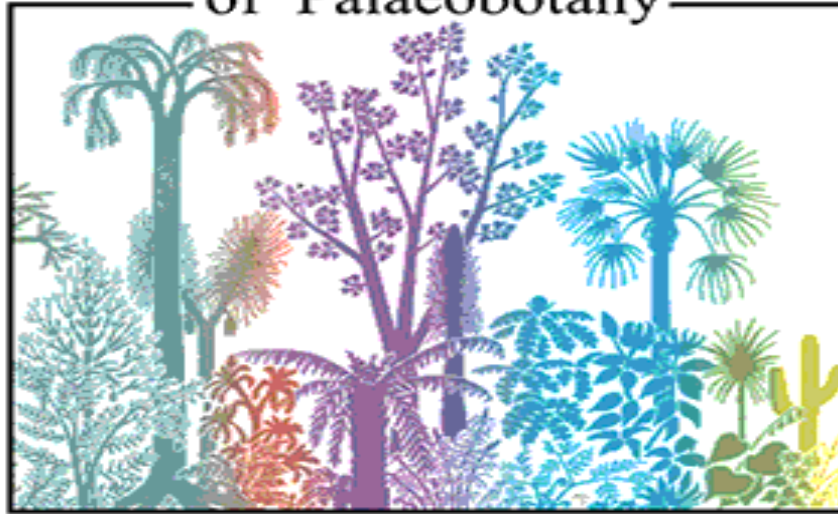


# International Organisation of Palaeobotany



## IOP NEWSLETTER 123

October 2020

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IOP Logo: The evolution of plant architecture (© by A. R. Hemsley)

## Letter from the president

Greetings colleagues!

I miss the opportunity to meet with you personally as many of us had planned to do at our conferences this year, but we are now learning the true meaning of 'pandemic'. Although it is so tempting to think that things are returning to normal we must continue to be patient and cautious. Since early in 2020, we have learned to communicate with the help of new technologies, and we are fortunate that video-conferencing has allowed us to visit remotely and communicate about our research without air travel.

I am saddened to communicate that Prof. Zlatko Kvaček, who was among those planning to welcome us for IOPC in Prague, died Oct. 25, 2020 at the age of 83. Zlatko was an inspiration to so many of us in the field. Like many of you, I'll miss his friendly encouragement, wonderful smile, and great knowledge. His influence lives on in his many excellent publications and in the active paleobotanical family that he nurtured in Prague. Also this month Dr. Mikhail Akhmetiev, known for his comprehensive investigations of Cenozoic stratigraphy and paleobotany of Russia and the Far East died, October 17, 2020, at the age of 85, following a long illness. I enjoyed the opportunity to join him in field work and collaborate on Paleogene projects, some of which also included Zlatko. His research at the Geological Institute in Moscow set high standards. Our field is diminished by these losses.

As you may have guessed, our plans for IOPC-IPC in Prague are again under modification; the executive committee and organizers have agreed that our plan for May 2021 cannot be realized. New plans are being developed (see minutes of executive meeting below) which will be communicated in the next newsletter. Plans are currently being coordinated with the palynological societies and with convention hosts in Prague (for IOPC-IPC) and in Sweden (EPPC). Revised convention dates and information will be announced on our website, [palaeobotany.org](http://palaeobotany.org).

Wishing you good health, continued enjoyment of paleobotanical research and safe interaction with students and colleagues.

With best regards,

*Steve*

Steven Manchester (Gainesville, FL, USA), IOP President

## **Welcome to IOP – our new and returning members in July–October 2020:**

**Facundo De Benedetti** – Museo Paleontológico Egidio Feruglio, Trelew, Argentina

**Claire Cleveland** – Penn State University, Department of Geosciences, University Park, USA

**Christopher J. Cleal** – National Museum Wales, Department of Natural Sciences, Cardiff, UK

## **Minutes of online meeting of the executive committee – deliberation about future conferences and meetings**

On Friday, September 25, the executive committee had an online discussion concerning our recommendations for the organizational modes and dates of our next international conferences. Background for this session was concern that our recent plans for holding the Prague IPC/IOPC in 2021 would not be feasible due to the continuing Covid-19 pandemic. The organizing committee of IPC/IOPC Prague gave a report of alternating agendas and asked the two international organisations, IOP and IFPS, what they would recommend if IPC/IOPC-2021 would have to be postponed again.

