

IOP NEWSLETTER 36

INTERNATIONAL ORGANISATION OF PALAEOBOTANY

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES

-SECTION FOR PALAEOBOTANY

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MELBOURNE CONFERENCE EDITION

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IOP NEWS

GENERAL ASSEMBLY, Melbourne, Australia. August 1988

All palaeobotanists who have paid their IOP dues for 1988 are invited to attend this meeting which is part of the 4th IOP Conference. The provisional agenda for the meeting includes:

1. Approval of the revised Constitution (see IOP Newsletter 34)
2. Announcement of venue of 4th IOP Conference (see below)
3. Arrangements for the production of a list of IOP members
4. IOP's role to promote fossil plant studies in the 1990's
5. Comments from the membership to the Executive Committee

INVITATION FOR 4TH IOP CONFERENCE, Paris, 1992

The IOP Executive Committee has agreed to hold IOP Conferences adjacent to each International Palynological Congress (IPC). In May this year the International Federation of Palynological Societies announced the result of its Councillors' vote that the 8th IPC will take place in Aix-en-Provence in 1992. Consequently the IOP Executive Committee has accepted the recently received invitation for the 4th IOP Conference from French palaeobotanists. Details of that invitation are given below.

No major international botanical meeting has taken place in Paris since the 1954 Botanical Congress. The French Palaeobotanical Organisation (O.F.P.) will organise the next I.O.P. Conference in

the Museum national d'Histoire naturelle, in Paris. There are several historical and practical reasons for this choice.

Adolphe Brongniart, the founder of Palaeobotany has worked for many years in the Museum national d'Histoire naturelle in Paris, and he was followed by a series of famous palaeobotanists, namely G. de Saporta, C. Grand'Eury, E. Boureau, B. Renault, R. Zeiller, P. Bertrand, etc.. who have considerably enriched his works and collections. This extremely rich heritage, which comprises numerous type specimens, is the core of the world famous collections preserved in this museum. The attending members of the Congress will thus have the opportunity to examine this material which will be put at their disposal.

During the past decades, the field of Palaeobotany has been considerably widened and many French researchers have diversified their field of investigation toward phylogeny, palaeobiogeography, paleoclimatology, palaeoecology, systematics, cladistic analysis, etc..

This Conference will be immediately followed by the International Palynological Congress in Aix-en-Provence and all palaeobotanists interested in palynology will have this unique opportunity to attend both meetings. The two cities offer complementary point of interest.

ORGANIZING COMMITTEE:

Honorary Presidents Ed. BOUREAU (Paris), Y. LEMOIGNE (Lyon), J.P. LAVEINE (Lille), J.L.VERNET (Montpellier).

President C. BLANC (Paris).

Vice-President C. VOZENIN-SERRA (Paris).

Secretary M. SALARD-CHEBOLDAEFF (Paris).

Treasurer J. DEJAX (Paris)

Members J. BROUTIN, J. DUPERON, B. GIRAUD, J.C. KOENIGUER, M.LAUDOUENEIX-DUPERON, D.PONS, C. PRIVE-GILL

Fieldtrip leaders G.BARALE (Lyon), J.BROUTIN (Paris), C.BROUSMICHE (Lille), J.GALTIER (Montpellier), J.LANGIAUX (Monceaux), J.P. LAVEINE (Lille), P.ROIRON (Montpellier), L.STAMM-GRAUVOGEL (Strasbourg), J.L.VERNET (Montpellier).

The IOP Conference will be organised by the following laboratories:

- Laboratoire de Paleobotanique du Muséum national d'Histoire naturelle de Paris,
- Laboratoire de Paleobotanique et Palynologie évolutives, Université Pierre et Marie Curie (Paris VI),
- Laboratoire de Paléobotanique fondamentale et appliquée, Université Pierre et Marie Curie (Paris VI).

DATES, PLACE AND PROGRAM OF THE CONGRESS:

Conference Sessions: September 1 to 3, 1992.

The conference will be preceded by two alternative excursions (A1 & A2) and followed by a joint excursion (B) with the International Palynological Congress.

The IOP Conference will take place in the center of Paris, in the pleasant historical site of the Jardin des Plantes (formerly the "Jardin du Roi", or King's Garden), where several lecture rooms are available in the surrounding buildings of the Museum national d'Histoire naturelle. The Pierre & Marie Curie University lies just opposite the Museum.

PROGRAMME:

August 24: from 9.00 to 20.00 - registration to the pregress
excursions at the Museum national d'Histoire naturelle.
August 25-30: excursion A1 or A2.
August 31: from 9.00 to 20.00 - registration to the Congress
sessions.
September 1,2, & 3: Congress Sessions and Symposia.
September 5 & 6: postcongress excursion B.
France is not only the cradle of Palaeobotany. You all know its
reputation in the field of food culture, which you may experience
during the Symposium Dinner.

