

# Birbal Sahni Institute of Palaeosciences

## Monthly summary on Research Activities (September, 2022)

### 1. Areas of Focus:

The institute carries out research on fundamental as well as applied aspects of Palaeosciences that includes Evolutionary history of biota, Paleoclimate, studies of past civilization, Human history and contemporary Climate Change issues, following an integrated and multi-disciplinary approach.

Key research activities under following objectives:

- Understanding origin and evolution of life through time and space.
- Understanding climate change in recent and deep geological times.
- Understanding past civilization and human history.
- Application of Palaeosciences in exploration of fossil fuel and coal industry.

### 2. Important Highlights of Major Research Programmes

#### a. Key Scientific Findings of the Month (Sept 2022)

Palynofloral and the palynofacies analysis of the Karharbari sediments of the Nandira colliery, Talcher basin, Odisha, India suggests that the recovered palynoflora from the carbonaceous shale sample shows its affinity towards Upper Karharbaripalynoflora of early Artinskian (middle early Permian) age. The abundant occurrence of the monosaccates along with glossopterids in the sediments demonstrates swampy settings with cool-temperate climatic conditions. Dominant occurrence of the opaque phytoclasts associated with the coal sediments is an explicit indication of the palaeofire in early Artinskian. Based on the recovery of the different types of organic matter along with the palynofloral evidence, it has been concluded that the Karharbari sediments of the Nandira colliery are purely continental. (Aggarwal et al. 2022, Journal of Geological Society of India).

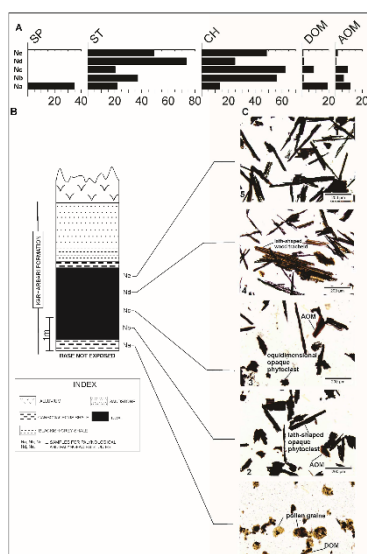


Fig. Various kind of organic matter found in the Early Permian sediments of Talcher Coalfield, Odisha.

**b. NABL awareness program (30 Aug 2022)**

BSIP organized an NABL awareness program for scientific and technical staff of all analytical laboratories of BSIP on 30 Aug 2022 in an online mode. The officials of NABL presented a detailed description of its functioning, testing and calibration standards for any scientific laboratory envisaging to be accredited under NABL. They also discussed in details about guidelines and procedures for acquiring a NABL accreditation certificate of testing for laboratory in BSIP. The program was attended by the Director, Dr Vandana Prasad along with scientist incharge of all analytical facilities in BSIP.

**c. Hindi fortnight (Pakhwada) during September 1–14, 2022)**

The institute celebrated Hindi fortnight from September 1–14, 2022. The event was inaugurated by the Director Dr Vandana Prasad. Dr. Ajay Kumar Sah, Principal Scientist and Incharge, Indian Institute of Sugarcane Research (IISR), Lucknow delivered a lecture on “विज्ञान एवं प्रद्यौगिकी प्रसार में हिंदी की भूमिका” on September 1, 2022. During this period, various competitions like Hindi typing (computer), debate, noting, poster competition, essay writing, poem recitation and antyakshari were organized on the institute campus. All the scientific staff members including, research scholars, technical, and administrative personnel of the institute participated in various events with enthusiasm.

**d. Outreach Activity by BSIP (September 08, 2022)**

BSIP hosted the students of B.Sc. (Biotechnology) and M.Sc. (Microbiology) from Amity Institute of Biotechnology, Amity University Uttar Pradesh, Lucknow Campus and facilitated their visit to BSIP Museum and scientific Laboratories on 8.9.2022. Students were apprised and made aware about the importance of various fossils present in the museum collected from different geologic time.

**e. Foundation Day Celebration (September 10, 2022)**

Foundation day of the Institute was celebrated on September 10, 2022 by offering floral tribute to Late Prof. Birbal Sahni by Director, Dr. Vandana Prasad, along with members of GB, RAC, including scientific, technical and administrative staff members of the institute. On this occasion, Prof. Ashutosh Sharma, IIT Kanpur, delivered a lecture on the topic “Science and Scientists in the New Millennium: A Short History of the Future”. On the occasion of foundation day, Institute released the first issue of Hindi magazine “पुराविज्ञान स्मारिका” which contains the general and technical articles contributed by institute staff. The event was attended by all the scientists, research scholars, technical and administrative staff of the institute.

**List of research publications (September, 2022):**

1. Sharma, S., Sati, S.P., Basavaiah, N., **Pandey, S.**, Sundriyal, Y.P., Rana, N., **Singh, P.**, Pradhan, S., Shukla, A.D., Bhushan, R., Bhatt, R., Juyal, N., (2022). Mid to late Holocene climate variability, forest fires and floods entwined with human occupation in the upper Ganga catchment, India. *Quaternary Science Reviews* 291. DOI:10.1016/j.quascirev.2022.107725. **(Impact factor: 4.456).**
2. **Aggarwal, N.**, Patel, R., Goswami, S. (2022). Palaeoclimate, Palaeoecology and Palaeovegetation in and around Nandira Colliery, Talcher Basin, Odisha, India during Early Permian: Inferences from Typical Karharbari Palynofloral and Palynofacies Analysis. *Journal of Geological Society of India* 98(9):1244-1252. DOI.:10.1007/s12594-022-2159-y. **(Impact factor: 1.466).**
3. Bickel, D.J., Martin, J., **Agnihotri, P., Singh, H.** (2022). Dolichopodidae (Diptera) from the Eocene amber deposits of Cambay and Kutch Basins, India. *Palaeoentomology* 005 (5): 475–486. DOI: 10.11646/PALAEOENTOMOLOGY.5.5.9
4. Pandey, P., Banerjee, D., **Ali, S.N.**, Khan, M.A.R., Chauhan, P., Singh, S. (2022). Simulation and risk assessment of a possible glacial lake outburst flood (GLOF) in the Bhilangna Valley, central Himalaya, India. *Journal of Earth System Science* 131. DOI.: 10.1007/s12040-022-01940-y **(Impact factor: 1.912).**

**Photographs showing important highlights of major programs/research activities organized during September, 2022:**