Brief summary of the statement of IPC/IOPC organizing committee about other options:

*If the IPC/IOPC-2021 (May) needs to be cancelled due to the pandemic situation two postponement options are obvious: 2022 or 2024. However, for 2022 the conference venue in Prague, Hotel Clarion, is not available (no free term for the whole year due to prior bookings). There is also no other conference center that can host about 800 participants in a large lecture hall for opening and closing ceremonies. Furthermore, any conference in 2022 or 2023 would be quite close to the next European Palaeobotany Palynology Conference in Upsala (Sweden). Moreover, any virtual IPC/IOPC would be technically feasible but a financial disaster for the professional conference agency with which a contract is signed. Basic alternative option would be to re-schedule the next IPC/IOPC to 2024 thereby retaining the regular four-years cycle; Prague would offer being still the host of the meeting. IOP and IFPS are requested to submit their opinions. The organizing committee will decide in November/early December on the conference date.*

Summary of the executive committee consensus:

1. IOP officers concluded that the planned conference for May 2021 will likely not be feasible due to continuing travel restrictions and airline uncertainties related to the Covid 19 epidemic. We are in favour of postponing the IOPC to 2024, to be convened still in Prague, still as joint IOPC and IPC meeting.
2. In 2021, we could run smaller virtual meetings, either as regional conferences, or (likely much better) related to scientific topics of common interest of bigger groups. Such virtual conferences could be either organized as separate IOP meetings with certain financial support of IOP, or satellite meetings of other conferences. We will ask our members who might be willing to organize and host such virtual meetings.

3. On behalf of EPPC organizers, Steve McLoughlin, proposed that the next EPPC could be held in Stockholm in early (probably February) 2022. EPPC will be prepared as completely virtual meeting to prevent any pandemic-related trouble, likely requiring some financial assistance from our organizations. IOP officers welcome this invitation. A formal proposal will follow soon.
4. IOP plans to have the next business meeting (general assembly) and the election of new officers at EPPC-2022 virtually.

Actual position of IFPS (communicated by Jean-Nicolas Haas, president) to all proposals:

- A. IFPS initiated a query to all 24 member societies on IPC postponement recommendations. Deadline for submission of statements is October 31, 2020, awaiting a final decision of IFPS in early November.
- B. Regarding the proposal for the next EPPC, IFPS started internal discussion within the board and the councillors expecting an official statement until mid of November.

### **Membership renewal by cash – unresolved procedure**

For various reasons, some members still pay their membership fees in cash (by themselves or through courtesy of a regional representative attending the conference) during the quadrennial international conferences. Due to postponement of IPC/IOPC-2020 to 2021 or even 2024 some memberships would expire until then at the end of each year without payments. IOP has already suspended this type of payment of fees for 2020 without being skipped from the list on that account. Nevertheless, suspension of payments until the next “physical” meeting could mean in a worst case until 2024. IOP Executive Committee has not decided how to deal with this issue but it might be good to find an alternative way for money transfer for those members.

Since the last (June) newsletter I have received only three announcements of members who want to pay their fees by cash during IPC/IOPC, Therefore, here comes **a second and soliciting call for statements of members who want to renew memberships by cash payments. Please contact me** (Lutz Kunzmann) so I will be aware to make arrangements. IOP executive committee will advise on potential payment extensions. Thank you very much for your help.

### **Early history of the International Organisation of Palaeobotany – call for contributions and archive material**

The question of a repository for all IOP Newsletters and other issues came up recently. Currently, there is no official repository (digital or analog) to which new officers, in particular president and secretary, could have easily access when they start their duties. However, for documenting our history such an archive would be quite helpful and desirable. The early history of our organization is not documented in our online newsletter archive (see our homepage: <https://palaeobotany.org/index.php/members-lounge/newsletter-archive-2/>) but was recorded

in *World Reports on Palaeobotany* edited by Edouard Boureau. Each of these reports contains information of the organization and its executive representatives, a list of palaeobotanists of the world and the bibliography of palaeobotany encompassing papers published since the issue of the last report.

