

CENTRAL NATIONAL HERBARIUM

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The Central National Herbarium of the Botanical Survey of India is located at the Indian Botanic Garden, Sibpur, near Calcutta. The Herbarium was started by Dr. William Roxburgh, Superintendent of the Indian (then Hon'ble East India Company's) Botanic Garden from 1793 to 1819, who succeeded the founder Superintendent Col. Robert Kyd, with his own collections. The total number of specimens preserved here is considered to be not less than two and a half million, arranged according to the system of classification given in *Genera Plantarum* of Bentham and Hooker. The Herbarium is divided into two sections, viz., the General Herbarium and the Local Herbarium. In the General Herbarium specimens of each Natural order and Genus from all parts of the world are placed in one place, while in the Local Herbarium there are specimens from India and Burma only arranged separately in subsections, viz., Peninsular India, Upper Gangetic Plain, N. W. Frontier, Western Himalaya, Eastern Himalaya, Bengal, Assam and Burma. The object of maintaining the Local Herbarium with separate sets of specimens is for quick identification of Indian plants by comparison.

As stated above the oldest specimens preserved in this Herbarium are those of Roxburgh. These however are not many although in Jardin Botanique, Brussels a full set consisting of 1376 sheets of Roxburgh's exciseatae are to be found. Other old specimens deposited in this Herbarium were collected by Wallich, Wight, Griffith, Buchanan-Hamilton and others. Roxburgh prepared a set of portfolio-size coloured illustrations of Indian plants, numbering 2533, bound in 35 Volumes of albums, which are still preserved in excellent condition in the library. Of these 300 were published in his *Plants of the Coast of Coromandel* and copies of another 400 were published in Wight's *Icones Plantarum Indae orientalis*. The rest have never been printed.

