

RECEIVED 27 1985

IOP NEWSLETTER 27

INTERNATIONAL ORGANIZATION OF PALAEOBOTANY

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES
-SECTION FOR PALAEOBOTANY
President: Prof. W.G. CHALONER, UK
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Dr. S.V. MEYEN, USSR

Secretary: Dr. M. C. BOULTER
N. E. London Polytechnic,
Romford Road,
London, E15 4LZ, England.



JULY 1985

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PLEASE MAIL NEWS AND CORRESPONDENCE TO YOUR REGIONAL REPRESENTATIVE OR TO THE SECRETARY FOR THE NEXT NEWSLETTER 28. The views expressed in the newsletter are those of its correspondents and do not necessarily reflect the policy of IOP.

IOP NEWS

NEWSLETTER PRODUCTION

With the help of a new research grant from the Norwegian oil company STATOIL, the IOP secretary's laboratory now has a personal computer with word-processing software. This facility is being used to prepare the newsletter from now on. Hopefully it will lead to a reduction in the number of typing errors, though there is an inevitable change in the style of typeface and formatting. Another consequence is that items can be typed up as soon as they are received and so contributors can request proofs. These will be provided on request, only if newsletter printing schedules and the editor's work-load permit. IOP gratefully acknowledges the financial assistance of STATOIL for their generous help.

In future, Regional Representatives may prefer to receive each newsletter on a floppy disc rather than as a xerox copy for duplication.

REPORT OF ACTIVITIES: 1982-1985

The International Union of Biological Sciences has asked for this report. The single sheet outlines our activities under four headings: membership, newsletters, meetings and Executive Committee. Copies are available to members on request to the secretary.

REGIONAL REPRESENTATIVE TO CHINA

Professor Li Xingxue has resigned as IOP representative to the Peoples' Republic "after deciding that five years in this position is long enough, because I will soon be 68 years old". IOP is very grateful to his services during an important stage in his country's scientific history within palaeobotany, and wishes him good health. The new representative

is Dr Zhou Zhiyan. He has been the head of the Department of Palaeobotany at the Nanjing Institute of Geology and Palaeontology, Academia Sinica, Chi-Ming-Ssu, Nanjing, since 1982.

EAST EUROPEAN IOP MEMBERSHIP

IOP's representative Dr Z. Kvacek has recently submitted a list of 42 names and addresses of members from this region. They will be incorporated into the computer address list later in the year.

THIRD IOP CONFERENCE, AUSTRALIA 1988

The conference organiser, Jack Douglas, has recently written of the progress in his administration:

Adhering to the principle of close association with the International Palynological Conference, the third IOP Conference is scheduled for Melbourne, Australia, on 22-28th August 1988. Following the meetings at Reading in 1980 and Edmonton in 1984 it is planned to be just before the 6th IPC which takes place in Brisbane. There will also be some co-ordination with the Geographical Conference in Sydney at about the same time.

We plan that the IOP Conference will include at least one field trip to show not only some of the better known Australian fossil floras but also some of the less frequently visited localities.

The programme is in the early stages of planning and is hoped to concentrate on the major endeavours of current palaeobotanical work. Contributed papers and proposals for poster sessions will be carefully considered. Charges will be kept to a minimum and it is hoped to attract a large and diverse gathering. 1988 is also the bicentenary of European settlement of Australia, and visitors will be able to take part in the extensive celebrations which are being planned.

A wide range of accommodation will be documented in the first circular which is to be included in a future IOP Newsletter.

REPORTS OF RECENT MEETINGS

EXTRAORDINARY FOSSIL BIOTAS: their ecological and evolutionary significance. The Royal Society, London, February 20-21, 1985.

