

Birbal Sahni Institute of Palaeosciences
Monthly summary on Research Activities
(June, 2021)

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) World Environment Day on June 5, 2021

An academic lecture was delivered by Dr. Rajesh Agnihotri, Scientist 'F', BSIP on the topic titled “*Changing Indian monsoon rainfall patterns amidst recent global warming in last -100 years*” on the occasion of World Environment Day-2021 via online platform (Google Meet). All the Scientists, Research Scholars/Project members and staff members of the Institute attended the lecture.

b) International Yoga Day on June 21, 2021.

International Yoga Day was celebrated on June 21, 2021 through an online yoga session which was attended by institute’s scientists, technical officers and research scholars.

List of research publications (June, 2021)

- 1. Tripathi, S., Basumatary, S.K., Pandey, A., Khan, S., Tiwari, P., Thakur, B. (2021).** Palaeoecological changes from 580 to 1220 CE from the Indo-Burma region: A biotic assessment from the Barak Valley of Assam, northeast India. *Catena* 10.1016/j.catena.2021.105487. **(Impact factor: 4.33).**
- 2. Misra, K.G., Singh, V., Yadava, A.K., Misra, S., Maurya, R.S., Vishwakarma, S. (2021).** Himalayan Blue Pine Deduced Precipitation Record from Cold Arid Lahaul–Spiti, Himachal Pradesh, India. *Frontiers in Earth Science*. DOI: 10.3389/feart.2021.645959. **(Impact factor: 2.68).**
- 3. Maharana, P., Agnihotri, R., Dimri, A.P. (2021).** Changing Indian monsoon rainfall patterns under the recent warming period 2001–2018. *Climate Dynamics*. DOI: <https://doi.org/10.1007/s00382-021-05823-8>. **(Impact factor: 4.48).**
- 4. Upadhyay, K.K., Shah, S.K., Roy, A., Tripathi, S.K. (2021).** Dendroclimatology of teak indicates prevailing climatic conditions of tropical moist forests in India. *Ecological Indicators*. DOI: 10.1016/j.ecolind.2021.107888. **(Impact factor: 4.22).**

