERATURE

The Department of Palaeobotany at the Swedish Museum of Natural History has a large and important specialist library with literature holdings going back to 1884. We wish to keep up the high standard of this library and we are interested in receiving reprints and exchanging literature with other institutions and individuals. For further information contact Mrs. Kamlesh Khullar, Department of Palaeobotany, Swedish Museum of Natural History, Box 50007, S-10405 Stockholm, Sweden. Fax: (46) (8) 6664221; email: Pb-kamlesh@hamster.nrm.se.

A COMPUTER ASSISTED ANNOTATED BIBLIOGRAPHY

Steven R. Manchester writes with details of this new facility. It is by Schorn H.E., Bell C.J., Staratt S.W. and Wheeler D.T.: A computer-assisted annotated bibliography and preliminary survey of Nevada Paleobotany. U.S. Geological Survey Open File Report 94-441A (paper copy, 180pp), 94-441B (Macintosh version), 94-441C (Microsoft DOS version).

"The state of Nevada in the western United States boasts a rich paleobotanical record that spans from the Cambrian to the Quaternary. This open-file report, with accompanying computer database, is a useful and admirably complete compendium of paleobotanical literature and localities for the entire state. For each reference and/or locality, the authors have supplied the geologic age as currently understood, the latitude and longitude, the name of the 7.5 minute topographic quadrangle map, reference to a local geologic map (if available), as well as the type and preservation of fossils recovered.

"The database includes 620 references to publications and theses, and 173 localities. The printed version is organised into two main sections, the first giving the full record for each bibliographic entry arranged by Author and date, the second presenting each of the localities along with its age, type of fossil represented, coordinates, published citations and other important data. Following these sections is a series of useful appendices cross referenced by Topographic Quadrangle (App.A), County (App.B), Geologic Unit (App.C), Age (App.D) and subject (App.E). The subject breakdown includes such key words as algae, diatoms, impressions, palynomorphs, wood, and woodrat middens.

"The bibliography is also available on diskette formatted for compatibility with a commercial bibliographic program marketed under the trade-name of Pro-Cite which is available in both Macintosh and Microsoft DOS versions.

"This index provides an excellent model for those who are considering the development of similar databases for other regions of the world. In particular, it is an invaluable reference for anyone interested in fossil floras of western North America. Particularly well represented in the state are Miocene localities with 239 citations, Quaternary localities with 232 citations, followed by Eocene localities with 36 citations."

CHEIROLEPIDACEAE WANTED

Joan Watson, in collaboration with Ken Alvin, is about to start a new cheirolepidaceous onslaught (NERC funded). They would be most grateful for information to the whereabouts of specimens old and new, established or suspected; missing types sitting in museums; things you want identifying; anything. Contributions of tiny bits, from anyone, anywhere for SEM preps would be greatly appreciated (sent to J.W., Geology Dept., University of Manchester, M13 9PL).

Depressingly large numbers of the Watson & Sincock monograph on the Bennettitales of the Wealden are taking up shelf space. Volunteers to receive a copy, or another copy, either with full-colour or boring-blue cover are asked to identify themselves.

NEWS OF INDIVIDUALS

P. KENDRICK has been appointed '1: Intendent' (Curator) in the Department of Palaeobotany, Swedish Museum of Natural History. He will be responsible for computer registration of the collections and, together with colleagues in palaeozoology, is developing a programme and schedule for the work which will start this autumn. He will continue his research on the systematics and origin of land plants and has embarked on a joint research project with Cheng Sen-Li, Beijing, P R China on Devonian plants from SW China supported by the Royal Swedish Academy of Sciences, the Academia Sinica and the Swedish Natural Environment Research Council (NFR). Current research also includes a student driven project on systematics and biogeography of extant Lycopodiaceae based on morphological and molecular data.

V. SRINIVASAN - who has worked at the Department of Palaeobotany in the Swedish Museum of Natural History for about 10 years - will now leave the museum to settle in western Sweden. She has recently completed a study of cheirolepidaceous conifers from the Potomac Group and will continue some of her projects in Filipstad. She will maintain contacts with the museum in Stockholm and can be reached through this address.

INNA DOBRUSKINA recently enjoyed spending three months as Distinguished Visiting Professor at Ohio State University, Columbus, just enough time to become suspicious of palaeoclimatic models proposed

for the Southern Hemisphere - but not enough to win a struggle with computers. The problem is to force a computer to serve us - and not vice versa. Nevertheless, she is glad to inform colleagues & friends that at last 'Triassic floras of Eurasia' is published in English. She is sorry to inform them that there are no Triassic plants in Israel. That's why she began to study Cretaceous and Jurassic plants of the Middle East and their relation to Gondwana and Eurasia.