This meeting was organised by Professor H.B. Whittington and Dr S. Conway Morris, and while the emphasis was on fossil animals, there were two significant palaeobotanical items. Andy Knoll (Harvard, USA) reviewed "Exceptional preservation in silicified peats". His review ranged from Precambrian microbial assemblages in (silicified) stromatolitic facies, to Phanerozoic permineralised peat bogs. Knoll emphasised the common ground in this range of material, in terms of their geochemistry of formation, fidelity of preservation and environmental restriction. He suggested that stromatolitic facies dominated by prokaryotes represent an ecologically biased picture of Precambrian life, as eucaryote remains are abundant in contemporaneous shelf deposits. In a similar way, he argued, terrestrial swamp floras (from Rhynie onwards) constitute "evolutionary museums rather than cradles", and so do not represent the more ecologically aggressive constituents of the flora.

In discussion Chaloner questioned the extension of the term "peat" to stromatolitic deposits. He also expressed reservation on the concept that living in a peat bog either induces, (or is symptomatic of) evolutionary stagnation.

Andrew Scott (London) delivered a paper presented jointly with Gillian Rex (Montpellier) on the "Formation and significance of Carboniferous coal

balls". Despite our vastly increased knowledge of the numerous occurrences of coal balls which have now been reported in North America, and the detailed knowledge of their fossil plant contents, many of their features are still enigmatic. Particularly, the ultimate source of the carbonate (marine shells or meteoric water?), and the virtual restriction of coal balls to the paralic Carboniferous basins remain as perplexing as ever.

Two papers dealing with Mazon Creek nodules (G.C. Baird et al, and F.,M. Broadhurst & B.G. Woodland) touched on palaeobotanical matters. Plants also got brief mention in a review of the Messel (Eocene) fauna of West Germany. All the papers will be published in a special number of the *Phil.Trans.Roy.Soc.B*, due out before the end of the year.

W.G. CHALONER, London, U.K.

34TH ANNUAL MEETING, SOUTHEASTERN SECTION, GEOLOGICAL SOCIETY OF AMERICA, Knoxville, Tennessee, USA, March 20-22, 1985.

With the retirement of Prof Robert E. McLaughlin from the Department of Geology at the University of Tennessee, Knoxville, colleagues were invited to submit papers to the annual meeting in order that a Palaeobotanical Section could be organised to demonstrate the activity in the southeastern U.S. The Paleobotany Section was presided over by R.A. Gastaldo and T.L. Phillips. Five papers were presented to an audience of 65 people. L. Matten began with a paper entitled: "Evolution of Devonian-Mississippian Seed Plants: an overview", in which he traced the vegetative and reproductive advancements in the pteridosperms. This demonstrated the increased complexities within the ovular character of pteridosperms in addition to the development of lateral branch systems that appear to be predecessors to the bifurcate frond condition. The overview was beautifully illustrated with

excellent material from Ireland. The paper set the tone for those that followed. S. Scheckler presented a stimulating paper entitled "Origins of the Coal Swamp Biome: evidence from the southern Appalachians". This illustrated the transition from peat accumulating swamps of Rhacophyton in the late Devonian to the initiation of lycopod dominated swamps in the early Mississippian. He presented ample quantities of data to support his observations in the transitory character of these peat accumulating environments. R. Gestaldo discussed "Taphonomic Bias in the Preservation of Erect Lycopod 'Forests' of the Carboniferous", where early Pennsylvanian autochthonous Lepidodendron and Lepidophloios exclusive stands were compared to the depositional site and diversity of modern levee-bound deep alluvial swamps. R. McLaughlin, T. Phillips and W. DiMichele discussed "Middle Pennsylvanian Coal-swamp Vegetation in Northeastern Tennessee". This suite of specimens from Cross Mountain compared favourably with other lycopod-cordaite assemblages reported from other Middle Pennsylvanian localities in the northern hemisphere. The floristics of the splint coal differ in the principal taxa, though, with Lepidodendron hickii and Pennsylvanioxylon - Cardiocarpus predominating. C. Edle and W. Gillespie presented a portion of their work on the palynoflora of the USGS Stratotype entitled: "Preliminary Palynological Studies of the Upper Kanawha Formation (Upper Pottsville, Pennsylvanian) of West Virginia". The work was initiated in order to attempt to typify economically recoverable seams by palynology (the Winifrede, Coalburg and Stockton coals) that are difficult to correlate physically. They found that most of the components of these Upper Kanawha are common throughout the section, but the presence of a few minor taxa, Ahrensiporites querickei var. ornatus and Torispora securis, may aid in the delimitation of seams.