The first report for the years 1950-1954, published in *Regnum Vegetabile*, vol. 7 in 1956, gives a brief narrative of the foundation of IOP and its first representatives. There is online access to the first *World Report on Palaeobotany* in Google books:

<https://books.google.de/books?id=QUuVDwAAQBAJ&printsec=frontcover&dq=bibliogroup:%22Regnum+vegetabile%22&hl=de&sa=X&ved=2ahUKEwj1--O0y-rrAhVGC-wKHdXmAsYQ6AEwB3oECAgQAg#v=onepage&q&f=false>

Anyway, as current secretary I started together with my working group to scan these reports to have them available for our work. However, we can't serve as IOP archive unfortunately. It would be much better to find somebody who is interested in establishing an IOP archive being our permanent record-keeper. Who would be interested?

IOP was founded in July 1954, in Paris (France), during the general assembly of the 8th International Botanical Congress. Predecessor organisation was the section of palaeobotany. IOP is member of the International Union of Biological Sciences (IUBS) which approved the IOP bylaws during the general assembly held in April 1955 in Rome (Italy). The publication of world reports on palaeobotany was the first goal of IOP. Meetings of IOP were organized under the umbrella of the international botanical congresses until the international organisation of palaeobotany conferences were initiated. First president of IOP was Rudolf Florin (Stockholm) and first secretary Edouard Boureau. Regional representatives were: C. A. Arnold for the Americas, I. C. Cookson for the remaining Southern Hemisphere (mainly Australia), T. M. Harris for Europe, and K. R. Surange for Asia.

Although these reports are excellent sources for facts on the early history of IOP it would be quite important to have any additional documents, even photographic images about the early meetings. I wonder if there are still contemporary witnesses of the Paris 1954 meeting. Please send any item to me until we have found any person who keeps the IOP archive. Thank you very much in advance.

With best regards,

*Lutz*

(Lutz Kunzmann, Dresden, Germany, IOP Secretary/treasurer)

## 200 years of scientific palaeobotany

In the year 2020 we celebrate 200 years of scientific palaeobotany, 200 years of issue of the first part of the Sternberg *Flora der Vorwelt*. The unfortunate situation with the world pandemic prevented us from celebrating this jubilee in person during the IOP conference planned to take place in September 2020 in Prague. This text cannot replace the planned celebration but provides at least a symbolic salutation.

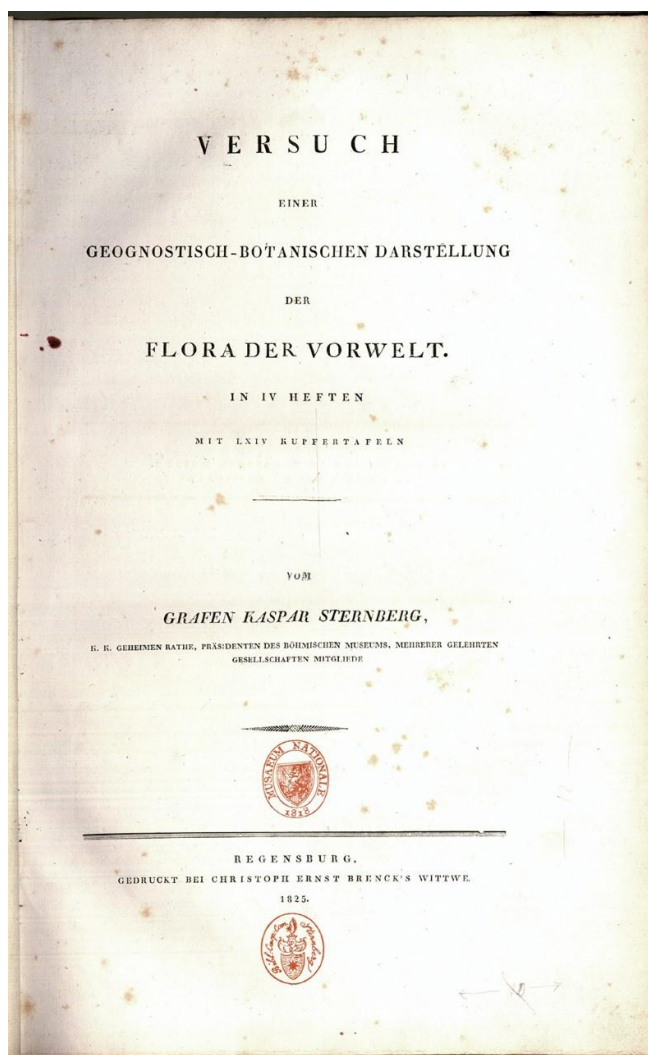
Kašpar Sternberg is considered as one of the founders of scientific palaeobotany. His seminal work, “Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt (abbreviated usually as *Flora der Vorwelt*), is well-known through the palaeobotanical community as the starting point of the palaeobotanical nomenclature.