Specific themes will be allowed and encouraged:

History of Palaeobotany,
Earliest terrestrial plants,
Symbiosis and parasitism in fossil plants,
Stromatolites, fossil algae and charophytes,
Animal-plant coevolution, in particular insect-plant coevolution,
The Angaridian Province and its relationships with other
floristic provinces in the Upper Palaeozoic,
A cladistic approach to angiosperm phylogeny,
The emergence of early angiosperms,
Reproductive structures and evolution of early angiosperms,
Evolution and ecosystems during the Cenozoic,
Floral and climatic changes during the Cretaceous and Tertiary,
Wood structure and phylogeny,
Quaternary floras and vegetation,
The genesis of fossiliferous sites,
Climatic and phytogeographic reconstructions,
Palaeocarpology.

More suggestions will be welcome by the Organizing Committee
until January 1st 1992. An abstract (one A4 page) will be
required for all the contributions (lectures and posters). The
attending members will receive the abstract volume and, these who
participate to any of the excursions will receive the
corresponding guide.

EXPENSES, ACCOMMODATION AND MEALS, TRAVEL:

Registration will close on April 30th 1992. The fees would be
about 600-800FF (100 to 130 US\$ 1988 rate) for attending members,
and 200 to 300 FF (35 to 50 US\$) for students. In case of
cancellation after April 30th, only part of the fee will be
returned. The cost of pre- and post-congress excursions is not
yet decided but is expected to be kept at the minimum if there is
a sufficient number of participants.

Accommodation will be available in student residences (current
price per night: 100FF (20 US\$)/for a single room and 120FF (25
US\$)/for a double room and in hotels around the Museum or near to
the university residence (200FF = 35 US\$ - 350FF = 57US\$ for a
single room, breakfast included). Lunch will be served in the
Museum restaurant (current price 40 FF = 7 US\$).

PRE-CONGRESS EXCURSIONS (A1 & A2):

Excursion A1: Northeastern France, led by J.P. LAVERNE, C.
BROUSMICHE et L. GRAUVOGEL-STAMM. Visit to the Lorraine basin
and the Alsacian Triassic outcrops.

Excursion A2: The Palaeozoic, Mesozoic and Tertiary localities of

Eastern and Central France, led by G. BARALE, J. BROUTIN, J.GALTIER, J.LANGIAUX et P.ROIRON.

POST-CONGRESS EXCURSION (B):

Excursion on the late Tertiary and Quaternary outcrops of Languedoc and Provence (Southern France), led by J.L. VERNET et J.P. SUC will end at Aix-en-Provence (International Palynological Congress).

PROPOSED CALENDAR OF THE ORGANIZING COMMITTEE:

June 1990: Mailing of the first circular with information about places, dates, topics, and provisional program, fees, excursions and request for suggestions about the organization of sessions.

December 1990: Deadline for reply to first circular.

June 1991: Mailing of the second circular with information about abstract, payment, program, contributions, excursions, etc...

December 1991: Reservations for accommodation in student residence.

April 1992: Reception of abstract, payment of registration fees, reservations for excursions and accommodation in hotels.

June 1992: Additional informations to contributors concerning date, time and place of communications and poster presentation.

September 1-3 1992: Sessions of the Conference.

REPORTS OF RECENT MEETINGS

ORGANISATION FRANCAIS DE PALÉOBOTANIQUE, Lille, May 1988

This meeting which involved 33 paleobotanists was held at Lille (Northern France) from May 31st to June 1st.

The first day was devoted to oral communications. The summaries are edited in a volume available from: Dr. Claudine Brousmiche, Laboratoire de Paléobotanique, Université des Sciences et Techniques de Lille, 59655 Villeneuve d'Asq, France.

In his introductory presentation, Prof. Laveine showed us a large collection of slides from his recent trip to China and introduced us to the difficulty of collecting fossils in this country. Thirteen communications followed covering a wide variety of topics.

Four papers concerned plants of Palaeozoic age. Alvarez Ramis presented Sciadophyton - like remains from the Gedinian of Spain; Galtier and Mayer-Berthaud discussed the concept of Calamopitys from new observations made on the Saalfeld (RDA) material; they also commented on a new flora found in collaboration with A.C. Scott in the Lower Carboniferous of Scotland. Lugardon and Brousmiche interpreted new ultrastructural data obtained from Calamospora of some Calamostachys cones from the Upper Carboniferous of France.

The following three papers dealt with Mesozoic fossils from various countries. Barale reported on a new flora from the lower Jurassic of France and Dejax presented a preliminary description of the assemblages of 4 sedimentary basins from the Lower Cretaceous of Cameroon. Dr. Sun who is presently working with C. Hill at the British Museum (Natural History) focussed on new Chinese material of Ginkgo leaves. These are referable to Ginkgo

huttoni and he compared them to the European representatives of the species as well as to the Siberian leaves assigned to Ginkgoites tapkensis.

