

geographical distribution of plants, in which he deals with both present and past conditions, more especially in relation to the theory of a general southward migration. He groups the Floras of the world into northern, tropical, and southern, and enters into particulars of the characters, relationships, connections, and dissimilarities of these groups. Drude groups his primary divisions in the same manner*; and this is perhaps the most philosophical method of dealing with them, though, on account of the greater differentiation the southern Floras present, it is preferable to consider them separately—that is to say to give the Australian, African, and South-American regions the same rank as the great northern region, and treat their tropical and temperate parts as subregions of so many regions, rather than subregions of a south temperate and a tropical zone respectively. Too close an adherence to climatal primary regions leads to unnatural combinations, as has been pointed out in regard to Drude's Indian region. But before entering more fully into the limits of the primary botanical regions, Wallace's zoological regions will be briefly discussed in relation to the distribution of plants.

COMPARISON OF THE ZOOLOGICAL WITH THE BOTANICAL REGIONS.

Wallace based his zoological divisions (as tabulated, page xxviii) on the present distribution of mammals, having, after years of study and research, arrived at the conviction that this class furnished the best foundation for the purpose. He also found that the distribution of birds and other groups harmonized sufficiently with such a division, and any anomalies or divergences in their distribution were capable of explanation by a study of the exceptional means of dispersal and conditions of existence. Still he is careful to emphasize the fact that any system of division must necessarily be more or less arbitrary and artificial, and not equally applicable to all classes of animals. Such mammals as the bats, which fly, and the oceanic mammals, which swim, possess exceptional means of dispersal, and therefore they are not taken into consideration. These exceptions and many other phenomena of distribution in the animal kingdom are paralleled in the vegetable kingdom, but no intelligible system of botanical division could be based on the distribution of any one group of plants less comprehensive than the Phanerogamia, because the large orders, such as the Compositæ or Leguminosæ, comprise plants of every size, habit, and duration, inhabiting every kind of situation. As an illustration of the wide dispersal of a very large proportion of the natural orders of plants, the reader may be referred back to the analysis of the flora of British India, pp. xv–xxii. Generally speaking, the smaller a Flora the larger the proportions of orders and genera to the total number of species†.

* Petermann's 'Geographische Mittheilungen,' *Ergänzungsheft* lxxiv. p. 43.

† The indigenous Phanerogamic Flora of the Bermudas, for example, is estimated at 120 species belonging to ninety-eight genera and forty-eight orders. See Botany of the 'Challenger' Expedition, i. p. 8.