

CURRICULUM VITAE

Dr. Sadhan Kumar Basumatary, Scientist “F”,

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EDUCATIONAL QUALIFICATION:

M. Sc. in Botany (1999), Gauhati University, Assam.

Ph. D. in Palaeobotany (2011), University of Lucknow, Uttar Pradesh, India.

RESEARCH INTEREST:

- Reconstruction of Paleovegetation and Palaeoclimate based on fossil analysis during Quaternary period.
- Reconstruction of Palaeoherbivory and Palaeodietary in relation to the palaeoecological analysis during Quaternary period.
- Plant-Animal Interaction and Biodiversity Conservation

RESEARCH FIELD AREA:

- North-western India, Himalaya, Northeast India

RECOGNITION

Awarded “Iyenger-Sahni Medal-2015

Awarded “Chandra Dutt Pant Medal-2016

Best Poster Award (12th International Symposium on Fossil Algae, 2019).

LIST OF IMPORTANT PUBLICATIONS

1. Bera SK & **Basumatary SK**. 2013. Vegetation history and monsoonal fluctuations during the last 12,500 years BP inferred from pollen record at Lower Subansiri basin, Assam, northeast India. *The Palaeobotanist* 62: 1-10.
2. Dixit Swati, **Basumatary SK**, Singh H & Bera SK. 2013. Melissopalynological studies from western part of Almora district, Uttarakhand. *The Palaeobotanist* 62: 39-42.

3. **Basumatary SK**, Dixit Swati, Bera SK & Mehrotra RC. 2013. Modern pollen assemblages of surface samples from Cherrapunjee and its adjoining areas, Meghalaya, northeast India. *Quaternary International* 298, 68-79.
4. Bera SK, Gupta Kanupriya, **Basumatary SK**, Dixit Swati & Rahman A. 2013. Pollen sedimentation in Urapad beel, Assam: evidence of biological degradation in wetland environ, northeast India. *J. Appl. Biosci.*, 39(1): 10-15.
5. Bera SK, Gupta Kanupriya, **Basumatary SK** & Tripathi Swati. 2013. Incidence of differential pollen dispersal in different tiers of reserve forests, Northeast India: A twin study based on spider webs and air catches. *Journal of Applied Biosciences* 39 (2): 63-73.
6. **Basumatary SK**, Bera SK, Sangma SN.& Marak G. 2014. Modern pollen deposition in relation to vegetation and climate of Balpakram valley, Meghalaya, northeast India: Implications for Indo- Burma palaeoecological contexts. *Quaternary International*, 325: 30-40.
7. Tripathi Swati, **Basumatary SK**, Singh VK, Bera SK, Nautiyal CM & Thakur Biswajeet. 2014. Palaeovegetation and Climate oscillation of western Odisha, India: apollen data-based synthesis for the Mid-Late Holocene. *Quaternary International*, 325: 83-92.
8. Bera SK, **Basumatary, SK** & Gogoi, R. 2014. Evidence of deterioration in phytodiversity of Itanagar Wildlife Sanctuary, Arunachal Pradesh, India based on palynological evidence. *The Palaeobotanist*, 63: 33-40.
9. **Basumatary SK**, Murthy S & Bera SK. 2014. Modern pollen spectra from Chamrajnagar District of Karnataka, India. *The Palaeobotanist*, 63: 87-91.
10. **Basumatary SK** & Bera SK 2014. Modern pollen record on Bat Guano deposit from Siju Cave and its implication to palaeoecological study in south Garo hills of Meghalaya, India. *J. Cave and Karst studies*, 76(3): 173-183.
11. **Basumatary SK**, Tripathi Swati, Bera SK & Kumar Subodh. 2014. Pollen morphology of *Nepenthes khasiana* Hook. f. (Nepenthaceae): an endemic insectivorous plant of India. *Palynology*, 38: 324-333.
12. Tripathi Swati, **Basumatary SK**, Singh VK, Bera SK, Nautiyal CM & Thakur Biswajeet. 2014. Palaeovegetation and Climate oscillation of western Odisha, India: a pollen data-based synthesis for the Mid-Late Holocene. *Quaternary International*, 325: 83-92.

