




BRYOLOGY

Contributions of Indian Bryologists



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- In India, Bryology was initiated by Professor Shiv Ram Kashyap (1882-1934), also known as 'Father of Indian Bryology'.
 - Later on, bryologists like Profs. S K Pande and Ram Udhar nurtured this branch of botany in India.
 - Hence, there is a rich legacy of bryological studies in India.
 - Since Kashyap, the study of bryology has strengthened, consequently several books and about thousands of research papers have been published on various aspects of bryology.




Prof. S. R. Kashyap (1882-1934)




Prof. S. K. Pande (1899-1960)






Prof. Ram Udar (1926-1985)


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- Kashyap published the first ever paper on **Liverworts of western Himalayas** in the year 1914.
 - Later his work was published in two volumes: **Liverworts of Western Himalayas and the Punjab plain**, Part I in 1929 and Part II co-authored with R.S. Chopra in 1932, which includes valid illustrations and distribution of forms. In his first volume, 33 genera and 70 species are described, out of which six genera and 50 species were restricted to India.

- **His theory of Retrogressive Evolution in Liverworts** (Marchantiales) got distinctive position in the world and is recognized as a significant contribution.
- According to this theory, simpler plants like Riccia are more evolved than organized plants such as mosses.
- Some other outstanding contributions of Kashyap are
 - Notes on new and little known Himalayan liverworts
 - Flora of central Panjab
 - Acrogynous liverworts of western Himalayas
 - Origin of Bryophyta

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- **Prof. S. K. Pande**, a noted student of Prof. Kashyap was the next gem from India in the field of bryology.
 - His research interests included aspects on distribution, ecology, taxonomy, life cycle, ontogeny, cytology, phylogeny, etc.
 - Amazingly amidst this apparent diversity in his study, a central theme always remained. He worked with zeal and put his best to assemble data on hepatic vegetation of India

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- His important contributions are:
 - Studies in Indian Liverworts: A Review (1936);
Studies on Indian Metzgerineae I to III (1954, 55, 56);
 - Studies in Indian Hepaticae I to IV (1942, 43, 49);
 - Genus Riccia in Indian I to III (1957, 58, 59);
 - Bryology, Progress of Sciences in India (1957) etc.


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- **Professor Ram Udar** shared the same heritage of bryologists in India to which his mentor the late Professor S.K. Pande belonged.
 - He published two books and over 200 research papers on varied aspects of Indian Hepaticology
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- His noteworthy contribution includes the discovery of the two orders: Calobryales and Buxbaumiales in the bryoflora of India, monographic studies on Indian Metzgeriaceae, Fossombroniaceae and Aneuraceae. Besides, he also worked on many members of Marchantiales and Jungermanniales, a group earlier not so well understood in India as it is today. Most of his collections have been preserved in the Lucknow University Hepatic Herbarium (LWU) (Srivastava, 1986).



- He was crowned by being elected Fellow of the Indian National Science Academy in January 1985 - the highest achievement for a scientist in this country. He has left behind a well established school of bryology at Lucknow University which would continue to keep up the high traditions of bryological research in India so ably set by him.



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- His legacy is thriving by excellent work in bryology by his able students, viz.
 - **Prof. S. C. Srivastava**, Former Head, Department of Botany, University of Lucknow;
 - **Dr. D. K. Singh**, Former Director In Charge, Botanical Survey of India, Kolkata;
 - **Dr. Virendra Nath**, Former Emeritus Scientist, N.B.R.I., Lucknow;
 - **Dr. A. K. Asthana**, Senior Scientist, N.B.R.I., Lucknow
 - **Professor Geeta Asthana**, Lucknow University to name a few.

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- Prof H C Gangulee-Mosses of Eastern India and Adjacent Regions
 - R. S. Chopra-Taxonomy of Indian Mosses
 - S K Pande worked on Notothylos and reported a new species Notothylos panda from South India.



Thank You



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