Sternberg, being equipped with botanical background, took a significantly different approach to fossil plants than his contemporaries. He used for the first time in palaeobotany Linnean system of taxa ordered in natural hierarchies. Each taxon below genus was designated with a distinct Latin diagnosis and an illustration or reference to a earlier published fossil plant. In that way each taxon was associated with its type. In his approach he did not consider fossils as “Petrefacta” but as real fossil plants, that lived once in nature.



**Kašpar M. Sternberg (1761 – 1838)**

In the Czech Republic we celebrate Kašpar M. Sternberg also as a founder or (co-founder) of the National Museum (established in 1818), as an organizer of various industrial activities, enthusiastic supporter of national enlightenment, and generous donor of the Czech science and culture. Kašpar Maria Count Sternberg was born in 6<sup>th</sup> of January 1761 in Prague as a member of the old Czech nobility. He was the third child of Jan Nepomuk Count Sternberg and Anna Countes Kolowrat Krakowská. His childhood he spent in a family court Radnice near Pilsen. Later he studied in Rome and prepared himself for church carrier. In 1785 he became a canon in Regensburg where he also begun to be interested in botany. He is listed as a member of the Botanical Society in Regensburg in 1795. Later he was even involved in politics being a high positioned person of the Perpetual Diet of Regensburg as a part of the Holy Roman Empire.



**Front page of the first volume (issues 1–4) of *Flora der Vorwelt* (published 1820–1825)**

After disappointment with politics, he decided to focus more to natural science, particularly botany. He published a monograph *Revisio saxifragarum* (Sternberg 1810, with two later supplements Sternberg 1821, 1831). After the death of his brother Jáchym (1808) and



Napoleon's invasion to Regensburg (1809) Kašpar Sternberg decided in 1810 to return to Bohemia. He moved to Březina near to Radnice, where he finished a simple court and designed a botanical garden. He took over management of the family property, continued his brother's effort in coal mining and industrialisation of the inherited land. As a byproduct of mining he and his collectors found numerous fossil plants. They were topic of his interest and source of his pioneering studies in palaeobotany. Since 1820 K. Sternberg begun to publish successive parts of his *Flora der Vorwelt* that finally in 1838 reached 8 parts in two volumes (Sternberg 1820-1825, 1837-1838). In his *Flora der Vorelt*, Sternberg decided to provide illustrations of representative examples of the fossil plant taxa which he described. For this purpose, he financed expensive illustrations done by renowned painters and engraved by top class engravers (Cleal et al. 2004). Therefore each hand painted copper engraved plate of his *Flora der Vorwelt* is a master piece on its own.

Kašpar Sternberg and his collaborators (Karel Bořivoj Presl and August Karl. J. Corda) described in their works more than 600 taxa of 83 genera, and more than 500 species. The exact numbers of taxa will be a topic of separate publication – the second edition of the Sternberg catalogue (Kvaček and Straková 1997). Sternberg's collection of fossil plants, which was mentioned by Humboldt, who saw it personally, was among the largest in the world in that time, and is still one of the most valuable parts of the National Museum's holdings. Majority of the type material to *Flora der Vorwelt* is housed in the National Museum Prague. Type material of 80 additional species have been located in more than 10 European museums. However, some of the type specimens are still missing and number of them are probably lost.