Most communications were devoted to the Tertiary. Basing his work on palynological assemblages, Medus reported on the factors responsible for the changes of vegetation at the Cretaceous-Tertiary and the Eocene-Oligocene boundaries. The new data collected by Koeniguer allowed him to suggest that in the Stampian this area had a Mediterranean subtropical flora. An opposing view was by Fernandez Marron and Alvarez Ramis who insisted on the fact that a high proportion of temperate taxa were recognised in the highly diversified Miocene flora of Rubiols de Mora (Spain). The Tertiary (partially Oligocene) flora of Bioul in Belgium is in a preliminary state of study. However, the excellent poster discussed by Fairon-Demaret showed an especially rich and diversified assemblage dominated by vegetative and fertile gymnospermous remains. Contrasting with these general studies, Blanc-Louvel paid particular attention to the fructifications of the Piperaceae from the Eocene locality of Prémontré (Northern France). She suggested that similar fructifications might have existed in the contemporaneous London Clay beds of Great Britain.

Badal Garcia, Heinz and Vernet closed the day with a review of the paleoecology of the Mediterranean area during the last forty thousand years based on anthropological data.

On the second day, a 3 1/2 hours visit was organised at the "Musée de la mine de Lewarde" where two retired Polish miners showed us the diverse methods of extracting and treating the coal, in use from the last century until the present. After a splendid meal in the cellars of an ancient private house, we were received by Miss Beckary for a visit of the "Musée Gosselet" in Lille which houses large collections of plant and animal fossils. Despite the bad state of the building - the roof threatening to collapse - Miss Beckary's recent appointment as curator of the Museum is interpreted as an encouragement from the authorities of Lille to French paleontology.

B. MEYER-BERTHAUD, Montpellier.

DER ARBEITSKREIS FÜR PALAEBOTANIK UND PALYNOLOGIE, 11-14 May 1988.

The serene North Sea coastline of northern Jutland is dotted with traditional Danish farmhouses with starkly whitewashed walls and low thatched roofs. In one of these cozy dwellings near the small village of Blokhus, the 18th annual meeting of the Arbeitskreis für Palaobotanik und Palynologie was convened. Our lodging, meals and talks were all under this one roof, which made for a very personal and enjoyable gathering.

The meeting was well attended, especially considering its out-of-the-way location, with over 50 participants, most of whom made the long trek from Germany. Other European countries represented were the Netherlands, Switzerland, Belgium and Austria. A few long distance travellers originated from the United States, China, and India.

Among the 16 papers given, there was a little for everybody. For those yearning for exotic lands, we sojourned to China for a look at Permian plants (Volker Mosbrugger) and coal mining operations (Helga Engel), to India for the Permo-Triassic boundary (A. Vijaya) and to the once lushly vegetated continent of Antarctica for Mesozoic plants (Carole Gee) and Cretaceous and Tertiary palynomorphs (Barbara Mohr & C. Gee). A little closer to home, the Mesozoic biostratigraphy and facies development of northwestern Germany were thoroughly discussed in a suite of three separate papers (Walter Riegel, M. Prauss, Reiner Kunz). Going up section, we encountered an Early Tertiary megaf flora from Austria (Johanna Eder-Kovar), a Pliocene conifer flora from northwestern Germany (Rolf Gossmann), and Holocene palynology from the German Island of Sylt (F.-R. Averdieck). Discussion papers included practical advice on the application of binomials to Cenozoic plants (David Ferguson) and more theoretical work on the problems of mechanical stability in plants (D. Vogellehner & Thomas Speck).

Probably of greatest general interest to the international paleobotanical community is the wealth of information amassed on Devonian plants by the research group in Munster. Presented in a series of three papers (Winfried Remy, Hagen Hass, Stephan Schultka), current investigations indicate that the morphology and diversity of the early land plants were actually much more complex than previously thought. New questions are being raised about the phylogeny of these early land plants as well as others about the morphogenesis and evolution of certain plant organs, such as the evolution of meristems. One new plant under study was found to have reproductive structures intermediate between Rhynia gwynne-vaughanii and Stockmansella langii and has consequently prompted an emendation of the Rhyniaceae. According to recent sedimentological work in the Sauerland, these early Devonian land plants flourished in non-marine lowlands.

As a newcomer to the German paleobotanical community, I was keenly interested when, on the close of the first day, Friedemann Schaarschmidt reflected on the 18 year history of the Arbeitskreis and even produced a photograph of the first meeting's participants. The champagne that the Schaarschmidts had thoughtfully brought along also lent a very special touch to the evening. Throughout this well run but close and intimate meeting, the hard work that Walter Friedrich and his many helpful assistants put into working out the logistics of the gathering were clearly evident, and continued into the two days of excursions.

The field trips on both days took us to many places of paleontological, geological, and cultural interest in the Jutland Peninsula. Of the several stops made on the first day's excursion, the stop at the Cretaceous/Tertiary boundary in Nye Kløv was one point of great general interest. Other interesting stops included those at the outcrops of the Eocene Moler Formation where we looked at the angiosperm flora arising from its lowest layers and at an unusual marine diatomite. The second day's field trip took us to younger sediments in the Tertiary. Of particular interest to me was our first stop at Løkkens Blanaese where my collecting appetite was whetted with the

discovery of a 8,000 year old Quercus leaf. Among the other stops we made, the multitude of pre-Viking and Viking age (800-1,000 A.D.) stone graves in Lindholm Høje was especially striking and reminded us that we were indeed in Viking country. Both excursions, although unavoidably a little short on the paleobotany side (due to the lack of many sites), were well organized and ably guided by Walter Friedrich and Esker Koch. The excursion guide was concise and well planned, incorporating only the essential text and illustrations and excluding extraneous material. The clearly marked road map/log was also a handy addition.

