

they no more exist in nature than do absolute differential characters between many natural orders or genera of plants; but Drude has too many and unnecessarily unequal regions. Several of them correspond, or very nearly so, to the secondary divisions of other writers, and are not unnatural in this sense; yet we do not agree with the author in raising them to primary rank. On the other hand, his Indian region embraces tropical Asia, the whole of the Pacific Islands, from New Caledonia to the Sandwich Islands, and a large area of North Australia. It is unnecessary to dwell upon the great disparity of this region as compared with his East-African Islands region, or his New Zealand region of the same rank.

With regard to the Flora of the Sandwich Islands, it is so highly specialized, and its affinities so complex, that it cannot be included in any primary region without the question arising whether it might not with equal propriety have been included in another, as will hereafter be shown.

The Flora of North Australia undoubtedly contains a large tropical element consisting of species, many endemic, of Asiatic genera, or genera of wider range; but the elimination of such species as are common sea-shore plants throughout the eastern tropical region would considerably reduce this element. It is equally true that some of the orders and tribes specially characteristic of the Australian Flora are almost entirely wanting, such as the Epacrideæ, Rhamnaceæ, Myoporineæ, Boronieæ, the Podalyrieæ, and some others; but are these two conditions sufficiently developed to justify separation in a primary division and annexation to the eastern tropical region? Drude appears to have separated it because it is tropical. Wherever the boundaries are drawn there will be overlapping of different elements to some extent, and a more natural boundary in this region is further north. Even if in the north-eastern coast district the composition of the vegetation is more Asiatic in character, it is not so in the north-west. Whatever the amount of infusion of Asiatic types may be in North Australia, and whatever groups are wanting or rare, the highly characteristic Australian gum-trees (*Eucalyptus*) and the phyllodineous Acacias are represented respectively by twenty-five and sixty-seven species; Proteaceæ by about thirty-five species; Stylidiæ and Goodeeniaceæ combined by upwards of fifty species; Amarantaceæ by nearly sixty species; capsular Myrtaceæ, exclusive of *Eucalyptus*, by about thirty species; and many characteristic Australian genera, such as *Dodonæa* and *Stackhousia*, are also present, though numerically few.

There seems even less reason for including New Caledonia in the Indian region, for although the Rubiaceæ and sarcocarpous Myrtaceæ appear to be the dominating groups, yet the vegetation generally is more Australian than tropical Asiatic in character. As Baron Mueller observes*, New Caledonia is the only country outside of Australia where capsular Myrtaceæ are largely developed, though they include

* A Lecture on the Flora of Australia, 1882, p. 16.