In 1814 Sternberg visited Graz to inspect the newly established Museum Joanneum. It was perhaps there that the idea of a Czech national museum occurred to him. It took him and his allies from Czech aristocratic community, some time, but finally they succeeded. The foundation latter titled "To patriotic friends of science" was published on April 15, 1818, where it was emphasized the necessity of foundation the Patriotic Museum of Bohemia. The Society of the Patriotic Museum of Bohemia was founded in response to this appeal, and it began its active existence on December 23, 1822. Count Sternberg was elected as a president of this society during the first meeting. As the most prominent scientific personality of the museum, and as a representative of the Czech aristocracy, he guaranteed its social prestige. At the Society's opening meeting he announced that he would donate his entire natural history collection and science library to the museum. By that time, Sternberg had 9000 species of plants in his herbarium and a library of more than 4000 volumes, while the geological collection that he gathered consisted of about 5000 mineral specimens and 1400 fossils.

Kašpar Sternberg was tireless organiser of various industrial initiatives e.g. as a construction of a horse railway. In 1837 Kašpar Sternberg fulfilled his other plan - to organise in Prague an international scientific congress. In co-operation with German scientists, particularly with Lorenz Oken, he succeeded to organise the Fifteenth Congress of German Medical Doctors and Naturalists in Prague.





**Holotype of *Lepidodendron aculeatum* Sternb. 1820, Radnice, CZ, Carboniferous, collection National Museum Prague), published in issue 1 of *Flora der Vorwelt* , pl. 6, fig. 2.**

His contacts with German poet and naturalist Johan W. Goethe is another aspect of his multidisciplinary interests. There is a story in the Sternberg family that was told me by a doyen of the family Zdenko Sternberg who got back the castle Český Sternberg in restitution after 1989. In 1827 Goethe donated his new book "Ueber Kunst und Alterthum" to Sternberg with a hand written poem. In the end of the end of the Second World War Březina court was used for accommodation of American troops. Probably some educated US soldier found the Goethe's book in the Sternberg's library and cut off the signature of the famous poet from the book; the poem fortunately was left preserved.

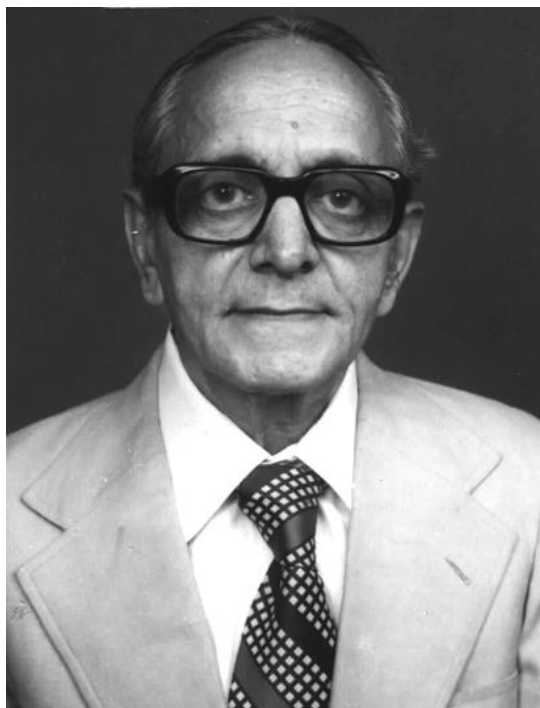
Kašpar Sternberg was active till the end of his life; in 1838 he chaired for the last time the Museum Society. In December of the same year following a hunt that he organised, he suffered with heart attack that gave him only three days of life. He died on December 20, 1838 in age 76.

