

**Birbal Sahni Institute of Palaeosciences**  
**Monthly summary on Research Activities**  
**(June 2020)**

**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 Programmes:**

**a) COVID-19 testing report from BSIP Lucknow**

Various teams (Scientific Analysis and Coordination, Information & Public Relations and Waste Management) of BSIP are actively involved for successful functioning of the Covid-19 testing laboratory within the institute. The teams are working under the guidance of the institute's Director (Dr. Vandana Prasad) and institute's nominated Nodal Officer (Dr. Anupam Sharma). The testing facility at BSIP has been properly barricaded from the rest of the BSIP's campus considering the security and safety of BSIP employees. BSIP's testing team has also made proper arrangements (i.e., dedicated area for authorized staff for sanitization of sample boxes and related documentation) for sample receiving within the institute taking into consideration the health and safety guidelines. In addition, arrangements have also been made by the testing team at BSIP to sanitize the premises. A microbiologist (Dr. Anuj Kumar Tyagi, Assistant Professor, Government Medical College, District Kannauj, Uttar Pradesh) has been deputed to BSIP by the Chief Medical Officer (CMO), Lucknow. The institute is routinely (on a daily basis) receiving samples for Covid-19 testing from eastern districts of Uttar Pradesh. BSIP has received 4698 samples for COVID-19 tests in the month of June 2020 (01 June 2020 – 21 June 2020) out of which 4589 samples have been tested so far. The test results are being uploaded (on a daily basis) by a dedicated team of scientists and technical officers on the designated ICMR's and Uttar Pradesh's web-portals while all the Covid-19 test reports are being duly signed by the deputed microbiologist at BSIP. The details of sample testing report is also tabularized below.

Birbal Sahni Institute of Palaeosciences, Lucknow									
COVID-19 sample testing report									
S.No.	Period	Total samples received	Total samples tested	Total samples negatives	Total samples positives	Total samples inconclusive	Total samples rejected	Under process	Total reported on ICMR portal
1	02 May 2020 to 21 June 2020	6864	6730	6289	374	67	134	0	6864
2	01 June 2020 to 21 June 2020	4698	4589	4399	157	33	109	0	4698



## b) Public outreach via press-coverage

Due to COVID 19 pandemic supposedly originated from bats of China, Bats are under stern scrutiny worldwide. BSIP Scientists recently analyzed Bat-guano deposits collected from Meghalayan caves and studied its ecological significance. The study is based on the presence of microfossils i.e. pollen and fungal spores present in the bat guano.

Pollen data from the modern bat-guano samples was published in international scientific journal ‘Review of Palaeobotany & Palynology’ by BSIP Scientists Drs. S.K. Basumatary and Swati Tripathi.

The study was widely covered by leading newspapers like National Dainik Jagaran on 28 May 2020.



### **Research Papers published (June, 2020):**

1. **Misra, S.**, Bhattacharya, S., Mishra, P.K., **Misra, K.G.**, **Agarwal, S.**, Ambili, A. (2020). Vegetational responses to monsoon variability during Late Holocene: Inferences based on carbon isotope and pollen record from the sedimentary sequence in Dzukou valley, NE India. *Catena* 194C. DOI: 10.1016/j.catena.2020.104697. (**Impact factor = 3.85**).
2. **Sharma, S.**, Manjul, S.K., Manjul, A., Pande, P.C., **Pokharia, A.K.** (2020). Dating adoption and intensification of food-crops: insights from 4msr (Binjor), an Indus (Harappan) site in Northwestern india. *Radiocarbon*. DOI: 0.1017/RDC.2020.37. (**Impact factor = 1.53**).
3. **Mishra, A.K.**, Malarkodi, N., Singh, A.D., Babu, D., **Prasad, V.** (2020). Age of the earliest transgressive event in the Krishna-Godavari Basin, India: evidence from dinoflagellate cysts and planktonic foraminifera biostratigraphy. *Journal of Palaeogeography* 9. DOI: 10.1186/s42501-019-0052-4 (**Impact factor = 1.74**).