Because our luck with the pleasant May weather during this year's meeting had impressed us all, next year's meeting was also tentatively scheduled for late April/early May. If all goes as planned, we will be meeting in Krefeld (northwestern Germany) and collecting in the nearby coal fields under clear skies.

CAROLE GEE, Zurich.

6TH U.S. MID-CONTINENT PALEOBOTANICAL COLLOQUIUM, University of Illinois, June 1988.

In the early 1980s midwestern paleobotanists decided that more informal gatherings were conducive to a good exchange of ideas, techniques and even "off-the-wall" views of the ancient plant and animal worlds. A splendid precursor group in the north east had developed such an annual gathering at Harvard Forest in Petersham that worked extremely well. This year's meeting on June 3-5 drew more than 40 paleobotanists and geologists from as far away as Kansas, Alabama, North Carolina, Massachusetts, and Michigan.

The colloquium included 15 contributed papers and six poster-demonstrations, including one on "conservation of coal balls" by volunteers at the Cleveland Museum of Natural History. There was a coal-ball workshop featuring invited speakers, Philip J. DeMaris on the origins of massive carbonate coal-ball deposits in the Herrin Coal of Illinois and Aureal T. Cross on pioneering coal-ball researchers in the United States. DeMaris, a coal geologist with the Illinois State Geological Survey in Urbana, along with his coauthors have carried out the most detailed distribution mapping, depositional reconstructions and chemical analyses on in situ coal-ball occurrences to date. The study will be compared to the classic contributions of Stopes and Watson, Kukuk, Zaritsky, and Mamay and Yochelson, and yet the results are quite different in mechanisms. Well documented ^{13}C isotopic signatures of most of the carbonate coal balls as derived from in situ carbonated formation and largely freshwater influences. The thickest deposits attained 15 feet and were aggregated in pods ranging over 70 feet in diameter. Pods were irregularly arranged along a semi-linear pattern coinciding with a crevasse splay cover of the original peat deposit from the nearby Walshville paleochannel. Then an erosional event uncovered part of the peat at a stage depicted as degassing of trapped CO_2 (rapidly raising the pH to 7.5), flushing of humic acids and allowing entrance of marine water as sources of Ca and Mg. The resulting masses of coal balls (Type II) exhibited a near ^{13}C value of -24 except for scattered coal balls at the very top of the coal (Type I);

origins of these are attributed to marine influence. The study will hopefully be republished in an available journal because of its depositional (predictive) implications for massive occurrences of mineral matter in coal as well as relationships to paleobotanical information. The reference is: DeMaris, P.J., Bauer, R.A., Cahill, R.A., and Damberger, H.H. 1983. Final Technical Report Part 2, Prediction of Coal Balls in the Herrin Coal-Geological Investigation of Roof and Floor strata: Longwall Demonstration, Old Ben Mine No. 24. U.S. Department of Energy, Office of Coal Mining, 69 p..

The coal-ball workshop was memorably launched by the historical accounts of the search for coal balls in the United States with personalised treatment of David White, A.C. Noe, J.H. Hoskins, Fredda Reed (recently deceased), Gilbert "Doc" Cady, J.M. Schopf and others. Professor Cross delivered a candid, moving and appreciative summary of the European roots of American coal-ball studies omitting only his own pioneering role in the first doctoral monographs of Pachytosta, Bowmanites, etc. which were published as Hoskins and Cross! The best story recounting what emerged from the historical views of Pennsylvanian age studies of coal and coal balls occurred in the corridor in a discussion of Cross's Pittsburgh Coal paper which was cited as the "second career" of the speaker, when he was introduced. It turns out that numerous readers take the classic contribution as a "staff effort"; Aureal was the "staff"!

Participants had the opportunity to make coal-ball peels from the teaching/reference collections of the Plant Paleoecology and Evolution Lab. (note the absence of paleobotany) in Morrill Hall and at the Palaeobotanical Research Centre. The Center was completed recently to house the university coal-ball collections and provide processing facilities for mass production. The 3,850 sq.ft. warehouse and lab. were, in part, a gift from the alumni of the College of Arts and Sciences, and, in part, a university-derived solution for the largest collection of coal balls dating back to the days of Wilson N. Stewart and his many students.

The meetings began and ended with keynote speakers representing the most innovative and comprehensive assaults on areas of paleoecological research. Andrew Knoll set about translating his research in Greenland, Spitzbergen and Australia, as well as Holocene studies in the Bahamas (when asked why the Bahamas, Andy flippedly replied, "After the other field seasons, why not!", but also gave the real analog reasons) into a synthetic scenario of changing total environments and, in turn, the shifting of the organisms, many with remarkable morphological and physiological similarities to those in the present day Bahamas. One was struck by the high level resolution of Knoll's research in the late Proterozoic, rivalling the best from the terrestrial Paleozoic which was deemed an "over burden".