5. Colleps, C.L., McKenzie, N.R., **Sharma, M.**, Liu, H., Gibson, T.M., Chen, W., Stockli, D.F. (2021). Zircon and apatite U-Pb age constraints from the Bundelkhand craton and Proterozoic strata of central India: Insights into craton stabilization and subsequent basin evolution. *Precambrian Research* 362, 106286. DOI: 10.1016/j.precamres.2021.106286. **(Impact factor: 4.42)**.
6. **Shabbar, H., Saxena, A., Gupta, S.**, Singh, K.J., Goswami, S. (2021). The first record of cornulitids tubeworms from the early Late Ordovician of Spiti, Tethyan Himalaya, India. *Historical Biology*. DOI: 10.1080/08912963.2021.1905634. **(Impact factor: 2.02)**.
7. **Agnihotri, D.**, Genise, J.F., **Saxena, A.**, Srivastava, A.K. (2021). *Palliedaphichnium gondwanicum* new ichnogenus new ichnospecies, a millipede trace fossil from paleosols of the upper Permian Gondwana sequence of India. *Journal of Paleontology*. DOI: 10.1017/jpa.2021.38. **(Impact factor: 1.65)**.
8. Bhattacharya, S., Yadav, A., **Murthy, S.**, Kushwahaa, V. (2021). Biotic response to environmental shift during the Permian-Triassic transition: Assessment from organic geochemical proxies and palynomorphs in terrestrial sediments from Raniganj Sub-basin, India. *Palaeogeography, Palaeoclimatology, Palaeoecology* 576. 110483. DOI: 10.1016/j.palaeo.2021.110483. **(Impact factor: 2.83)**.
9. Ashton, P. S., Morley, R. J., J. Heckenhauer, J., **Prasad, V.** (2021). The magnificent Dipterocarps: précis for an Epitaph? *Kew Bulletin*. DOI: 10.1007/s12225-021-09934-7 **(Impact factor: 0.843)**.
10. **Agnihotri, R., Patel, N.**, Srivastava, P., Ambekar, A., **Arif, M.**, Kumar, A., **Phartiyal, B.**, Kumar, A. (2021). A new chronology based on OSL and radiocarbon dating for the archaeological settlements of Vadnagar (western India) along with magnetic and isotopic imprints of cultural sediments. *Journal of Archeological Science: Reports* 38. 103045. DOI: 10.1016/j.jasrep.2021.103045.
11. Subrahmanyam, G., **Kumar, K.**, Shah, A.P., Maurya, D.M., **Sharma, A.**, Chamyal, L.S., Archana, G. (2021). Geochemical characteristics control potential microbial activity in exposed Late Quaternary alluvial deposits. *Pedobiologia* 87–88. 150747. DOI: 10.1016/j.pedobi.2021.150747. **(Impact factor: 2.00)**.
12. **Ansari, A.H., Pandey, S.K.** (2021). Authigenic $\delta^{13}\text{C}$ -carb Negative Excursion in the Late Ediacaran–Early Cambrian Bilara Group, Marwar Supergroup, India. *Journal of Geological Society of India* 97, 615–624. DOI: 10.1007/s12594-021-1736-9. **(Impact factor: 0.899)**.
13. **Roy, I., Ranhotra, P.S., Shekhar, M., Bhattacharyya, A., Ghosh, R.**, Sharma, Y.K. (2021). Modern Pollen-vegetation Relationships along the Vegetation Gradient in the Bhagirathi Valley, Western Himalaya, India. *Journal of the Geological Society of India* 97, 571–578. DOI: 10.1007/s12594-021-1732-0. **(Impact factor: 0.899)**.
14. **Patel, H., Pokharia, A.K.**, Nihildas, N., **Rai, N.**, Sinha, R.P. (2021). Rithi Ranjana: reconstructing crop economy based on archaeobotanical evidence and radiocarbon dates from an Early Iron Age site in semi-arid Vidarbha, Maharashtra, India. *Current Science* 120 (11), 1728–1739. DOI: 10.18520/cs/v120/i11/1728-1739. **(Impact factor: 0.725)**.
15. Shields, G.A., Strachan, R.A., Porter, S.M., Halverson, G.P., Macdonald, F.A., Plumb, K.A., Alvarenga, C.J., Banerjee, D.M., Bekker, A., Bleeker, W., Brasier, A., Chakraborty, P.P., Collins, A.S., Condie, K., Das, K., Evans, D.A.D., Ernst, R., Fallick, A.E., Frimmel, H., Fuck, R., Hoffman, P.F., Kamber, B.S., Kuznetsov, A.B., Mitchell,

- R.N., Poiré, D.G., Poulton, S.W., Riding, R., **Sharma, M.**, Storey, C., Stueeken, E., Tostevin, R., Turner, E., Xiao, S., Zhang, S., Zhou, Y.,Zhu, M. (2021). A template for an improved rock-based subdivision of the pre-Cryogenian time scale. Journal of Geological society of London. DOI: 10.1144/jgs2020-222(**Impact factor: 3.10**).
16. Taloor, A.K., Kothiyari, G.C., Manhas, D.S., Bisht, H., Mehta, P., Sharma, M., Mahajan, S., Roy, S., Singh, A.K., **Ali, S.** (2021). Spatio-temporal changes in the Machoi glacier Zaskar Himalaya India using geospatial technology. Quaternary Science Advances 4, 100031. DOI: 10.1016/j.qsa.2021.100031(**Impact factor: 3.10**).
17. Raj, R., Tripathi, J.K., Kumar, P., Singh, S.K., **Phartiyal, B., Sharma, A.**, Sridhar, A., Chamyal, L.S. (2021). Palaeoclimatic and sea-level fluctuations from the last deglaciation to late Holocene from western India: Evidence from multiproxy studies. Journal of Asian Earth Sciences 214, 104777. DOI: 10.1016/j.jseaes.2021.104777. (**Impact factor: 3.05**).
18. **Arora, P., Ali, S.N., Morthekai, P.** (2021). Local Perceptions and Trends of Climate Change in the Sikkim Himalaya, North-East India. Journal of Climate Change 7 (2), 1–26. DOI: 10.3233/JCC210008.

Photographs showing important highlights of major programs/research activities organized during June, 2021:

