

proposing subdivision beyond the three great floras, namely, the Atlantic, Central, and Pacific*.

The Californian subregion, which is practically the Sierra-Nevada range and the narrow strip of country westward of it, is more highly specialized botanically than it would appear to be zoologically.

The only other of Wallace's primary zoological regions which differs materially from the botanical region of the same part of the world is the Australian. This he divides into four subregions†, all of which, except the 'Austro-Malayan,' are sufficiently indicated by their names. The Austro-Malayan subregion, of which New Guinea is the centre, includes the surrounding islands and groups of islands from the Louisiade Archipelago to Timor, Lombok, Celebes, Gilolo, Admiralty, New Britain, New Ireland, and the Solomon group. There is no great change in the vegetation such as to justify the separation of Eastern Malaya and New Guinea from the India region, or Oriental region, as Wallace names it. Indeed, botanically, it is naturally a subregion of the Asiatic and not of the Australian region. It is true that a number of Australian types extend into this subregion, and a few even beyond; but they form a very small percentage, and nowhere, so far as is known, do they constitute a feature in the vegetation. Including all the common sea-shore plants, Miquel's statistics of the Malayan flora‡ show that less than 4.2 per cent. of the Malayan Phanerogamia are also found either in Australia or Polynesia. However, very little was then known of the vegetation of New Guinea; but from an examination of Dr. Beccari's and Baron von Mueller's considerable subsequent contributions to Papuan botany, it appears that although such specially characteristic Australian genera as *Eucalyptus*, *Acacia* (phyllodineous species), *Styphelia*, *Stackhousia*, *Banksia*, and *Grevillea* are represented by one or two species each, the bulk of the Papuan vegetation is more Asiatic than Australian in character, and exceedingly rich in peculiar forms.

ON OUTLYING AUSTRALIAN TYPES OF VEGETATION.

A few words respecting the wider extensions of Australian types apart from those belonging mainly to the cold temperate region, which have been pretty fully tabulated by Hooker and Engler, and more recently by the writer§. *Eucalyptus papuana* and at least one other species inhabit New Guinea||; *E. alba*, and possibly one other species, is a native of Timor; and Blume records *Eucalyptus deglupta*, from the Celebes; but the genus of this tree is very uncertain, as neither flowers nor fruit were known to the

* "Vegetation of the Rocky Mountain Region," Bulletin of the U.S. Geol. and Geogr. Survey, vi. no. 1, p. 62; and Sir Joseph Hooker's Lecture previously referred to.

† See Table, *antè*, p. xxviii.

‡ 'Flora Indiæ Batavæ,' iii. pp. 763-773.

§ Botany of the 'Challenger' Expedition, i. Introduction, pp. 50-58.

|| Mueller 'Eucalyptographia,' under *Eucalyptus alba*.