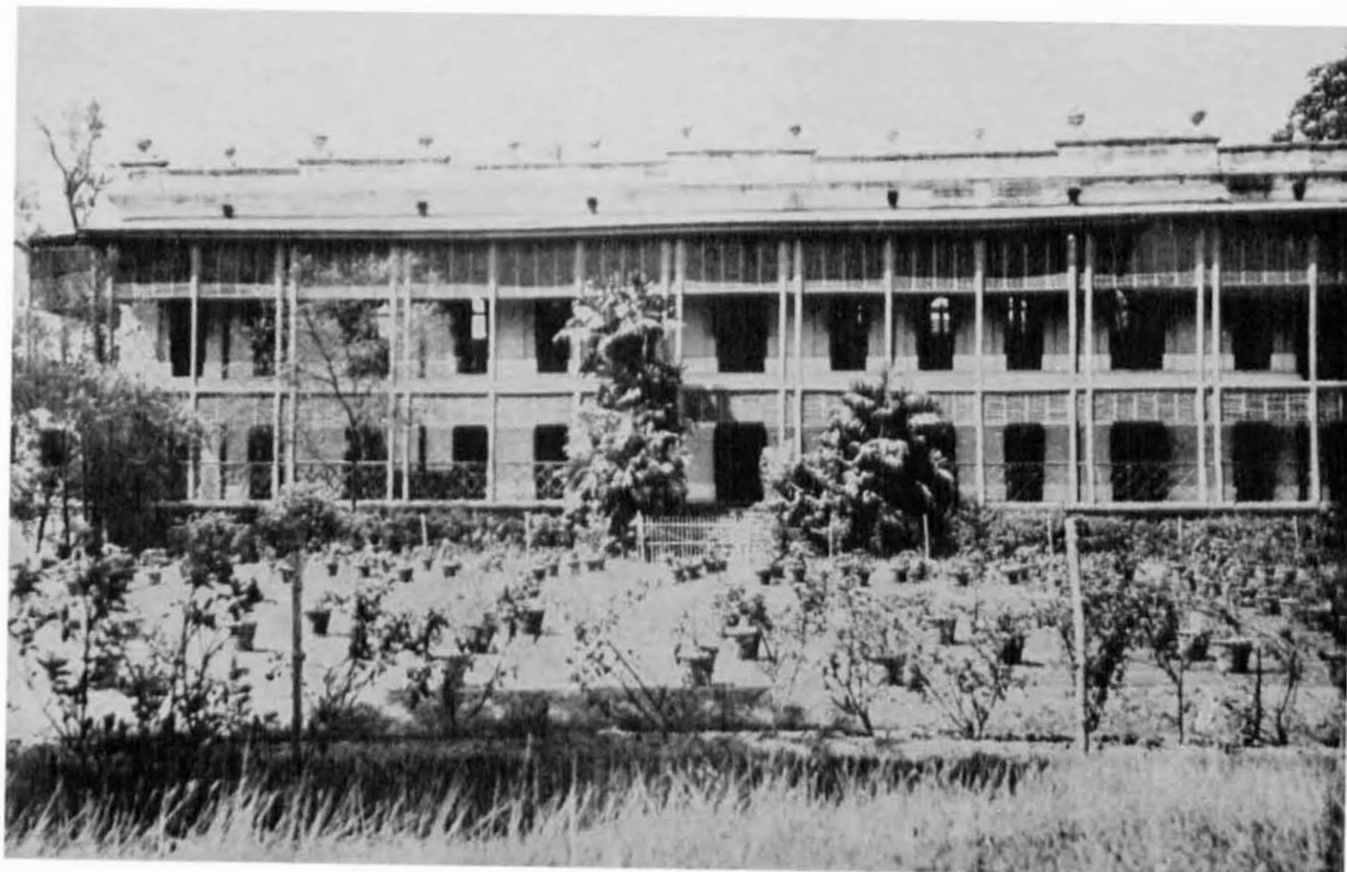
Dr. Nathaniel Wallich joined the Botanic Garden as Superintendent shortly after Roxburgh and held office for about 30 years. He made extensive collections in different parts of India, Nepal, Burma and Malaya Peninsula. He took to London specimens of over 8000 species of plants with many duplicates, the greater part of which was identified by himself. The specimens were numbered after study and all specimens of one species got one and the same number. The specimens were then distributed over the large herbaria of Europe during the years 1828-32. The complete and original set was in the

Linnean Society of London, later transferred to the Herbarium of the Royal Botanic Garden, Kew. No set was sent to Calcutta at that time although Wallich requested the Council of the Linnean Society, in October, 1832, to transmit the best set to Calcutta. However in the years 1850-52, J. D. Hooker and T. Thomson made up two fairly complete sets from the residuum of the Wallichian Herbarium and one set was sent to Calcutta in the year 1854. Arrangement has now been made to receive another set of this Wallichian Herbarium from Geneva and the first consignment has arrived. A catalogue of Wallichian Herbarium written in his own hand is in good state of preservation in the Calcutta Herbarium.