The talk by Karl Niklas on ancient and modern wind pollination experiments ranged from modelling of Lower Carboniferous preovules, cupules and micropylar closure to a pair of Ephedra species. Niklas' penchant for the biophysics of plants was shown in both the elegant design of experiments as well as in detecting experimental flaws like clamping the stem, and preventing its oscillation in the wind. The movement of plants and plant parts

in response to the wind led to an increased understanding of how pollen capture not only depended up plant architecture but also its oscillating movement in response to wind.

Both speakers referred to hypothesis testing and experimental design, calling upon modern ecosystems to utilize in the deductive solutions of how ancient ones worked; however, there was a clear sense of unique time frames and events of the past. The keynote addresses have become the hallmark of these annual gatherings and especially so because the question-answer periods following each of the presentations went on for a half hour and proved even more informative and stimulating than the outstanding talks! The meeting for 1989 is scheduled at the Cleveland Museum of Natural History and for 1990 at the Field Museum of Natural History at Chicago where the colloquia began six years ago.
T.L. PHILLIPS, University of Illinois, USA.

ORIGINS AND EVOLUTION OF THE ANTARCTIC BIOTA, London, May 1988.

This discussion meeting was sponsored by the Geological Society of London and the Palaeontological Association. The programme included the following lectures by palaeobotanists.

Early-Middle Triassic plants from Antarctica

T.N. Taylor and E.L. Taylor (The Ohio State University)

The polar forests

W.G.Chaloner and G.T.Creber (R.Holloway & Bedford New College)

Late Cretaceous-Early Tertiary floras of King George Island: their stratigraphic distribution and palaeoclimatic significance.

K.Birkenmajer and E. Zastawniak (Polish Academy of Sciences)

Antarctica: Cretaceous cradle of austral temperate rainforests?

M.E. Dettmann (University of Queensland)

Endemism and heterochroneity in the Seymour Island Campanian to Paleocene palynofloras.

R.A. Askin (University of California, Riverside)

Origins and affinities of modern circum-Antarctic floras

D.M. Moore (University of Reading)

Antarctic fossil plants: new insights in reproductive biology

E.L. Taylor and T.N. Taylor (Ohio State University)

EVOLUTION, SYSTEMATICS AND FOSSIL HISTORY OF THE HAMAMELIDAE Reading, 22nd-25th March 1988

THE AIM: The symposium set out to examine data from extant and fossil plants with the aim of interpreting major patterns of evolution in the Hamamelidae. The Hamamelidae are an important subclass of flowering plants that can be traced back into the Lower Cretaceous. In addition to presenting the results of recent research, the emphasis was on interpreting major patterns of evolution within the subclass, recognising natural groups and generating explicit hypotheses of their relationships.

THE HAMS: In a call for brevity this abbreviation was thought acceptable. The Hams are both numerous and diverse with approximately 25 families (3500 species) divided between 13 orders, although several different classifications are recognised: Cronquist (1968), Takhtajan (1987), and Thorne (1974). This group of plants has traditionally included such

diverse plants as plane and buttonwood trees (Platanaceae), hazels and sweet gums (Hamamelidaceae) Florida corkwood (Leitneriaceae), birches, alders and hornbeams (Betulaceae) beeches, oaks and sweet chestnuts (Fagaceae), the oak (Casuarinaceae), the Trochodendrales, elms (Ulmaceae), figs (Moraceae) and cannabis (Cannabaceae).

THE HAND LENS: For this fresher Ph.D student the conference began with a chance meeting at the registration desk with Art Cronquist (New York Botanical Garden) and Robert Thorne (Rancho Santa Ana Botanical Garden). After initial pleasantries these two Botanical giants (literally) got down to the nitty gritty. Sharing a hand lens (thought to be the standard x10) the two men sauntered around the garden of the hall of residence for two hours and twenty minutes pointing, prodding and looking at plants with great enthusiasm.

THE PARTICIPANTS: 95 registrants, 14 of whom are women, came from 14 countries.

THE BACKGROUND STORY: There are many flowering plants which show very strong floral reduction, where the perianth is wanting or poorly developed and the flowers are often unisexual. A subset of these plants arrange their flowers in catkins and these have traditionally been referred to as the "Amentiferae" or "catkin - bearers". However it was subsequently realised that the relationships of some of these catkin - bearing plants lay elsewhere and therefore the poplars and willows (Salicaceae) were transferred to the Dilleniidae and Garrya (Garryaceae) to the Rosidae. So there remained a trimmed version of the original catkin - bearing group and these were united with other groups that also had reduced flowers (as well as other characters) and that group is called the Hamamelidae.

THE QUESTIONS: Is the group a natural one that is monophyletic? What are the phylogenetic relationships of this group to the rest of the flowering plants?