*Jiří Kvaček, Prague*

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## Biographies of palaeobotanists: R. N. Lakhanpal



**Rajendra Nath Lakhanpal (1923-2012)**

Rajendra Nath Lakhanpal, popularly known as RNL, was a great human being and fine scientist who specialized himself as Tertiary palaeobotanist; he received his early training under Prof. Birbal Sahni, F.R.S. Lakhanpal was born on 5 August 1923. He earned his Master's degree in botany from the University of Lucknow in 1944. His research career began in January 1945 when he joined Birbal Sahni in Lucknow University as a Research Fellow of the Burmah Oil Company to

carry out research in palaeobotany. In 1947, he was appointed Senior Research Assistant under Sahni in a scheme on the Measurement of Geological Time sponsored by CSIR. When the Institute of Palaeobotany was founded in Lucknow in 1949, he was appointed Junior Scientific Officer in the Institute. His studies on Tertiary plant fossils of India and on microfossils of the Salt Range, Punjab, carried out under the supervision of Sahni, earned for him the Ph D degree in 1952 from Lucknow University.

Immediately after completing his PhD degree, he received an UNESCO Fellowship to work with Ralph W. Chaney at the University of California, Berkeley, USA. At Chaney's laboratory, Lakhanpal extensively studied different aspects of fossil leaves and examined the morphological characters of fossil leaves to infer the ecological information from fossil floras. Dr Lakhanpal also incorporated information from plant assemblages, both fossil and modern, into the environmental interpretation of fossil floras, as in his monograph of the Oligocene Rujada flora of Oregon, USA. The fellowship abroad also gave him the opportunity to visit centres of palaeobotanical studies in USA, UK, France, Belgium and The Netherlands, and benefit from interactions with leading scientists in these centres.



**Felicitations by Palaeobotanical Society, 2009.** Pictured from left to right are: Dr. A. K. Srivastava, Secretary of the Palaeobotanical Society, Chief Guest Prof. Nityanand, Distinguished Scientist of the Country, former Director of CSIR-Central Drug Research Institute, Lucknow, and Dr. R. N. Lakhanpal being felicitated by Chief Guest.

Dr. Lakhanpal returned back to India and was promoted to the post of Senior Scientific Officer at Birbal Sahni Institute of Palaeobotany, Lucknow. During his vocation in BSIP, he graced the position of Assistant Director, Deputy Director, Distinguished Scientist (1984) and finally Emeritus Scientist (1984–1988). Dr Lakhanpal was actively involved in the progress and development of the institute during formative years. He was responsible for scientific planning, development and progress of the institute.

Lakhanpal contributed mainly to the floristic composition, palaeoecology and phytogeography of the Tertiary floras of India besides those of Central Africa and North-Western USA. His work has shown that the Indian Tertiary floras can be divided into Paleogene and Neogene sub-groups; that water is the main factor controlling plant distribution in the tropics; and that the temperate element entered the Himalayan flora during the Miocene. He discovered the guttiferous remains from the early Tertiary of Rajasthan, which indicated occurrence of rich vegetation in Western Rajasthan at that period. Report of *Nipa sahnii* from the Tertiary of Assam pointed to the northward extension of the Bay of Bengal during the Miocene. His treatment of the Rujada flora of West Central Oregon, presented the first detailed discussion of the forests, which lived during Upper Oligocene time along the shores of Northwestern USA. He described a large number of plants from the Tertiary Deccan Intertrappean Series, and Cuddalore Series on atmospheric pollen and on the Quaternary and Recent Palynology. Lakhanpal analyzed Tertiary floras of India and discussed their bearing on the historical geology of southeastern Asia and Northern Africa. His paper on Tertiary floras of India and their bearing on the historical geology of the region in *Taxon* (1970, **19**: 675–694) is widely quoted. His elucidation about the presence of a sea arm in central India during Tertiary is being supported by palaeogeographers.

Dr. Lakhanpal was very well versed in scientific writing and compilation and published more than sixty research papers. He compiled a superb resource to all the published information about palaeobotanical genera, species of fossil plants including megafossil and palynological taxa from India over the interval from 1820 to 1970 under the title *A Catalogue of Indian Fossil Plants* which was published by BSIP in the year 1976. He also authored a book *The Antiquity of Angiosperms* (1979).