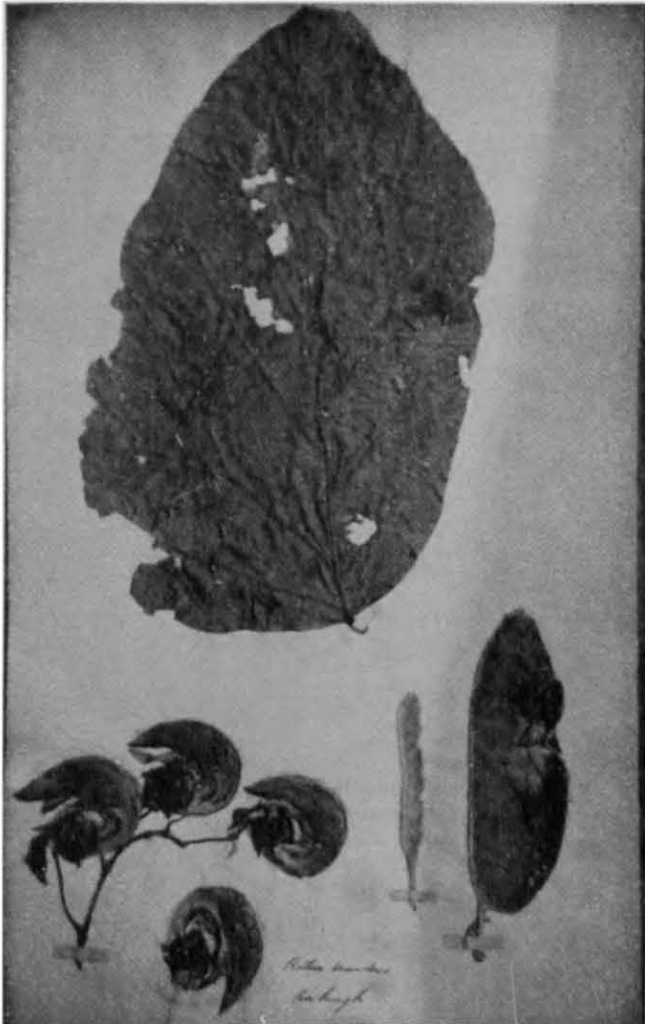
In August 1842, Dr. Wallich proceeded on leave for reasons of health and Mr. W. Griffith, then Civil Surgeon at Malacca was invited to take charge of the Botanic Garden. He was in charge for only 2 years, but the service rendered by him has no parallel in the history of the garden. The herbarium which is now a national treasure and the largest and best in the East, owes its existence to Griffith. He deplored the action of Wallich in depriving the Botanic Garden of the valuable sets of specimens, collected by himself, by Roxburgh and Buchanan-Hamilton, so essential for identification of Indian plants, and urged for the transfer of these collections for the benefit of workers in India.

In his report for the year 1843, he mentioned that at that time he had a set of Assam specimens collected mostly by Jenkins and a set of Australian and Indian specimens collected by Captain Vicary, preserved in the ground floor of the Superintendent's quarters and another set of specimens of plants of the Garden and other miscellaneous specimens in the seed house. With these collections Griffith laid the foundation of the Herbarium and arranged them to form "a General Herbarium as well as an extensive series of Local ones, so valuable as illustrating Botanical Geography and the Vegetable statistics of each part of British India." The two sections viz. the General and the Local in which Griffith divided his Herbarium are still maintained. Griffith also made arrangement for the efficient working of the Library, and opened an accession register for the books acquired and another register for lending books outside. He checked the catalogue and prepared a list of books available at the library at that time which was published in the annual report. He recommended the

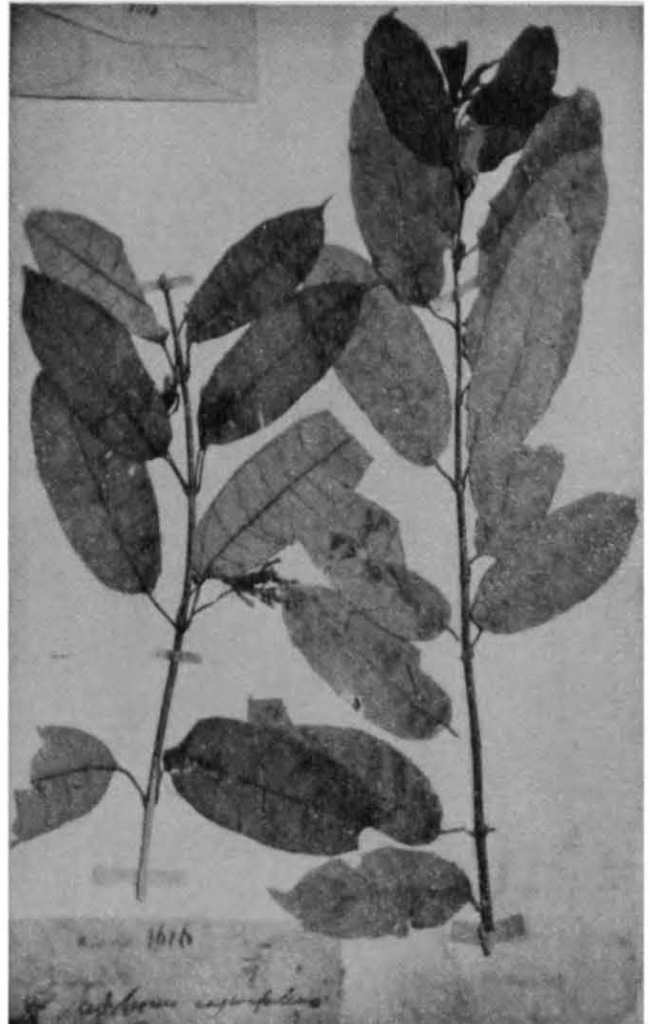
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Front view of the CENTRAL NATIONAL HERBARIUM building.