JEAN-PIERRE BERGER has written to explain why he seems "to be relatively 'inactive' in paleobotany: because of 'restructuring' in the Swiss universities (and especially in earth sciences) I am in a very unstable position even if I am teaching more than a full time professor job (general paleontology, stratigraphy, paleoecology, molasse, evolution) at the geological institute with a lot of administrative activities (responsibility of the library, of SCAN electron microscope, financial commission, and so on). So my research is now restricted to stratigraphy (Tertiary correlations), charophytes and general taphonomy. I have no time to publish my studies in paleobotany (old collections from Heer in the Oligocene and miocene of Switzerland, revised by me and with Harald Walther between 1988 and 1992, or pollen in collaboration with Magda Konzalova). And my visits to congress are also restricted to a maximum one or two a year. Because I am a member of the Council of the European Paleontological Association and responsible of the Charophyte group, there is \pm no place for the other meetings! For this reason, for example, I will be not in Utrecht in September.

"Because I am really still interested by paleobotanical researches, I try to keep in contact with the paleobotanical community. I hope to have better conditions in the near future (the stabilization of my position will be decided perhaps before the end of this year) to prepare serious projects about paleobotany."

THOMAS N. TAYLOR was elected to the National Academy of Science at the 1994 meeting.

Through a Von Humboldt Senior Research Award he will spend approximately June 15 - December 15, both this year and next, in Munster, Germany working with Winfried Remy and Hagan Hass on fungi from the Rhynie Chert.

DEP JEYA SINGH is trying his best to keep palaeobotany alive in his corner of India. He writes: "Recently (in February '94) I conducted a one-day symposium on *Fossils, Evolution and Faith* and invited some scientists and clergymen. The Rev. Andrew Anderson from the Presbyterian (Danish Church of Scotland) church in Edinburgh, Scotland,

on a short visit to our institution, was one of the speakers at the symposium. The proceedings have been taped and are likely to be brought out as a publication of Christian faith to talk on the subject. It was attended by students and staff of not only Botany but also of other subjects such as Philosophy, History, Literature and Zoology. On that occasion, a small but well organised exhibition on fossils was also declared open by the Director of Government Museums, Madras.

"Next February, I intend organising a two or three day conference on the topic 'Biodiversity: Past, Present and Future'. If anyone is interested in presenting a paper, please let me know."

FREDERIC THEVENARD has just got an academic position as 'maitre de conference' in the 'Laboratoire de Paleobotanique du Mesozoique' at Lyon. Barale's team seems to be the youngest in France at present.

MAURICE STREEL's palaeobotanical-palynological team might be the youngest in Belgium at present with the recent recruitment of **PHILIPPE GERRIENNE** as a FNRS qualified researcher. The Liege team now includes 5 members with complementary activities (macrofloras, pollen, spores and acritarchs).

NICK ROWE enjoyed his recent affiliation to the 'Institut des Sciences de l'Evolution de Montpellier' last winter when he spent three weeks in French Guyana with the Tropical Botany team. He and **THOMAS SPECK** (University of Freiburg) analysed the biomechanics of a variety of lianas and 'semi-self supporting' plants.

BRIGITTE MEYER-BERTHAUD and **VERONIQUE DAVIERO** have had an extensive season of collecting in the Graissessac coal basin. Veronique is in the course of a PhD project on the modeling of plant fossil architecture. Both women are touring the museums of France in search for large, nice and informative specimens of Carboniferous sphenopsids and lycopsids. Any information on good – even spectacular – specimens, anywhere else in the world, is welcome.

University of Liege in 1972, after forty years of teaching. She was one of the first women to have access to an academic position in Belgium. The excellence of her research work has been universally recognised. She was dedicated first to the study of Carboniferous petrified plants (1925–1940) and her reconstruction of the complex fertile appendages of fertile Sphenophyllum remains an example of thorough and patient search for the relevant pieces of information, leading to precise understanding of the organisation of the whole strobilus.

Her Devonian studies are better known. This area in which she has concentrated since the early forties owes its recent spectacular progress and expansion in no small way to the outstanding pioneering work of Suzanne Leclercq. She critically applied her 'degagement technique' using this tedious method to the point of perfection and obtaining proof of her interpretations and morphological reconstructions. The study of the complex fertile appendage of Calamophyton is a memorable example of her search for evidence. She also developed the thorough analyses of permineralized anatomical remains. The unravelling of the tiny Eviostachya (anatomy and morphology) in 1957 was a superb exploit, as was the detailed description of Rhacophyton. The name of Suzanne Leclercq will remain attached to the Middle Devonian plants she collected herself in the Goe quarries she made famous worldwide: Calamophyton, Pseudosporochnus and Rellimia have been studied with criticism and rigor and dedication and spectacular results have been obtained. She worked with famous collaborators who learned to know her strong personality but also her kindness and dedication. Suzanne Leclercq was a member of the Belgian Academie des Sciences. Paleobotany has lost one of its leading figures.

STAFF OF THE PALEOBOTANY, PALEOPALYNOLOGY AND MICROPALAEONTOLOGY DEPARTMENT, UNIVERSITY OF LIEGE, BELGIUM

OBITUARY

SUZANNE LECLERCQ 1901 – June 12, 1994

Suzanne Leclercq retired as head of the 'Laboratoire de Paleontologie Vegetale' of the