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A plea for the creation of a separate division for the study of extant plants at the Birbal Sahni Institute of Palaeobotany

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IN March 1949 when, on the eve of my departure to the USA on study leave, I called on Prof. B. Sahni, he said something that kept me guessing for a long time. Even though he was exceedingly busy in connection with the foundation stone-laying ceremony of his proposed Palaeobotany Institute just a week from then, he gave me enough of his time and attention and at the end said, apparently in all seriousness, 'On your return to India you should join us here at Lucknow.'

A little later, when I happened to visit Harvard University in the USA, I met Dr B. G. L. Swamy, who had come there earlier to work with Prof. I. W. Bailey. During our conversation, Swamy told me that Sahni had asked him also to join the Palaeobotany Institute on his return to India. With the sudden passing away of Sahni so soon after the establishment of the institute and so long before our returning to India, any personal interest that any of us might have had in that suggestion disappeared. But its academic interest still persists. And it is to this that I would like to draw attention.

It could not have been without proper and sufficient justification that Sahni should have invited—even though in an informal manner—a floral morphologist and a wood anatomist not having any formal training in palaeobotany to join his institute soon after its establishment.

Sahni was an eminent palaeobotanist, but he was also an equally eminent general biologist who made extensive contributions to the various aspects of living plants and their evolution. His work on *Tmesipteris*, *Psilotum*, *Acmopyle* and others in the early years of his career is well known and relevant even today. In later years, although he did not study any living material himself, he kept himself abreast with the literature on the subject. I still remember how critically he evaluated my D Sc thesis in 1939 and, as chairman of the board of examiners, how ably he assessed the reports of the other two examiners and made his consolidated report available to me through the university.

Moreover, being in a university, Sahni had considerable interaction with workers in different areas in various universities and institutes all over the country and even abroad. He was also deeply conscious of the fact that, in contrast, his younger colleagues in the institute, while quite well up in palaeobotany, might not be so familiar with living plants, nor, being confined to a highly specialized research institute, have access to the same amount of interaction and cooperation that he enjoyed.

I envisage that it was perhaps in this perspective and to emphasize the interdependence of the two branches of study that Sahni wanted non-palaeobotanists to come and establish a nucleus for the study of living plants in the institute, which could compensate, to some extent, for the handicaps he believed his colleagues working there were suffering from.

In this connection, I am tempted to quote from a goodwill message that I received from another eminent palaeobotanist on the occasion of the foundation-laying of the School of Plant Morphology in my erstwhile Department of Botany in the Meerut College in 1954. Prof. Suzanne Laclercq of the Liege University, Belgium, wrote, 'In years ahead I shall expect greater collaboration between your school and the Palaeobotany Institute at Lucknow.'

All this is meant to emphasize that there is much interdependence between the study of extant plants and fossil plants. In fact, originally, they were part and parcel of the same whole. Evolutionary biologists, taxonomists and phylogeneticists know how much they depend upon palaeobotanical data for valid inferences. Similarly palaeobotanists also need all the relevant information from their counterparts for correctly explaining or assigning their material in the general scheme of classification. Here I may cite a specific example from Sahni's own work, which illustrates well the point at issue.

Psaronius, a Palaeozoic genus, is unique in having in the root region two distinct zones, one inner, of smaller and crowded roots, and the other outer, of larger roots. These have been variously interpreted in the past as intracortical or extracortical. Sahni in a short note[1] supported the extracortical view. But soon after, he came to know the work of Mehta[2] on *Asphodelus tennifolius*, a liliaceous member that shows a marked similarity with the condition in *Psaronius*. Immediately he wrote to my teacher, Dr P. Maheshwari (then at Agra College), who in turn asked me to prepare some 200 microtome slides of *Asphodelus*, study them, and send the report along with the slides to Sahni. This was complied with as quickly as possible. Thereupon, thanks to *Asphodelus*, Sahni revised his earlier opinion and supported the intracortical view[3].

All this, I think, strengthens my plea and makes it worthy of some serious consideration by those concerned.

1. Sahni, B., Abstract, Proceedings of the Indian Science Congress, Botany Section, Calcutta, 1935.
2. Mehta, K. R., *J. Indian Bot. Soc.*, 1934, **13**, 271–275.
3. Sahni, B., *Curr. Sci.*, 1935, **3**, 555–559.