The large number of non-palaeobotanists attending the paper sessions attests to the growing interest in palaeobotanical research by the geological community. It is hoped that regional and national meetings of GSA will become another outlet for palaeobotanists to present their research. Next year, the Southeastern Sectional Meeting will be held in Memphis, Tennessee.

R. GASTALDO, Alabama, USA.

SYSTEMATIC & TAXONOMIC APPROACHES IN PALAEOBOTANY. Goldsmith's College, London, March 31-April 3 1985.

This conference attracted 80 participants from 14 countries, and was organised by B. Thomas and R. Spicer.

The first day was devoted to a field excursion to the Isle of Sheppey led by M. Collinson. On the way we were able to handle a whole range of beautifully displayed and labelled seeds, shells and bones, in glass-topped boxes whilst getting a graphic lesson on how to preserve anything we might find later in the day. There were three hours of assiduous and successful collecting on the foreshore in the afternoon.

I must single out N. Hughes and K. Leistikow for holding my interest and attention, and a special prize goes to J. Lorch for his hilarious and beautifully apt reading from Samuel Beckett. There was time for two

non-programmed talks from two visitors from China - Ms Shuying and Prof Baolin.

J. WATSON, Manchester, U.K.

FORTHCOMING PUBLICATIONS

MAZON CREEK & OTHER CARBONIFEROUS PLANTS

For the first time in over 100 years the Lesquereux Coal Flora Atlas (1879) of 80 plates with over 500 illustrations will again be in print. This is a fine example of 19th Century lithography. Many of the names of plants were later revised or placed into synonymy, but Lesquereux is cited almost universally by later authors. Send no money now as you will be billed at the time of publication for \$19.95. Reserve a copy by sending a letter to: Dan R. Chlipala, 220 S. Ropselle Road, Apt. 207, Schaumburg, Illinois 60194. Before printing can begin, 100 copies must be ordered of which 25 were received in the middle of February 1985.

WILLIAMSON AUTOBIOGRAPHY

Barry Thomas and Joan Watson are arranging a reprint of "The Reminiscences of a Yorkshire Naturalist". An explanatory colour brochure may be attached to this newsletter or else may be obtained from Thomas or Watson. This is a self-financing and non-profit-making venture which will include a colour portrait and a newly written 16 page introduction which is profusely illustrated. This includes an amazing photograph of the palaeobotanists at the 1887 British Association meeting, which probably is being published for the first time.

The editors are willing to stand a modest financial loss, but if sufficient orders are not forthcoming the printing will not go ahead and the money already received will be refunded.

NEWS FROM SOUTH AMERICA

COLLECTING FOSSIL PLANTS IN PATAGONIA

The geographic area of Argentina known as Patagonia is desolate, vast, barren, dusty, remote, always windy, hot, beautiful, wild, sometimes

primitive, full of surprises, inhabited by wonderfully friendly people and loaded with exceptional fossil plants!

S. Archangelsky, T. Taylor, R. Andreis, E. Smoot, and Miguel Archangelsky, C. Biasin, H. Caranza, H. Cuneo and R. Cuneo recently returned from a two week field trip to Santa Cruz Province (Patagonia) Argentina. On a project jointly funded by Consejo Nacional de Investigaciones Cientificas y Tecnicas (CONICET) and the International Programs of the National Science Foundation they collected from several sites in the Baquero Formation (Lower Cretaceous). The material from these localities is especially diverse and possesses exceptionally well-preserved cuticles. The primary thrust of the

trip was directed at collecting additional material that will be used in a cooperative study of plant cuticle ultrastructure. This international effort also includes an examination of the lithostratigraphy, paleoecology and biostratigraphy of this formation. Several of the more common taxa collected include: Ginkgoites, Karkenian, Otozamites, Ptilophyllum, Ruflorinia, Trisacocladus, Mesosingeria, Brachyphyllum, Sphenopteris, Taeniopteris, Cycadolepis, Ticoa, Apterocladus, Dictyozamites, Tomaxiella and several angiosperm leaves. In addition, a number of new taxa were collected. Specimens of Glossopteris, Gangamopteris, Sphenophyllum, Asterotheca, Dizygotheca and Cordaites were also collected from several Permian sites.