Photostat copy of a mounted specimen collected by Roxburgh.



Photostat copy of a mounted specimen collected by Wallich, showing his catalogue number on the sheet.

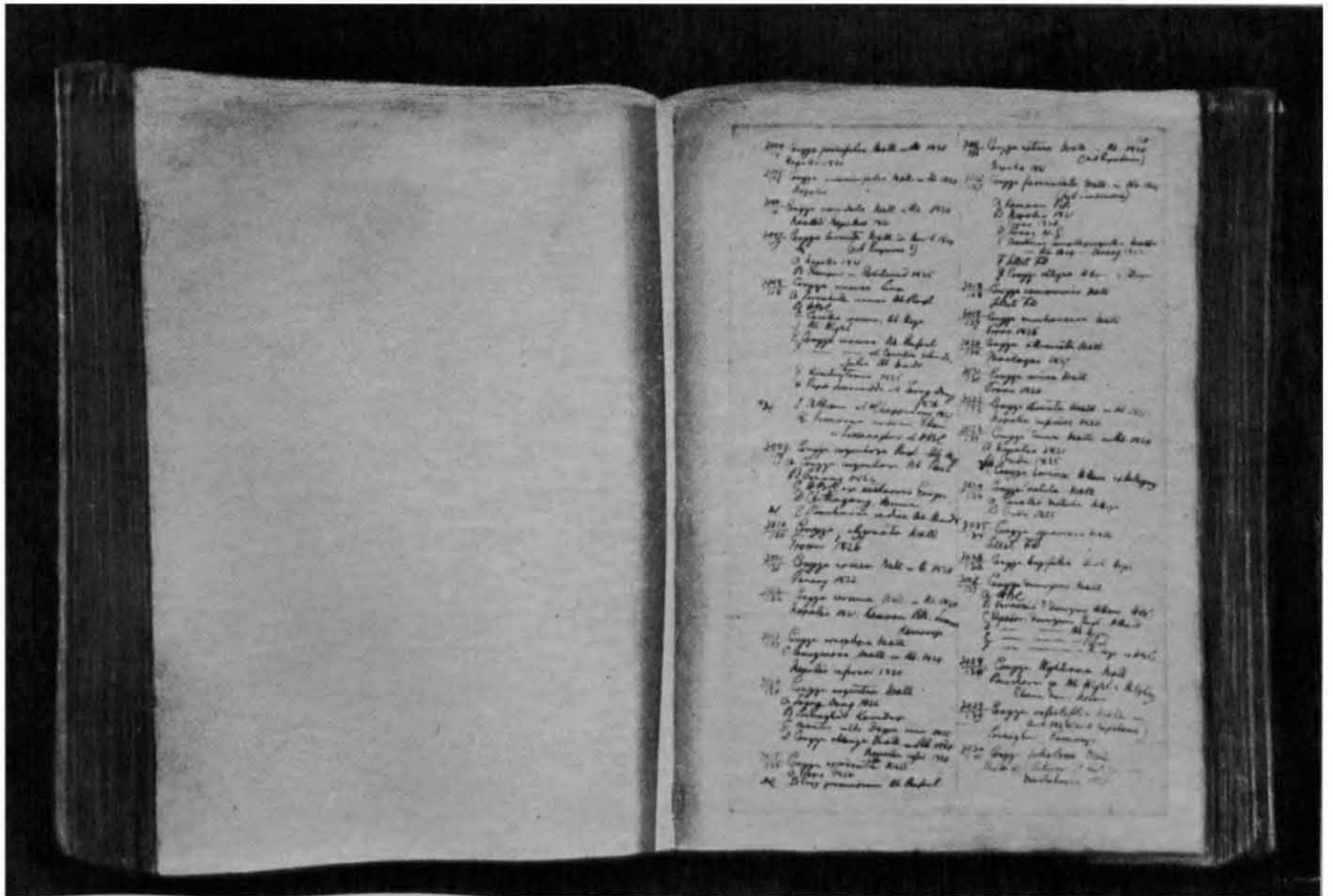
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ROXBURGH'S ICONES, a set of 2533 coloured plates of plants bound in thirty-five volumes.