Dr. Lakhanpal was elected to the Fellowship of the Indian Academy of Sciences in 1974. He was also a Fellow of the Indian National Science Academy and the National Academy of Sciences, India. He led the Indian team in the Indo-Japanese Expedition to Eastern Himalayas in the summer of 1960. He was President of the Palaeobotanical Society (1983), was Editor-Secretary and Chief Editor, *The Palaeobotanist* (1976–1984) and Chief Editor, *Geophytology* (1971–1973). He was representative for South Asia for the International Association for Angiosperm Palaeobotany (1974-78) and member of its executive committee (1981-84). He was a recipient of the Birbal Sahni Medal of the Indian Botanical Society (1983) and of the XII International Botanical Congress Medallion presented to him at the Congress in Leningrad

(Russia) in 1975. Lakhanpal was a founding member of the Society for Scientific Values, whose objective was to promote integrity, objectivity and ethical values in the pursuit of science.

Dr. Lakhanpal was a calm and quiet person, always helpful to junior or senior colleagues and friends. We used to approach him regularly to understand the scientific intricacies of palaeobotanical understanding. The Palaeobotanical Society felicitated him with medal and stole for his valuable contributions to Palaeobotany and the Society in the year 2009.

Rajendra Nath Lakhanpal passed away in Lucknow on 19 January 2012 after an attack of pneumonia followed by respiratory failure. His death took away from our core a distinguished scientist, good human being and ardent supporter of classical palaeobotany.

*Compiled and edited by Ashwini Kumar Srivastava and Rashmi Srivastava*

## **Report of recent meetings**

The Paleobotanical Section of the Botanical Society of America participated in the virtual Botany 2020 conference hosted in Anchorage Alaska, July 27-31, 2020. Although the conference had originally been planned as a traditional in-person conference, the shift to virtual mode was necessary due to the Covid 19 pandemic actually facilitated greater participation than was originally anticipated. There were 40 paleobotanical presentations, the abstracts of which are available at:

<https://2020.botanyconference.org/engine/search/index.php?func=SelectAuth&section=7>

Participation in the Botany 2020 Conference was relatively strong. For many of us it was our first experience with a video-conference format, which had both advantages and disadvantages compared to traditional conferences. Our lectures were pre-recorded and uploaded to the conference site in advance, and access to each video presentation was timed to coincide with the scheduled sessions; feedback and questions occurred as text chat hosted by the conference website, during and following each presentation. As usual for larger meetings, there were several concurrent sessions, but in this case it was possible to “attend” more than one of the concurrent talks by viewing the linked videos of missed presentations at a convenient later time. The virtual format of the conference improved accessibility, so the paleobotanical section saw many colleagues that we normally meet here, e.g. from Europe, South America, Asia and Australia.

Although we couldn't have our traditional banquet, we did have a fun Zoom get-together, organized by Nathan Jud. We were split up into random breakout rooms to meet new people as well as old friends. Overall, it was a good time and a successful meeting, especially under the circumstances.

*Andrew Leslie (Stanford Univ), Steve Manchester (Gainesville)*

## Upcoming / postponed meetings



**15th International Palynological Congress / 11th International Organisation of Palaeobotany Conference (IPC/IOPC-2020) Prague, Czech Republic**

**POSTPONED (consult website for new schedule, probably 2024).**

Registration and abstract submission: <http://prague2020.cz/>

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**15th Climatic and Biotic Events of the Paleogene (CBEP-2020) Bremen, Germany**

**POSTPONED to 2021**

Please visit the website for further information:

<https://www.marum.de/Forschung/Climatic-and-Biotic-Events-of-the-Paleogene-2020.html>

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**15th International Workshop on Plant Taphonomy, Urweltmuseum GEOSKOP, Thallichtenberg, Germany, November 6–8 2020**

**POSTPONED to 2021**

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## NECLIME Annual Meeting, Tbilisi, Georgia, September 2021

(see information from the NECLIME newsletter below)



### NECLIME annual meeting, Tbilisi, Georgia, Sept. 2021.

Dear colleagues and members of NECLIME,

It is our pleasure to invite you to the 2021 Annual NECLIME Meeting that is planned to be held at the Georgian National Museum in Tbilisi, Georgia, **September 19- 27, 2021** organized by Prof. Dr. Eliso Kvavadze and Dr. Maia Bukhsianidze. A first circular containing information on registration and deadlines will be sent to you still this year.