A day was also spent at the well-known Jurassic Cerro Cuadrado Petrified Forest. Included in this national park are the largest silicified Araucarioxylon trunks in the world. Although this site is very remote and requires driving over secondary and tertiary gravel roads for several hours to reach the park, an effort is being made to make this important national monument more accessible to tourists.

For us, watching ostriches keep pace with our truck, enjoying the exceptional meals prepared by Ruben, Hugo and "Tito", seeing guanacos (a llama-like animal) glide across the pampas and becoming friends with the members of our field party, made a lasting impression of this vast and very friendly land.

We are confident that the laboratory phase of this cooperative research venture will proceed with the same level of intensity as our enthusiasm for Patagonia.

T.N. TAYLOR & E.L. SMOOT, U.S.A.

TWO NEW PALEOBOTANICAL CENTERS IN ARGENTINA

Late in 1983 the PRINGEPA (Geological and Palaeontological Institute) opened for work at Casilla de Correos 128, (3400) Corrientes, Argentina. It is headed by Dr Rafael Herbst, and is really an outgrowth of the palaeobotanical group that he has been forming in the University of Corrientes for the last 15 years. The new institute has about 15 members of staff which include geologists, invertebrate and vertebrate palaeontologists as well as palaeobotanists. They will be specialising on the problems of NE Argentina.

During 1984 PRIBIPA (Biostratigraphy and Palaeoecology Institute) was established at Casilla de Correo 131, (5500) Mendoza, Argentina, under the direction of Dr Wolfgang Volkheimer. He moved from Buenos Aires with several colleagues and students. The group is strong in palynology and also includes geologists and other micropalaeontologists.

NEW PUBLICATION: "QUATERNARY OF SOUTH AMERICA AND ANTARCTIC PENINSULA"

This new journal is published by A.A. Balkema and is devoted mainly to

geology but includes papers on palynology. One volume of about 200 pages is published every year, the first one in 1983 cost US\$ 20 or GBP 12.80. The editor is Dr J. Rabassa, University del Comahue, Neuquen (8300), Argentina.

Details can be obtained from A.A. Balkema, Linsplein 11, PO Box 1675, NL-3000, BR Rotterdam, Netherlands, or from PO Box 230, Accord, MA 02018, U.S.A.

FORTHCOMING MEETINGS

IX Congreso Brasileiro de Paleontologia 1st - 7th September 1985, Fortaleza.

Contact Dr J. Ferreira de Souza, Rua Tiburcio Cavalcante 1475, (6000) Fortaleza CE, Brazil.

IV Congreso Latinoamericano de Paleontologia late in 1987, Santa Cruz, Bolivia.

Contact Dr M.S. Riglos, Casilla no 1321, Santa Cruz, Bolivia.

IV Congreso Latinoamericano de Botanica June 29th - July 5th 1986, Medellin, Colombia.

Contact E. Forero, ALB, Apartado Aereo 54546, Bogota, Columbia.

ASOCIACION LATINAMERICANANA DE PALEOBOTANICA Y PALINOLOGIA

The new President of this organisation is Dr R. Herbst, and the secretary is Dr J.C. Gamarro, Instituto Darwinion, Labarden y Del Campo, (1642) San Isidro, Argentina. They hope that a new Bibliography of Paleobotany and Palynology in Latin America will be available shortly. The association newsletter continues to be produced regularly.

THE DREAM OF A PALAEOMANGROLOGIST - a melodramatic elegy

I've dreamed of a tidal forest,
Where Classopollis microspores
Heavily fell on pneumatophores;
Where Hirmerelloid seeds
Germinated on muddy sheets...

I've dreamed of a seaside biome,
Where certain proud Cheirolepidaceae
Mangoved like the living Rhizophoraceae;
Where, in the Tethys tides, they
Faced furious waves and lice...