THE BUSINESS: The opening session considered the phylogenetic position of the Hamamelidae within the dicotyledons. F. Ehrendorfer (Vienna) portrayed the group as transitional between Magnoliids and higher dicot groups. This seemed an important starting point as it was previously thought that the Hamamelidae and the Rosidae were independently derived from the the Magnoliids (Cronquist 1968; Takhtajan 1969). This point was elaborated by W.C. Dickison (North Carolina) who pointed out shared features of the Hamamelidae and the primitive Rosidae. Doyle and Donoghue (California and Arizona) located their phylogenetic analysis of the group in the context of their earlier impressive work on the seed plants as a whole and link Trochodendrales and Hamamelidales (often referred to as the lower Hamamelidae) with the Ranunculidae, and derive the Rosidae and other dicots (including higher Hamamelidae i.e. the Amentiferae and the Urticales etc) from the lower hamamelids. Hufford and Crane (Kansas and Chicago) compared their most parsimonious cladogram of the lower Hams (sensu Cronquist) with the classifications of Cronquist and Takhtajan which were rather expediently represented as cladograms which the argument went were less parsimonious (but only based on Hufford and Crane's data set). For an interesting precis of the conference as a whole

complete with composite cladogram see Humphries (1988). Further sessions of the symposium provided new information on poorly known aspects of the group, such as karyotype evolution (Morawetz and Samuel, Vienna), leaf architecture (Wolfe, Denver), breeding systems ranging from cross pollination of figs by wasps (Ramirez, Costa Rica) and wind pollination of nettles (Friis Denmark).

HAMS, CHEESE AND URTICACEAE: One of the many well organised social events was a tasting of British cheeses where one such cheese was the Cornish Yarg; a fairly low fat, firm cheese from Cornwall wrapped in the leaves of Urtica dioica L (Urticaceae).

THE FOSSILS: One outstanding feature of the conference was the quality of palaeobotanical papers, which must have won over any remaining sceptics (and there are still too many) as to the role of fossils. However, the exact role is still being debated, as shown in a comparison of Paterson (1981) with Doyle and Donoghue (1987) and Gauthier et al. (1988).

Detailed investigation of the fossil record has done much to clarify the early diversification of flowering plants, as a number of contributors demonstrated. Friis (Stockholm) described fossil flowers extracted from Cretaceous sediments by laborious sieving techniques. Two major groups of Cretaceous hamamelids have now been recognised, one with tricolpate, reticulate pollen, the other with Normapolles type pollen. Interestingly the thirty or so Late Cretaceous juglandalean/myricalean species which produce these Normapolles grains all have bisexual flowers, suggesting that their adaptation to wind pollination was not yet complete. In the Betulaceae, Crane (Chicago) discussed the relationship between extinct fossil taxa such as Palaeocarpinus and Asterocarpinus with living members of the tribe Coryleae. Crepet (Connecticut) and Nixon (New York) presented a correlated study of fossil and living Fagaceae respectively, clearly demonstrating the value of such an approach. In the Urticales, a distinct contrast was noted between the rich fossil record of Ulmaceae (Manchester, Indiana) and the apparently much poorer record of the Urticaceae and Moraceae (Collinson, London). A factor which contributes to the value of the fossil record of Ulmaceae is the self pruning of the branches which leads to relatively frequent preservation of branches with leaves and reproductive structures attached.

THE TRANSFER REQUEST: It became clear during the conference that certain taxa are considered wholly mis-placed in the Hams. Most notable was the suggestion by Behnke (Heidelberg), on the basis of classification of sieve-tube plastids, that the Urticales should be placed elsewhere. This view was expressed more precisely by Berg (Bergen) who thinks that the Urticales are more closely related to the Malvales and that the relationship has been obscured by differing interpretations of reduced floral structures and many of the vegetative structures. In fairness this is a point that Thorne (Claremont) has been making for a long time.

THE CHARACTERS: In the context of his argument that the Amentiferae are polyphyletic Thorne (Claremont) argued that cladists treat each of the various components of the anemophilous syndrome as separate characteristics carrying equal weight with

those features not involved in the syndrome and therefore not surprisingly this huge syndrome can outweigh the other characters and show relationships where none really exist. Another important character, Cronquist (New York) sang folk tunes in five different languages into the wee small hours.

THE VOLUME of the proceedings will be published by Oxford University Press in the Systematics Association Special Volume series.

THE REFERENCES:

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THE DEVELOPMENT OF PALAEOBOTANY AND PALYNOLOGY IN UTRECHT

In 1963 Prof. Dr. F.P. Jonker formally founded the Laboratory of Palaeobotany and Palynology as a research institute and training centre. However, palaeobotany was introduced in Utrecht by the famous botanist F.A.W. Miquel (1811-1871), who became interested in fossil plants by the work of H.R. Goppert. The earliest specimens of the Utrecht palaeobotanical collection are some Permian plant remains from Ottendorf and Braunau (now Otovice and Broumov, CSSR). In 1853 Miquel published a paper on some angiospermous plants from the Upper Cretaceous of South Limburg. Miquel only left us this single publication, the type of material of the Late Cretaceous angiosperm leaves and some self-made drawings used for lecturing in palaeobotany.