The main scientific topics suggested for discussion focus on

- History of biodiversity
- Patterns of climate and vegetation in time and space

#### History of biodiversity:

Studying the evolutionary history of biodiversity and biodiversity hotspots in the world is important to understand the evolution of biodiversity under the current global climate change. Palaeobotanical studies profoundly contribute to the understanding of trends in plant species richness in the geological past. Moreover, palaeoenvironmental reconstructions provide crucial evidence for correlations between the diversification of biota and changes in climate and palaeogeography.

As one of the few extratropical global biodiversity hotspots on Earth, the Caucasus represents an important key area exemplifying the evolution of biodiversity and changes in biogeographic patterns and was an important refuge area for “Tertiary” relics throughout the late Neogene and Pleistocene cooling. Comparisons with other Eurasian biodiversity hotspots such as the Yunnan hotspot will shed light on the underlying drivers of the evolution of biodiversity.

Potential issues to be discussed in this frame are

- Evolution – speciation, extinctions, extirpations
- Dispersal – routes and barriers
- Quantification of biodiversity
- Biodiversity and early human environments

#### Patterns of climate and vegetation in time and space

Understanding past climate dynamics and ecosystem evolution is still crucial to gather detailed knowledge and data as a sound basis for assessing the impact of and potentially mitigating future





climate change. As at each Annual NECLIME meeting, contributions on other topics related to NECLIME are warmly welcome.

#### **Preliminary schedule**

Sept 19, Sunday – arrival (most flights arrive early morning)

Afternoon: registration and icebreaker at the Georgian National Museum

Sept 20, Monday – scientific sessions at the Georgian National Museum

Focus: History of biodiversity

Sept 21, Tuesday – scientific sessions at the Georgian National Museum

Focus: Patterns of climate and vegetation in time and space

Evening: conference dinner

Sept 22, Wednesday – General discussion: the future of NECLIME (half day)

Afternoon: free sightseeing or city tour Tbilisi

#### **Proposed (optional) excursions**

1-day excursion – Sept 23, Thursday –to **Algeti National Reserve** (Transcaucasian oak forest) and to the early **human fossil site Dmanisi**

4-day excursion – Sept 24, Friday to 27, Monday – to eastern Georgia, Tbilisi – Telavi – Lagodekhi – Tbilisi

Day 1 – Tbilisi - Gombori Pass - Babaneuri (stay overnight in the region), Babaneuri Nature Reserve with *East Caucasian submontane to montane hornbeam-maple-Oriental beech forests* (with *Zelkova carpinifolia*).

Day 2 – Babaneuri -Lagodekhi (stay overnight in Lagodekhi), with historical sites on the way and visit of a winery

Day 3 – visit of Lagodekhi National Park (stay overnight in Lagodekhi), altitudinal vegetation succession with *Caucasian Oriental beech forests* (with *Pterocarya fraxinifolia*)

Day 4 – return to Tbilisi

Disclaimer:

Newsletter edited by Lutz Kunzmann & Steven Manchester.

The views expressed in the newsletter are those of its correspondents, and do not necessarily reflect the policy of IOP.

Newsletters are regularly issued in February, June and October every year.

Please send us your contributions for the next edition of our newsletter (124) until end of January 2021.

Contributions should be sent to Lutz.Kunzmann(at)senckenberg.de.

 Homepage: [www.palaeobotany.org](http://www.palaeobotany.org)



<https://www.facebook.com/International-Organisation-of-Palaeobotany-543548202500847/>



<https://twitter.com/hashtag/paleobotany?lang=en>



<https://www.instagram.com/explore/tags/paleobotany/?hl=en>