

RECENT ADVANCES IN OUR KNOWLEDGE OF THE FLORA OF SIAM.



The earliest collections, of any extent, of Siamese plants were made in Peninsular Siam, for the most part in the territory adjoining the British Protected Malay States. It was not till the Danish scientific expedition arrived at the end of 1899 that a large collection was made in any other part of the country. This expedition, under Dr. J. Schmidt, collected from the end of December 1899 till March 1900 on Koh Chang and to a less extent on the neighbouring small islands. A very successful attempt was made, considering the short time available, to obtain a representative collection of the whole flora of this small area and the phytoplankton of the surrounding sea. The results of this expedition have been published from time to time in the *Botanisk Tidsskrift* of Copenhagen. Nine parts of this work have been issued and the tenth part, which will complete the series, is expected shortly.

In 1904-1905 Dr. F. N. Williams published, in the *Bulletin de l'Herbier Boissier*, a list of the flowering plants of Siam known to that date; this list included the published results of the Danish expedition, the Siamese plants given in various works dealing with the flora of adjoining territories and the Siamese plants then in the Kew Herbarium. 1042 species are recorded and an account is given of the collections made in Siam before 1904.

While Dr. Williams's list was being published Dr. C. C. Hosseus visited the country and collected for nearly a year, chiefly in the North of Siam. Descriptions of portions of these collections and of the new species contained in them have appeared in various periodicals since the return of Dr. Hosseus to Europe. The results are summarized in a paper published in 1911, "Die Botanischen Ergebnisse meiner Expedition nach Siam," in the *Beihefte zum Botanischen Centralblatt*, Vol. xxviii, pt. II. This paper enumerates some 540 species of flowering plants, about 70 of which have been described as new by Dr. Hosseus with the assistance of several other botanists. These plants have also

yielded two new genera, both monotypic, *Sarothrochilus* in the *Orchidaceae* and *Richthofenia* in the *Raffesiaceae*; the latter is a most interesting genus nearly allied to the celebrated *Rafflesias* of Malaya. Dr. Hosseus also lists 34 ferns and 20 mosses and liverworts, 4 of them being new.

Since Dr. Hosseus left Siam collections have been made in different parts of the country by several collectors, and these are being worked out at Kew Herbarium, which has unrivalled facilities for determining such collections, as it has the finest existent sets of Burmese and Shan States' plants for comparison with the closely related Siam Flora; it also possesses a nearly complete set of Dr. Hosseus's plants. Practically the whole of these later collections have been worked out by Mr. W. G. Craib, of the Kew staff, and published at intervals in the Kew Bulletin.

The lists so published, with the addition of plants received at Kew since their publication, and Dr. Hosseus's plants, have been summarized as far as the end of the Dicotyledons by Mr. Craib in a paper printed for the University of Aberdeen, Aberdeen University Studies, No. 57, 1912. This paper contains some 1,150 species not in Dr. Williams's list; of these no less than 150 have been described as new. Two new genera have been proposed, *Pittosporopsis* in the Natural Order *Scacinaceae*, and *Murtonia*, a very distinct genus in the *Leguminosae*. Mr. Craib's paper also contains a very useful bibliography of works relating to the Flora of Siam.

A list of the Monocotyledons, exclusive of the *Orchidaceae*, and Gymnosperms was published in the Kew Bulletin last December. In this last instalment the *Dioscoreaceae* have been determined by Mr. I. H. Burkill, the *Palmaceae* by Dr. O. Beccari, the *Cyperaceae* by Mr. W. B. Turrill, and the *Gramineae* by Dr. O. Stapf; all the other orders have been undertaken by Mr. Craib. This list has 260 species not on Dr. Williams's list, 41 of them being new. There must be added to the Monocotyledons some 75 species, chiefly Orchids, given in Dr. Hosseus's paper but not mentioned by Dr. Williams or Mr. Craib.

While the Kew lists were appearing, Mr. H. N. Ridley published the results of his Botanical Expedition to Peninsular Siam together with determinations of plants found by other collectors in the same region. Mr. Ridley's paper has approximately 740 species of

flowering plants not given in any of the before mentioned papers ; about 70 of these have been described as new ; over 60 ferns are also named.

The number of new species described from all these collections is large, a little more than 12% of all the species collected. The number of endemic genera is proportionately much smaller ; besides the four already mentioned, which are all monotypic, there is one other, *Phyllanthodendron*, with three species.

The total number of flowering plants known from Siam approximates therefore to 3,300 species. The recorded number of flowering plants from Burma, a country still far from thoroughly explored botanically, amounts to between 6,000 and 7,000 ; it would be a conservative estimate to put the total at 10,000. Siam, which extends through almost as many degrees of latitude and has an equally diversified surface, cannot be far behind Burma in point of numbers so that there remains a vast amount of work to be done before the Flora of Siam is even moderately well known.

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