Photostat copy of a plate from Roxburgh's Icones.



Catalogue of Wallich's Herbarium, showing entries in his own handwriting.

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Inside view of the HERBARIUM showing a few cabinets containing mounted specimens.

purchase of many standard works on Botany and important periodicals, and the return of the illustrations of plants made during the tenure of office of Dr. Buchanan-Hamilton and Dr. Wallich. On the Garden side, he effected lot of improvements also and made some suggestions to be carried out in future.

Earlier, as a surgeon of the East India Company, Griffith joined many perilous expeditions in the capacity of a Medical and Scientific officer and made extensive collections of plant specimens from Assam, Burma, Bhootan and Afghanistan. He collected also in Mallacca when he was posted there. Sets of his collections were distributed later from Kew to different herbaria in Europe and one set was sent to Calcutta and added to the Herbarium of the Botanic Gardens.

The hardships of the strenuous journeys of the expeditions shattered his health and soon after he resumed his duties in Mallacca, on being relieved of the duties of the Botanic Garden, Griffith was attacked with hepatitis which terminated fatally. He was only 35 years old when he died and was married just 6 months earlier. Griffith was able to publish a few papers before his death in the transactions of the Linnean Society of London, but his posthumous papers bequeathed to the East India Company were arranged and published by John MacClelland in 9 volumes.

"The great objects of his life, that for which all his other labours were but a preparation was the publication of a General Scientific Flora of India, a task of immense extent, labour and importance. To the acquisition of materials for this task in the shape of collections, dissections, drawings and descriptions, made under most favourable circumstances, he had devoted 12 years of unmerited exertions. But this purpose was not to be fulfilled".

The Herbarium in the Botanic Garden gradually grew up by additions of specimens collected by the staff of the Botanical Garden and also by donations from collectors in India and heads of institutions in different countries. In 1858 Sir Joseph Hooker came to India and explored the forests in the Eastern Part of the Country, visiting Sikkim and Assam among other places. A set of Hooker's Collection was received in this Herbarium in 1867, in which year the Herbarium also received a large number of foreign specimens mostly American, distributed from Kew.

Dr. G. King took charge of the Botanic Garden in 1871 and was Superintendent for about 27 years. The Building in which the Herbarium is housed till the present day was erected in the year 1882, and the specimens and books were transferred to the new building in the following year. At this time the number of specimens in the Herbarium was estimated to be approximately half a million and rose to about a million before King left the Botanic Garden in 1897.

Due to King's initiative, the Botanical Survey of India was established in 1890 with the primary object of making floristic survey of different parts of India, Burma and the islands in the Indian Ocean, and to co-ordinate the survey work carried on by different institutions like the Botanic Garden, Calcutta, the Botanic Garden, Saharanpur, offices of the Government Botanist, Bombay and Madras and the office of the reporter of Economic Products. Dr. King was appointed as the Ex-officio Director of the Botanical Survey with his headquarters in the Botanic Garden, Calcutta and the other offices worked as subordinate offices. The activities of the Botanical Survey increased and as a result of that the main Herbarium at Calcutta received considerable collections to add to its existing one and duplicates of new collections were distributed to many Herbaria in Europe, the gifts being adequately reciprocated later.