13. **Basumatary SK**, Tripathi Swati, Bera SK, Nautiyal CM, Devi N & Sarma GC. 2015. Late Pleistocene palaeoclimate based on vegetation of the eastern Himalayan foothills in Indo-Burma. *Palynology*, 39(2): 220-233.
14. **Basumatary SK**, Tripathi Swati, Jalil A & Rahman A. 2015. Pollen deposition pattern in Kathali wetland and its adjoining areas of Garo Hills, Meghalaya, northeast India. *The Palaeobotanist*, 64: 169–176.
15. **Basumatary SK**, Narzary D & Brahma Munmun. 2016. A comparative palynological study on butterfly mud puddling localities and surface forest samples: a case study from northeast India. *Palynology*, 41(1): 132-143.
16. **Basumatary SK**, Gogoi B & Prasad Vandana. 2016. Characteristic modern pollen assemblages in relation to vegetation types in the East Khasi Hills, northeast India. *Palynology*, 41(2): 162-170.
17. Tripathi Swati, Arya A, **Basumatary SK** & Bera SK. 2016. Modern pollen and its ecological relationships with the tropical deciduous forests of central Uttar Pradesh, India. *Palynology*, 40(2): 264-279.
18. Tripathi Swati, **Basumatary SK**, Bera SK, Mehrotra RC & Sarma GC. 2016. Modern pollen- vegetation relationship from the tropical forest of eastern buffer zone of Manas National Park, Assam, northeast India. *Geophytology*, 46(2): 121-131.
19. Mehrotra RC, Srivastava G & **Basumatary SK**. 2016. Fossil woods from the late Miocene-Pliocene sediments of Arunachal Pradesh. *Geophytology*, 46(2): 163-172.
20. **Basumatary SK**, McDonald HG & Gogoi R. 2017. Pollen and non-pollen palynomorph preservation in the dung of the Greater One-horned Rhino (*Rhinoceros unicornis*), and its implication to palaeoecology and palaeodietary analysis: A case study from India. *Review of Palaeobotany and Palynology*, 244: 153–162.
21. Tripathi Swati, **Basumatary SK**, Bera SK, Brahma Munmun & Sarma GC. 2017. A palynological study of natural honeys from the Bongaigaon district of Assam, northeast India. *Palynology*, 41: 389-400.
22. **Basumatary SK**. 2017. Studies on pollen deposition pattern in relation to modern vegetation of flood prone region in Assam, India. *The Palaeobotanist*, 66: 191–199.

