

BIRBAL SAHNI'S CONTRIBUTION TO AUSTRALIAN PALAEOBOTANY

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I FEEL honoured to join in a tribute to the achievements of one who, by his vision and his enthusiasm, has made a notable and lasting contribution to botanical and geological science both in his own country and abroad. Prof. Sahni was a leader amongst the world's comparatively small band of palaeobotanists and news of his sudden death came as a profound shock to his colleagues in many countries.

Normally, the work of a palaeobotanist is primarily concerned with the fossil floras of his own country. Study of those fossil floras necessarily leads to an interest in similar floras of other countries, but it is not often that opportunities arise for carrying out research on foreign collections. In this regard it may truly be said that it was the good fortune of Australian palaeobotany to have benefited greatly by the work of Prof. Sahni. In Australia, there have been comparatively few palaeobotanical workers, and of those few only a small proportion had carried out anatomical research.

Prof. Sahni was working at Cambridge under Prof. A. C. Seward not long after the latter had returned from his visit to Australia with the British Association in 1914. During that visit I had the great pleasure of meeting Prof. Seward, and of showing him a silicified specimen I had picked up among the Carboniferous rocks near Mt. Tangorin, New South Wales. Prof. Seward was very interested in this specimen which he took back to England with him, and he entrusted Sahni with the examination and description of it. The results were published in a paper "On an Australian Specimen of *Clepsydroopsis*" which appeared in the *Annals of Botany* in 1919. It was natural that when Dr. G. D. Osborne, some years later, found a series of similar specimens, this time *in situ*, these should be sent to Sahni for description. He named the species *Clepsydroopsis australis*, the first member of the Zygopterideae to be known from the Southern Hemisphere,

which revealed "an unexpected and extraordinary type of stem-organization, comparable in general lines with that of Corda's genus *Tempskya*". His paper in the *Philosophical Transactions of the Royal Society of London* in 1928 was a notable contribution to our knowledge of the anatomy of an Australian plant of Carboniferous age.

Silicified plant-remains, including *Osmundites* and woods of various types, are of common occurrence in Mesozoic and Tertiary rocks in Queensland. A collection of these sent by the Queensland Geological Survey to Prof. Seward was also entrusted to Prof. Sahni for examination and his results, published as *Queensland Geological Survey Publication No. 267, 1920*, greatly extended our knowledge of the anatomy of these Queensland plants. Another paper, published jointly with T. C. N. Singh, "On Some Specimens of *Dadoxylon Arberi* Sew. from New South Wales and Queensland" which appeared in the *Journal of the Indian Botanical Society* of 1926, compared the anatomical features of the Australian species with species from South Africa and the Falkland Islands.

The above-mentioned papers are perhaps the full extent of Sahni's contribution to Australia by way of actual description of Australian material. But his influence goes much further than this. He has inspired and encouraged his students to take an active interest in Australian material—evidenced by the contributions of Miss C. Virkki (Mrs. K. Jacob) and D. D. Pant to our knowledge of the microflora of some Australian tillites, especially from Bacchus Marsh (Victoria) and Newcastle (New South Wales), and by the inclusion of Dr. K. Jacob in a party of Indian students who visited Australia in 1946 and spent some time at Australian universities (especially the University of Melbourne) extending their experience of research work.

Prof. Sahni's survey of the southern fossil floras—his Presidential Address to

the Section of Geology at the Thirteenth Indian Science Congress — was a masterly summary, which included many references to, and comments on, the Australian floras.

His numerous contributions to the problems associated with Gondwanaland and its life provinces, floras and glaciations, and to the Wegener hypothesis in the light of palaeobotanical evidence are also indispens-

able to Australian students of palaeogeography. Whether we agree with his conclusions or not, there can be no doubt that his contribution is provocative of the type of discussion which is associated with the advancement of scientific knowledge — an objective which was one of his most cherished ideals and to which his researches were dedicated.