I've dreamed of palaeomangroves,
Where the beloved frenelopsids
Internoded like ancient Sphenopsids;
Where coniferomangrophytes
Had to derive from gymnospermohalophytes.

I've dreamed of such a Cretaceous flora,
Where the graceful coniferopsids
Overmastered all other -phytes;
Where my brilliant theory
Will come into everlasting memory.

CHORUS

His dream is now over the ocean,
He can only drink the tea;
Nobody loves the fearless conception
Of conifers facing the sea.

A. HLUSTIK, Slany, Czechoslovakia

(The author dedicates this poem to those who have discussed his palaeomangrove argument. He concludes that everything is possible if verified.)

(Erratum: IOP Newsletter 26, page 8, line 29:
in place of "de legumineuses (Mauritanie)", read: "de Phragmites , graines
de Legumineuses (Mauritanie),")

NEWS OF INDIVIDUALS

ROBERT GASTALDO

has been elected to be the next President of the Southeastern Section of the Paleontological Society, in the USA. His one year term of office will begin in November 1985. In addition, he was elected President of the Geology Section of the Alabama Academy of Science.

ERWIN ZODROW

was awarded a three year research grant from the National Science and Engineering Council of Canada to study pectopterids of the Sydney Coalfield, Nova Scotia. Detailed results of the study of sphenophylls from this coalfield should appear in print soon. This study was done in collaboration with Dr L.H. Batenburg and was funded by the Geological Survey of Canada. Preliminary results were read in Edmonton 1984 and Antwerp 1985.

MARY DETTMANN & JACK DOUGLAS

were sponsored by the Australian Academy of Science and Academia Sinica to spend a week at four major institutes in China: the Institute of Botany at Beijing, the Institute of Geology and Mineral Resources at Shenyang (and the associated coal mines at Fushun and Fuxin), the Geological Research Institute of the Shengli Oil Field at Dong Ying, and at the Institute of Geology and Palaeontology at Nanjing (which included the Geological Institute of the Jiangsu Oil Exploration and Development Corporation at Zanzhou). Their time was well organised into lecture, discussion and sight-seeing programmes. They were given gracious hospitality and fine organisation.

LI XINGXUE & ZHOU ZHIYAN

from Nanjing visited the Birbal Sahni Institute of Palaeobotany in Lucknow and the Department of Botany at Calcutta University in December 1984. Professor Li was invited to deliver the 1984 Founder's day lecture at the Birbal Sahni Institute: "On the mixed Permian

Gondwana-Cathaysia Floras".

JEAN PIERRE LAVEINE

from Lille, France, is to visit China for four weeks in July. He will be attending the Standing Committee meeting of the Subcommission on Carboniferous stratigraphy and will deliver lectures in the Nanjing Institute of Geology and Palaeontology. ROBERT H. WAGNER, the chairman of SCCS is expected to attend the same meeting.

GEOFFREY CREBER

attended a planning meeting of the Cretaceous project for IGCP Project 191, organised by Eric Barron at the National Center for Atmospheric Research. From there he went to the Tree Ring Laboratory in Tucson, Arizona, where he visited with Hal Fritts and Val LaMarche, and gave a seminar.

RUTH STOCKEY

arrived in Japan on May 9th for a four month study.

WILLIAM D. TIDWELL

stayed in Japan for a month last April

BARRY THOMAS

has been appointed Keeper at the Department of Botany, National Museum of Wales, Cardiff CF1 1XL, and he plans to move there in September. He

was born in London, but lived in Wales for many years when he was young.

MARIE STOPEs 1880 - 1958

was born in Scotland but spent most of her working life in London. The IOP secretary's local (Islington, North London) newspaper recently contained a long article about this well-known palaeobotanist. Her first birth control clinic was in Islington and that building has recently been decorated with a blue commemorative plaque.

INTERNATIONAL PRIZE FOR BIOLOGY

This newly instituted prize is to celebrate the unprecedented 60 years' reign of the Emperor of Japan, and in recognition of his longtime devotion to research in biology. The committee looks for outstanding contribution to fundamental biology and gives ten million yen and an Imperial gift. Write to Prof. N. Egami, Selection Committee for the International Prize for Biology, Japanese Society for the Promotion of Science, 5-3-1 Kojimachi, Chiyoda-ku, Tokyo 102, Japan.

OBITUARY

AMIYA KUMAR GHOSH 1905-1985

Professor A.K. Ghosh, the pioneer palaeobotanist and palynologist of India

passed away on January 18th 1985 at the age of 80. He initiated the palaeobotany and palynology laboratories in the University of Calcutta in 1937, and in 1957 he moved to the Oil and Natural Gas Commission at Dehra Dun, India. After his retirement from there in 1963 he returned to the University of Calcutta.

His name will always be connected to pioneering studies on Indian Palaeobotany and Palynology. These include his studies on diatoms of India (published in 1947), on the correlation of productive coal seams (published in 1948, with his student, the late J. Sen) and his views about the age of the Punjab Salt Range's Saline Series (1947). This latter topic turned his attention to the study of Pre-Cambrian and Cambrian rocks of India and North America, and he recorded spores of vascular plants from the Cambrian.

During his association with the Oil and Natural Gas Commission he worked on the Mesozoic, and was also interested in Tertiary palynology and its bearing on stratigraphy. On his return to the University of Calcutta he devoted his full attention to his students. He also completed his work on the ONGC (NCST) project on the Meso-Cenozoic biostratigraphy of the South Shillong Front, and this was published in 1982. Professor Ghosh was an ideal teacher; like a typical Indian Guru, being loved and revered by each of his students. He enjoyed this time with his students best of all, discussing his research work with them, which he did even during the week of his sudden death.

He had a very keen interest in any work on palaeobotany and palynology being done in any corner of the world. We will miss his advice, encouragement and discussions.

MANJU BANERJEE, Calcutta, India.

The Professor A.K. Ghosh commemoration volume was published in 1984. Earlier, in 1979, students, friends and admirers organised a symposium on Evolutionary Botany and biostratigraphy. The proceedings have been published as a commemoration volume. The publishers are Today & Tomorrow, New Delhi and it is edited by A.K. Sharma, G.C. Mitra and M. Banerjee.

BOOK REVIEWS

ELEMENTS OF MICROPALAEONTOLOGY. G. Bignot, 1985. 217pp. Graham & Trotman, 66 Wilton Road, London SW1V 1DE. BRP 25.00 hardback, BRP 9.95 paperback (add postage).

Reading this book confirms my friend's view that I should never try to write a textbook on a topic as broad as Micropalaeontology. It would mean forming a permanent record of things that I really know nothing about: the modern subject area is so vast and moves ahead so quickly (let alone that I am pretty ignorant and a bad writer). Others have dug holes for themselves and jumped into them with their new textbooks on this broad discipline. With the possible exception of foraminifera and ostracods, I wonder if Gerard Bignot has been doing the same thing when he was writing this volume.

(Apparently the French edition was published in 1982: though there is no information in the book about who translated this English edition dated 1985).

For palaeobotanists, the chapter 10 entitled "Palynology" is of most interest and takes 23 pages. It says that "Strictly speaking, the word 'pollen' designates the substance and so should only be used in the singular". The principle is maintained, though with singular ignorance: "Because of the absence or extreme rarity of 'macroremains', several groups of plants (especially the producers of Classopollis) are virtually unknown except for their pollens." Figure 10.64 shows that inaperturate pollens (sic) are more abundant in the Jurassic than in the Cenozoic, and page 112 says that 'prepollens' (sic) are attributed to the Lycopodiales or to primitive gymnosperms (to be fair). Would you, I.O.P. member, like to write a 23 page chapter on Ostracods for a micropalaeontology textbook, even with a good translator? These easy carpings are unfair. The presentation is good, the drawings (no half-tone plates) are good, and the translation is usually clear, though I suspect that it is the source of more error than just "pollens"

These systematic "Microfossil Groups" chapters occupy about two thirds of the book. The last 70 or so pages contain 5 chapters on the "Geological and Palaeobiological Applications of Micropalaeontology". This is particularly useful for students, though whether the whole book is worth GBP 25 is for their bank manager to decide. A free reprint from a review journal may be a preferable source for these summaries. Students at my college have to pay GBP 0.05 to photocopy an A3 size page for their own use.