23. **Basumatary SK** & McDonald HG. 2017. Coprophilous fungi from dung of the Greater One-Horned Rhino in Kaziranga National Park, India and its implication to paleoherbivory and paleoecology. *Quaternary Research*, 88: 14–22.
24. **Basumatary SK**, Nautiyal CM, Ghosh Ruby & Tripathi Swati. 2018. Modern pollen deposition in wetlands of Majuli Island and its implication to decipher palaeoflood episodes in northeast India. *Grana*, 57(4): 273-283.
25. **Basumatary SK**, Tripathi S, Thakur B, Jalil A & Rahman A. 2018. Mid-Holocene vegetation and climatic changes in southwestern Garo Hills, Meghalaya, northeast India based on pollen records. *Geophytology*, 48: 103-112.
26. Tripathi S, **Basumatary SK**, Singh YR, McDonald HG, Tripathi D & Singh LJ. 2019. Multiproxy studies on dung of endangered Sangai (*Rucervus eldii eldii*) and Hog deer (*Axis porcinus*) from Manipur, India: Implications for paleoherbivory and paleoecology. *Review of Palaeobotany and Palynology*, 263: 85-103.
28. **Basumatary SK**, Singh H, McDonald HG, Tripathi S & Pokharia A. 2019. Modern botanical analogue of endangered Yak (*Bos mutus*) dung from India: Plausible linkage with living and extinct megaherbivores. *PLoS ONE*, 14(3): e0202723.
29. Agnihotri R, Sawlani R, Azam MM, **Basumatary SK**, Sharma C, Mishra SK, Kumar R, Narayanan T, Rathore JS & Tripathi J. 2019. Geochemical, stable isotopic, palynological characterization of surface dry soils and atmospheric particles over Jodhpur city (Thar Desert, Rajasthan) during peak summer of 2013. *MAPAN-Journal of metrology Society of India*. <https://doi.org/10.1007/s12647-019-00337-5>.
30. **Basumatary SK**, Tripathi S, Zalil A & Rahman A. 2020. A comparative assessment of pollen in modern vegetation and bat guano in Pipulbari Cave of Meghalaya, India. *Review of Palaeobotany and Palynology*, 274: 104-157.
31. **Basumatary SK**, Singh H, van Asperen EN, Tripathi S, McDonald HG & Pokharia AK. 2020. Coprophilous and non-coprophilous fungal spores of *Bos mutus* modern dung from the Indian Himalaya: Implications to temperate paleoherbivory and paleoecological analysis. *Review of Palaeobotany and Palynology*, 277: 104208.
32. Pokharia AK, Kharakwal JS, Sharma Shalini, Spate M, Tripathi Deepika, Dimri AP, Liu X , Thakur B, **Basumatary SK**, Srivastava Alka, Mahar KS & Singh KP. 2020. Variable

monsoons and human adaptations: Archaeological and palaeoenvironmental records during the last 1400 years in north-western India. *The Holocene*, 30(9): 1332-1344.

33. **Basumatary SK**, Tripathi S & Bera SK. 2021. Early Holocene pollen record of vegetation and climate history in response to the monsoonal activity in East Garo Hills, Meghalaya, India. *The Palaeobotanist*, 69: (0031-0174/2020).
34. Tripathi Swati, **Basumatary SK**, Pandey Arya, 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*, 206: 105487.
35. **Basumatary SK** and Tripathi S 2021. Is Bat Guano a potential pollen trap? A comparative assessment from conventional soil and moss substrates from Eraaning Cave of Meghalaya, India. *Review of Palaeobotany & Palynology*, 295: 104539. [Doi.org/10.1016/j.revalbo.2021.104539](https://doi.org/10.1016/j.revalbo.2021.104539).
36. **Basumatary SK**, Gogoi R, Tripathi S, Ghosh R, Pokharia AK, McDonald HG, Sherpa N, van Asperen EN, Agnihotri R, Chhetri G, Saikia K & Pandey A. 2021. Red Panda feces from Eastern Himalaya as a modern analogue for palaeodietary and palaeoecological analyses. *Scientific Reports*, doi.org/10.1038/s41598-021-97850-y.
37. Pokharia AK, **Basumatary SK**, Thakur B, Tripathi S, McDonald HG, Tripathi D, Tiwari P, Van Asperen E, Spate M, Chauhan G, Thakkar MG, Srivastava A, Agarwal S. 2022. Multiproxy analysis on Indian wild ass (*Equus hemionus khur*) dung from Little Rann of Western India and its implications for the palaeoecology and archaeology of arid regions. *Review of Palaeobotany & Palynology* 304: 104700.
38. Tripathi Swati, Thakur B, Anupam Sharma A, Phartiyal B, **Basumatary SK**, Ghosh Ruby, Kumar K, Manoj MC, Agrawal S, Anjum Farooqui A, Tiwari P, Saikia K, Tiwari A, Pandey A, Ali N, Agnihotri R, Prasanna K, Morthekai P, Ranhotra PS, Pandey Shilpa, Bose Trina. 2023. Modern biotic and abiotic analogues from the surface soil of Ganga-Ghaghara-Gandak interfluvies of the Central Ganga Plain (CGP), India: Implications for the palaeoecological reconstructions. *Catena*, 224, 106975.
39. **Basumatary SK**, van Asperen EN, McDonald HG, Tripathi Swati, Gogoi R. 2024. Pollen and non-pollen palynomorph depositional patterns in Kaziranga National Park, India: implications for palaeoecology and palaeoherbivory analysis. *The Holocene*, 34(2), 224-238.
40. Vaish S, **Basumatary SK**, Arya AK, Kumar A. 2024. A preliminary study on the depositional pattern of fungal spore in relation to the different vegetation types from Pobitora Wildlife Sanctuary and its implications to the palaeoherbivory and palaeoecology analysis. *Journal of the Palaeontological Society of India*, 69(2): 155–166.

