

## No. 65. An appreciation of the Rijks Herbarium

By

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The Netherlands is to be congratulated in having available within its borders such an outstandingly important collection of historical botanical material as that preserved in the Rijks Herbarium at Leiden. To a greater and greater degree the importance of this great assemblage of botanical specimens becomes manifest as critical work is done on it and on the corresponding collections in other botanical centers, and as various natural groups are treated monographically. In many groups of plants, particularly those represented in the Netherlands East Indies, the Rijks Herbarium is the court of last resort in determining the exact status of many hundreds of described species, because in this collection are deposited the actual types of the very numerous species described by REINWARDT, BLUME, KORTHALS, MIQUEL, BÜSE and other pioneer botanists who did the original basic work on the exceedingly rich flora of Malaysia. In addition to these early botanical collections the institution contains a most important series of specimens collected within the past half century in all parts of Malaysia, extending from Sumatra to New Guinea and including the Philippines. It is an almost hopeless task accurately to indentify these recent collections without reference to the vast stores of historical material preserved in Leiden. While it is true that extensive collections of Malaysian plants are to be found in other botanical centers, such as Kew, the British Museum, the Paris Museum, the Berlin Botanical Garden, the Natural History Museum, Vienna, the New York Botanical Garden, the United States National Herbarium, and at such distant centers as Buitenzorg, Singapore, Calcutta, and Manila, not one of these institutions has such great wealth of historical Malaysian material as is to be found in the archives of the Rijks Herbarium. In extent, that is in the actual number of specimens of Malaysian plants, disregarding the historical aspects of the collection, no botanical institution in the world contains such a mass of Malaysian material as that preserved in Leiden.

While it is true that in the past some monographs have been prepared on the basis of an actual examination of material in several institutions, much such

work has been done solely on the basis of collections available in one center. The modern tendency is for botanists to go farther afield and in doing really critical work to examine the historical material preserved in the larger botanical centers. This may and usually does involve more or less travel, but many centers now provide for inter-institutional loans, while it is usually possible to secure photographs of really important specimens. Through such cooperation monographic work is rendered much more inclusive, more valuable, and more accurate than in those cases where a monographer has based his work largely or wholly on the collections in one institution; and where his knowledge of those species not represented in his own institution was gained from the descriptions alone. It is axiomatic that no monographic treatment is fully satisfactory unless it is actually based on comprehensive collections where the author, through one means or another, has been able critically to examine actual specimens of most or all of the species considered by him, including as far as possible the actual types on which the original descriptions were based.

With the more general acceptance of the type concept most botanists now fully realize the desirability of critically examining the original specimens on which the early descriptions were based. Because of the very nature of the material preserved in the larger and older herbaria critical herbarium research is frequently necessary to determine just what specimen constituted the original type, and often this can best be done by the individual concerned, which in turn involves an actual visit to the institution where the specimens are preserved. Where the original descriptions are short and imperfect it is imperative from the standpoint of the type method that the original specimens be examined rather than to accept the current concept of what a species was or should be; not infrequently herbarium research in centers, rich in historical material, such as Leiden, clearly shows that the current interpretation of the species is entirely erroneous, and quite at variance with the limits as defined by the original author. Any institution like the Rijks Herbarium, rich in types, becomes more and more important as the type concept becomes better understood; such collections as those in Leiden; because of their very nature, can never be replaced.

It has been my privilege to work at the Rijks Herbarium several times, my first visit being in 1908 when an actual examination of BLUME'S Philippine types was essential in connection with the solution of certain botanical problems appertaining to the Philippine flora, with which I was then concerned. Learning at that time of the extent and value of the herbarium in Leiden it became a pleasure to me, during my long term of service in the Philippines, to contribute very extensive collections of Philippine, Bornean, Moluccan, and Sumatran plants to the Rijks Herbarium for it was fully realized that accurate work on the Philippine flora could not be done without reference to the treasures of the Rijks Herbarium; and that it was most desirable that a comprehensive suite of duplicates be deposited at Leiden where direct comparisons could then be made.

Fashions change in botany as in other fields, yet with all due regard to the modern developments and accomplishments in other fields than taxonomy, such as plant physiology, ecology, genetics, cytology, plant pathology, etc., systematic botany is and always will be basic to these fields of research; the worker in other fields must know what he is dealing with. While it is not to be expected nor is it to be hoped that botany will revert to that type characteristic of the past century, which was overwhelmingly taxonomic, there are numerous indications of increasing appreciation of the work of the taxonomist in connection with problems arising in the fields above mentioned. The increasingly important field of economic botany, in its widest aspects, is intimately associated with the type of work that is carried on in the herbarium. Good taxonomic work, for which all systematists should strive, and good work in the field of economic botany demands extensive herbaria for there is nothing that can take the place of properly preserved study material, where it is possible to make direct critical comparisons. The proper support of existing institutions wherein taxonomic work is a major activity, should be forthcoming and those in authority should strive to maintain a proper balance between the diverse activities characteristic of modern botany if the best results are to be obtained.

The Rijks Herbarium in importance, and particularly in historical material of very great value, ranks with the great herbaria of Europe and America and is one of the few great institutions of its kind in the world. It is to be hoped that the actual value of this most important collection of historical material preserved in the Rijks Herbarium is fully appreciated not only in Holland, but elsewhere, and that proper provision will be made for the amplification and study of these collections that in actual scientific value, with particular reference to Malaysia, are unparalled in any other single botanical institution in the world. As a botanist long interested in the problems of Malaysian Botany I could ask for no greater pleasure and privilege than that of settling down in Leiden to an intensive long-time study of the carefully assembled, and admirably arranged material in the Rijks Herbarium, for I know of no other collection of similar material that can match it in extent and in importance. While I have stressed the importance of the collection from the standpoint of the flora of the Netherlands East Indies, the fact should not be overlooked that the Rijks Herbarium contains also exceedingly important material from other parts of the world, and as in other institutions, such collections are constantly being augmented as botanical exploration progresses.