The Saharanpur Garden was abolished in 1902 and the office of the Reporter of Economic Product was merged with the Industrial Section, Indian Museum. The annual exploration grant was withdrawn and consequently the co-ordination of plant exploration work ceased. The staff of the Botanical Survey of India at the Botanic Garden, Calcutta, was also reduced. The unhappy state of things however came to an end after some years and the Botanical Survey of India has been reorganised. The control of the Herbarium from the Govt. of W. Bengal has been transferred to the Govt. of India and the Herbarium forms a part of the Botanical Survey of India. The all-India character and function of the Herbarium were the reasons for the transfer and a proposal for same was made as early as 1907 but was given effect to only in 1957. Govt. of India have agreed to develop it as a National Herbarium of the Botanical Survey of India. The present building is not spacious enough to accommodate the two and a half million sheets, a fairly large number of which lie on open racks in the Herbarium building and also in a damp and dark room of an old building adjacent to the present Herbarium. To give shelter to these specimens and those which will be added from future collections, a larger and more spacious building will be erected in the vicinity of the present Herbarium with every modern facility for work.

At a discussion under the auspices of the Botany section of the Silver Jubilee session of the Indian Science Congress, held in co-operation with the Botanical Society of India, the Herbarium at the Botanic Garden, Calcutta, was declared as the National Herbarium of India. This herbarium possesses the types of most of the species of plants found in India, Burma, Ceylon and some of Malaya and Afghanistan. This fact is disputed by many saying that the Indian species were described and named by European Botanists working with collections sent to them, and types there-