M.C. BOULTER, London.

YEAR-BOOK OF THE ALL-UNION PALAEONTOLOGICAL SOCIETY. (Ezhegodnik Vsesoyuznogo Paleontogicheskogo Obshchestva). Volume XXVII. I.N. Srebrodolskaya, I.M. Kolobova & E.A. Modzalevskaya (Eds.), 1984. 377pp. "Nauka", Leningrad. 3 roubles 30 kopeks.

The present issue of the year-book is dedicated to the centennial anniversary of A.N. Kryshstofovich (1885 - 1953) who was one of the founders of the Palaeontological Society. The issue comprises 26 palaeobotanical papers. Two of these are biographical (by I.N. Srebrodolskaya and F.A. Stanislavsky); the others are devoted to various fossil plants and floras.

N.S. Snigirevskaya - Root systems of archaeopterids of the Upper Devonian of the Donbass.

N.M. Petrosyan & L.S. Kossovoi - Some materials on the Devonian floras of North Timan.

- M.V. Oshurkova & G.N. Vasilieva - New representatives of the Carboniferous flora of Central Kazakhstan.
- V.G. Lepekhina - Woods of the Late Carboniferous gymnosperms of the Donbass.
- N.G. Verbitskaya - On a rare finding of leafy shoots of the Lower Permian Cordaites (?) kryshstofovichii (Radczenko) N. Verbitskaja comb. nov. in Siberia.
- N.K. Mogucheva - On the Early Triassic flora of North Verkhoyanie.
- I.A. Shilkina - A new Early Triassic genus of the family Araucariaceae (?) from Eastern Siberia.
- N.D. Vasilevskaya - First findings of the Triassic plant remains on Novaya Zemlya islands.
- L.A. Bogdanova - Algal remains in the Jurassic coals of S. Yakutiya.
- N.P. Gomolitsky - New Middle Jurassic species of Ptilophyllum from the Hissar Range.
- A.T. Burakova - Members of the genus Macrotorellia Kryshstofovich in the Jurassic flora of Crimea.
- E.M. Markovich - Some Jurassic plants from S. Yakutiya.
- A.I. Kirichkova - Cycads and bennettites in the Jurassic and Early Cretaceous floras of the Lena basin.
- I.N. Srebrodolskaya & V.A. Samylina - Two new Early Cretaceous ginkgoalean species from E. Transbaikalia.
- V.A. Vakhrameev - Climatic and phytogeographic zonation of the earth in the Early Cretaceous.
- L.N. Abromova - New Cretaceous conifers from the north of Middle Siberia.
- S.I. Nevolina - Late Cretaceous flora of Primorie (the Pertisanskaya flora of Kryshstofovich).
- V.A. Samylina - Late Cretaceous flora of the Tap river (North Priokhotie).
- I.A. Iljinskaya - Eocene floras of the Zaisan depression (East Kazakhstan)
- E.F. Kutuzkina - First finding of the genus Actinidia in the Middle Sarmatian of North Caucasus.
- I.N. Sveshnikova - A new genus of the family Taxodiaceae from the Middle Mioocene of Iceland.
- S.G. Zhilin - On the circumscription of the concept "Turgaiskaya flora".
- Z.I. Glezer - Significance of the studies on the diatom algae systematics for biostratigraphy and palaeogeography.
- S.V. MEYEN, Moscow.

STRATIGRAPHY OF THE CARBONIFEROUS AND PERMIAN CONTINENTAL DEPOSITS OF EAST UZBEKISTAN AND ADJACENT TERRITORIES. V.A. Arapov (Ed.), 1984. 87pp, 3pls., "FAN", Tashkent. 1 rouble 70 kopeks.

This is a collection of three papers, of which one has special interest to palaeobotanists:

L.I. Savitskaya & T.A. Iskandarkhodzhaev - Description of plants and some materials to the vegetational development in the Late Palaeozoic of Middle Asia.

S.V. MEYEN, Moscow.