NEW GUINEA AS A CENTRE FOR PLANT DISTRIBUTION.

Dutch N.W. New Guinea. A Contribution to the Phytogeography and Flora of the Arfak Mountains, etc. By L. S. Gibbs. Pp. iv+226. (London: Taylor and Francis, 1917.) Price 125. 6d.

T HE north-western portion of New Guinea is still a very little known region, owing to the great difficulty of penetrating into the interior mountains, which rise fairly abruptly from the coast to a height of 5000 ft. to 7000 ft.

The first collection of plants from this region was made by Lesson in 1824; Beccari collected there in 1872 and 1875; Gjellerup in 1912 made extensive botanical collections; and the most recent contribution to our knowledge of the botany of this interesting country comes from Miss L. S. Gibbs, who is well known for the important work she has done in investigating the flora of Mount Kinabalu, Borneo, in particular. The object of her travels in New Guinea was to study the flora of the Arfak Mountains and to compare it with that of Kinabalu and the mountains of Malaya on one hand, and with the Australian flora on the other. The account of her hazardous journey and her conclusions as to the affinities of the flora are of great scientific interest. Owing to New Guinea being so little known, its importance as a centre for plant distribution has never been properly realised. Interest has always been concentrated either on Malaya or on Australia, whereas the results obtained by Miss Gibbs and by the Wollaston expedition in Dutch New Guinea go far to prove that New Guinea is really the focus of distribution for many types hitherto considered Polynesian or Australian. This applies to some extent also to Malayan types, of which the Papuan species appear to be not only older in type, but also very highly differentiated.

The endemic mountain types of New Guinea are found to have a wide distribution, and the low mountain forest flora shows marked affinity with that of the ridge formation of Kinabalu and the Philippines. In the forest region such interesting coniferous trees as *Araucaria Beccarii*, *Libocedrus arfakensis* —the genus being new to Dutch New Guinea several species of Podocarpus and Phyllocladus, and a Dacrydium are commonly met with. Some good photographs of the Araucaria are reproduced. Six Rhododendrons, two being new species, and seven species of Vaccinium serve to indicate the northern affinities of the high mountain flora and its connection with that of Kinabalu.

During her short stay on the island Miss Gibbs collected 330 plants, 100 of which have proved to be new to science. Among genera not previously known from New Guinea may be cited Hibbertia, hitherto considered Australian and New Caledonian; Centrolepis, which connects the country with Borneo, the Philippines, and southern China on one hand, and with Australia and New Zealand on the other; and Patersonia, which, with the exception of southern China, shows a

similar distribution, but was formerly considered to be a purely Australian genus.

Many of the new species are figured, but it is to be regretted that there are no proper references to the plates, and that the map and plan are so inadequate. A. W. H.

HISTOLOGY OF VEGETABLE DRUGS.

Histology of Medicinal Plants. By Prof. W. Mansfield. Pp. xi + 305. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1916.) Price 13s. 6d. net.

DURING the last few years a considerable amount of attention has been given to the histology of medicinal plants, or perhaps more correctly to the histology of organised vegetable drugs, and the importance of the subject is becoming more adequately recognised. Prof. Mansfield's work is the latest addition to the text-books on this section of vegetable histology, and on that account demands careful attention.

The author divides his work into three parts. Part i. deals with the simple and compound microscope, part ii. with tissues, cells, and cellcontents, and part iii. with the histology of roots, rhizomes, etc.

In part i. the usual details and illustrations of simple and compound microscopes are to be found, together with brief details on the mounting and preservation of slides. In part ii. various tissues, cells, and cell-contents are enumerated, and brief allusion is made to the differences between similar cells in certain drugs. This part is very fully illustrated with original drawings that have been carefully executed and that certainly do not err on the side of insufficient magnification. Part iii. deals in a similar way with the sections and powders of a very limited number of drugs.

There is nothing in the arrangement or general treatment of the details in these three parts that calls for special remark; it remains to be seen to what extent the author has been successful in attaining the object with which the book was written, and whether it can be recommended as a "practical scientific course . . . for the use of teachers and scholars in schools and colleges."

Now the essence of a practical course is instruction in the best methods of carrying out certain systematically arranged operations. It is much to be regretted that such instruction is not to be found in the book, and that there is no systematic course, progressing from simple to more difficult operations, outlined for the student. Meagre details occur here and there. The index affords little or no assistance, and it is to be doubted whether the object the author has in view will be attained until the work has been entirely remodelled. Should he take this task in hand, he would be well advised to submit many of his statements to searching revision, to correct inaccuracies, to introduce greater precision, and to make himself further acquainted with relevant literature. As an example, the statements on p. 85, lines 1 to 20, may be critically considered:

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