Although Miquel's successors Went and Pulle gave lectures in palaeobotany and palynology, no practical work was carried out for more than seventy years. The second palaeobotanical publication appeared exactly 75 years after Miquel's paper. It was the dissertation of R.G. Koopmans on the Carboniferous Finefrau-Nebenbank coal ball flora. Koopmans worked in Heerlen under the supervision of Prof. Jongmans, but he defended his thesis at the Utrecht University.

In 1928 Prof. Dr. A.A. Pulle invited F. Florschütz (1887-1965) to introduce pollen analysis in Utrecht. Florschütz was originally a lawyer. He was part-time employed as secretary at the agricultural university of Wageningen and he was a teacher in economics. Later on he studied biology and he became interested

in pollen analysis by the work of Von Post and Erdtman. During his biology studies he worked with Firbas. Florschütz still had his jobs as secretary and teacher, but he also had a private laboratory at home in Velp and every Friday he gave his lectures in Utrecht. Later in his career Florschütz became appointed as a professor in the palaeobotany and palynology of the Cenozoic at the University of Leiden. Van der Hammen and Zagwijn are some of his students.

After Florschütz left Utrecht, Jonker was his successor as lecturer in historical plant geography. The restriction to historical plant geography was made because there were no relevant palaeobotanical collections in Utrecht. In 1960 he was appointed as professor in palaeobotany and palynology. At the age of 50 he had to establish a palaeobotanical and palynological research and training centre.

Two visits to foreign institutes have strongly influenced Prof. Jonker's concept of the Laboratory of Palaeobotany and Palynology. In Krakow (Poland) and in Lucknow (India) he saw laboratories where the various aspects of palaeobotany and palynology were united. From then on he gave all his efforts in order to establish an all-round palaeobotanical and palynological institute in Utrecht. Staff-members were appointed and pollen morphology, Pre-quaternary and Quaternary palynology and palaeobotany were studied and a palaeobotanical museum was founded. The integration of biology and geology was realised!

In 1966 the 2nd International Palynological Conference was held in Utrecht. This congress is one of the milestones in the history of the Laboratory. The proceedings of the conference were published by Elsevier and the series was continued as an international journal which is now one of the leading ones in palaeobotany and palynology: the Review of Palaeobotany and Palynology.

Prof. Jonker was succeeded by H. Visscher, who was the first geologist to become appointed as professor within the Faculty of Biology. During the last ten years the Laboratory has expanded considerably. New trends and subdisciplines have been introduced. Although palynology has originally started in the form of Quaternary pollen analysis, now also stratigraphic palynology of the pre-Quaternary forms an important part of the institute's research and training programme. During the last twenty five years the Laboratory of Palaeobotany and Palynology has played an active role in various fields of interdisciplinary palaeobotanical and palynological research. Results of investigations on micro- and megaflores from Devonian to Holocene, have been published in international scientific journals. Collaborators and students of the Laboratory of Palaeobotany and Palynology have contributed to various geological research programmes, including the participation in several IGCP projects.

The number of students still increases. The institute also provides palynological training to visiting graduates and post-graduate students from various countries. Furthermore, contract-research is carried out for various companies and institutes. One of the highlights in the history of the laboratory was the visit of a delegation of over 30 staff-members and students to the

palynological and palaeobotanical conferences in Canada in 1984. This trip was made possible by Special Services, the consultancy division of the Laboratory of Palaeobotany and Palynology. Current research topics in the Department include:

DETERMINATION KEY FOR CICATRICOSISPORITES SPECIES P.J. de Haan., H. Leereveld, J. Leloux, and J.J. van den Bergh.

TRIASSIC PALYNOMORPHS; INDEX TO GENERA AND SPECIES Boersma, M. Brugman, W.A. and Veld, H.

TETHYAN/BOREAL/ARCTIC CORRELATION OF BERRIASIAN-LOWER HAUTERIVIAN AMMONITE, BUCHIA AND DINOFLAGELLATE ZONATIONS H. Leereveld & P.J. Hoedemaeker.

THE VEGETATION OF NORTHWEST SCOTLAND DURING THE KIMMERIDGIAN J. van der Burgh

A CORRELATION BETWEEN APTIAN STRATA IN CENTRAL AND SOUTH PORTUGAL BASED ON SPORE/POLLEN AND DINOFLAGELLATE CYST ASSEMBLAGES J.J. van den Bergh, H. Leereveld and P.Y. Berthou.

TOWARDS SYNCHRONIZATION OF VEGETATIONAL EVENTS IN THE SERRA DA ESTRELA, PORTUGAL, BY MEANS OF THE REGISTRATION OF COMMON TRENDS IN POLLEN DIAGRAMS C.R. Janssen, J.A.A. Bos, R. Bakker, J.F.N. van Leeuwen

DINOFLAGELLATE CYSTS FROM THE TYPE-AREA OF THE PRIABONIAN H. Brinkhuis and R.M.C.H. Verreussel

STRATIGRAPHICAL SIGNIFICANCE OF TANYOSPHAERIDIUM AND BOURKIDINIUM SPECIES IN THE TETHYAN REALM H. Leereveld and H. Brinkhuis.