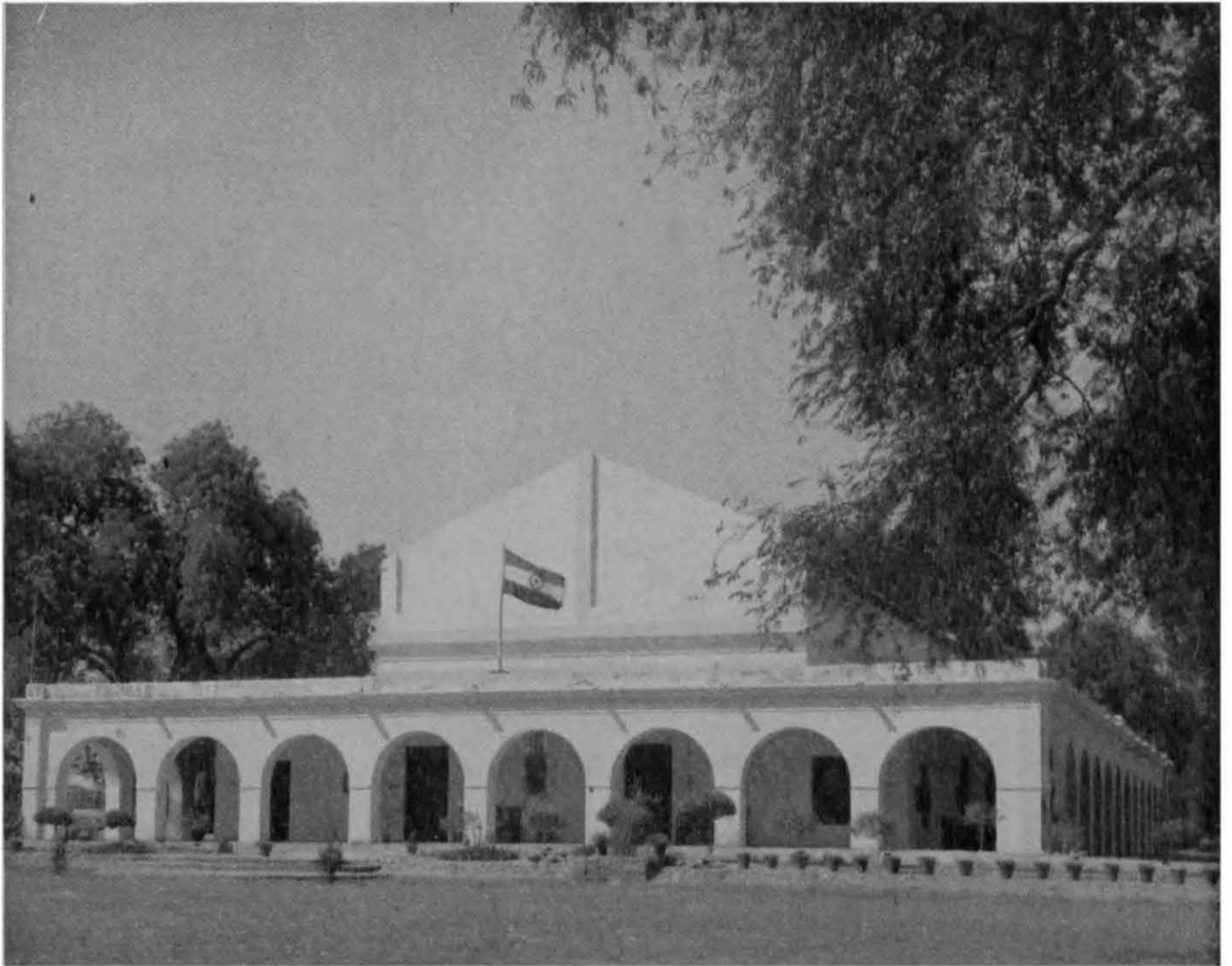
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fore are deposited in different European Herbaria. There is however one fact which should receive due consideration in designating and locating the type sheets for Indian species. The earlier botanist did not mark out any sheet among the duplicates as type and did not say where it was deposited. Usually duplicates were distributed after a set was worked out and all type numbers of a particular species in different herbaria had equal claims. Under the circumstances no sheet becomes the Holotype but each such sheet becomes an Isotype. Therefore the sheets bearing the type number, collected by the earlier Botanists like Wallich, Royle, Wight etc. present in this Herbarium are all Isotypes and are no less important to those bearing the same number and preserved in the European Herbaria. Similarly in case of later workers like King, Kurz, Prain etc., the type numbers located in this Herbarium are the Isotypes although they worked out their collections in this Herbarium and original sets are deposited here. In recent years many Indian workers have described new species and varieties, and the Holotypes are deposited in different Indian Herbaria while in the case of most species the Isotypes are in Calcutta. Now that this Herbarium has been declared as the National Herbarium for India, all workers describing new species or varieties of Indian plants may be requested to send preferably the Holotype or the Isotype to be preserved in this

Herbarium.

The task ahead of the Botanical Survey of India is to make a thorough and comprehensive study of the vegetation of all parts of the country with relation to the types of vegetation in the adjoining areas, prepare good accounts of the plant-resources of the country as a whole and of the different regions, carry on research on all aspects of plant life, especially of economic plants, and maintain up-to-date information for assisting other research workers in different institutions in India and abroad and for the general public. The different sections of the Botanical Survey of India have already made some progress in these lines which will be intensified and accelerated in the future. The results of researches at different sections are being co-ordinated at the Central Office of the Botanical Survey of India for preparation of a new flora of India and other books of floristic and economic nature. The activities of the other sections of the Botanical Survey of India are however pivotted on the Central National Herbarium. Not only so, all other botanical institutions in India are more or less dependent on this herbarium. It is therefore needless to stress the urgency of completing the work of its proposed development by the construction of a suitable building and appointment of the requisite number of trained botanists to take charge of the different sections of this national herbarium.

CENTRAL BOTANICAL LABORATORY



Front view of the Central Botanical Laboratory, Allahabad.