41. Vaish, S, Arya AK & **Basumatary SK**. 2024. Characterisation and depositional pattern of the modern pollen and non-pollen palynomorphs in Pobitora Wildlife Sanctuary, India, and its implications for palaeoecology and palaeoherbivory analysis, *Palynology*, DOI: 10.1080/01916122.2024.2404423.
42. Singh N, Mitra D, Lenka R, **Basumatary SK**, Tripathi Swati. 2025. Among hawkmoths (Sphingidae, Lepidoptera), Macroglossinae dominate pollen transportation in central and East Himalaya (North-East India). *Arthropod-Plant Interactions* 19, 20.
43. **Basumatary SK**, Tripathi Swati, Thakur B, Tiwari P. 2025. Modern pollen calibrations in relation to different vegetation types in Jaintia Hills of Meghalaya, Indo-Burma region: a window to palaeoecological reconstruction. *Grana* (Taylor & Francis) <https://doi.org/10.1080/00173134.2025.2459612>.
44. Mitra D, Chowdhury M, Singh N, **Basumatary SK**, Tripathi Swati. 2025. Pollen morphological analogue of some Himalayan angiosperm species from Arunachal Pradesh, Northeast India. *Palynology*,
45. Trivedi S, Srivastava A, **Basumatary SK**, Pokharia AK. 2025. Seasonal nectar sources and pollen-vegetation relationship in densely vegetated ecosystems of the Gangetic Plain, Uttar Pradesh, India. *Journal of the Palaeontological Society of India* · DOI: 10.1177/05529360251339874.
46. **Basumatary SK**, van Asperen EN., Vaish S, Tripathi Swati, McDonald HG, Gogoi R, Arya AK. 2026. Palaeoecological and palaeoherbivory dynamics in Kaziranga National Park: Late Holocene vegetation shifts and large mammal biogeography. *Catena*, 263, 109762.
47. Pandey A, Singh H, Swati Tripathi Swati, Thakur B, **Basumatary SK**, Sharma A. 2026. Hydroclimatic variability and vegetation response over the last four millennia: Multiproxy records from Majuli Island, Northeast India. *Review of Palaeobotany and Palynology*, 348, 105536.

MEMBERSHIP:

1. Life member of the Palaeobotanical society of India.
2. Life member of the Palynological society of India
3. Member, Editorial board, Bio-Science Letters (an e journal of Bodoland University, Assam, India).

TRAINING ACQUIRED AND FIELD EXCURSION:

1. Successfully completed professional course in Geology organized by the Palaeontological

- Society of India, Centre of advance study in Geology, University of Lucknow (40 lecture series and field trip to Solan, HP).
2. Attended one month Training on Sequence Stratigraphy organized by Birbal Sahni Institute of Palaeosciences, Lucknow.
 4. Conducted field work of Institute project to various localities of India for collection of samples for palaeoecological study.

Tripathi Swati, Thakur B, Anupam Sharma A, Phartiyal B, **Basumatary SK**, Ghosh Ruby, Kumar K, Manoj MC, Agrawal S, Anjum Farooqui A, Tiwari P, Saikia K, Tiwari A, Pandey A, Ali N, Agnihotri R, Prasanna K, Morthekai P, Ranhotra PS, Pandey Shilpa, Bose Trina. 2023. Modern biotic and abiotic analogues from the surface soil of Ganga-Ghaghara-Gandak interfluves of the Central Ganga Plain (CGP), India: Implications for the palaeoecological reconstructions. *Catena*, 224, 106975.