Former students have found employment all over the world. In order to keep in touch with former students, staff-members and everyone who is interested in our work, the PPGU (Palaeobotanical Palynological Society of Utrecht) was founded in 1982. In the last two years its membership has expanded to take in non-Utrecht members and currently has almost 200 members. One of its more important activities is the publication of its quarterly journal STUIFMAIL (derived from the Dutch word for pollen: stuifmeel). This worthwhile publication contains details of the Utrecht laboratory's activities, news of recent meetings and excursions together with book reviews etc. The official language is English and it is officially registered with an ISSN number. The annual subscription to this worthwhile publication is only 15 Dfl. For further details write to Jeroen van den Bergh at Laboratory of Palaeobotany & Palynology, State University of Utrecht, Heidelberglaan 2, Utrecht, The Netherlands. The first issue of 1988 includes abstracts of the Symposium on Organic Petrology held in Utrecht in November 1987 and a paper by Erik Tegelaar on Selective Preservation: Cause and Consequence.

[This item first appeared in the CIMP Newsletter 37, June 1988, whose contributors and editor we acknowledge.]

THE OLDEST LIVING PALAEOBOTANIST?

OVE ARBO HØEG (pronounced "herk") celebrates his nintietth birthday on November 25th 1988. Certainly he is the oldest member of IOP and maybe is the oldest living palaeobotanist. More importantly, he is still very active physically and mentally and most working days attends his office at Oslo University.

Høeg has held a variety of scientific appointments. He was Curator at Oslo University's Palaeontological Museum from 1924 - 26, and Keeper of the botanical section of the museum of Trondheim Academy and botany lecturer at the University of Trondheim from 1926 - 1947. From 1947 until his retirement in 1967 he was professor of botany in the University of Oslo. During this period he left Oslo from 1951 - 53 to be Director of the Birbal Sahni Institute of Palaeobotany, on a UNESCO appointment. Also, from 1958 - 1964 he was Director of the Botanical Museum and Garden at the University of Oslo.

His publications cover a wide range of botanical topics, starting with work on lichens and fungi, and extending to a textbook on scientific writing. His international reputation was gained through palaeobotanical publications notably on Devonian plants from Norway and Spitsbergen. He has also worked on the Permian flora of the Oslo region, on the Glossopteris-flora of the Congo and on Palaeozoic algae. He wrote the Psilophyta chapter for the Traité de Paleobotanique (1964).

Since retirement he has been engaged mainly on ethnobotanical studies, based chiefly on his own extensive material from interviews with a large number of persons from all parts of Norway on traditional plant names and the uses of plants for food, fodder, medicine, implements etc.. His 751 page treatise on this subject, Planter og tradisjon appeared in 1976 and has recently been revised as a shorter paperback.

Those wishing to send birthday greetings should mail them to the Botany Section of the Biology Department, University of Oslo, Post Box 1045 Blindern, 0316 Oslo, Norway. Will readers knowing of other contenders for the title of this newsletter section please send a short biography of their nominee to the IOP Secretary.

NEWS OF INDIVIDUALS

Dr. I.A. DOBRUSKYNA from the Geological Institute of Moscow is spending two months in France where she has been received by Dr. L. Grauvogel-Stamm at the "Laboratoire de Palynologie et Paléobiologie" in Strasbourg. She also visited the "Laboratoire de Paléobotanique" in Lyon and spent a few days examining the collections of the "Museum d'Histoire Naturelle" in Paris.

Dr. P. KENRICK who recently graduated from the University of Cardiff has begun a one-year post-doctoral fellowship at the "Labaratoire de Paléobotanique et Palynologie" at Liège (Belgium). His present studies concern Archaeopteris.

D.C. MCGREGOR. From August 18, 1988 to June 1, 1989 his address will be: c/o Dr. Geoffrey Playford, Department of Geology and Mineralogy, University of Queensland, St. Lucia, Queensland, Australia.

CAROLE GEE is continuing her work on Antarctic megafossil floras and is expanding into the areas of Antarctic palynology and Swiss paleontology as a post doc with palynologist Barbara Mohr at the ETH in Zurich. Her new address is: Geological Institute, Swiss Federal Institute of Technology, ETH-Zentrum, CH-8092 Zurich, Switzerland (tel. 1/256-3714).

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This was published in June 1988 and has already been mailed to those subscribers who paid before then. The report appears every two years under the ISSN number 1266-4755 and carries full bibliographic citation of 250 papers ranging in topic from Pre-Cambrian stromatolites to palynological evidence of historical cannabis cultivation in Wales (with a few items on Lepidodendron and Brachyphyllum in between). The usual format is adopted, so that the bibliographic entries separate the papers under palynology and palaeobotany, and subdivide them stratigraphically as Pre-Cambrian, Palaeozoic, Mesozoic, Tertiary and Quaternary. There is also a list of current research interests and papers in press, together with addresses of some 110 British workers involved in palaeobotany and palynology. A limited number of copies are still available for UK£2.00 (includes surface mail charges), or a US\$ equivalent. Write to Prof W.G. Chaloner, Biology Department, Royal Holloway and Bedford New College, Egham, Surrey TW20 0EX, UK.