

local conditions. Some of the species of a genus having normally flat leaves are remarkable for their great likeness to a cypress, a lycopod, or a *Salicornia*. Development in this direction is exemplified in some of the New-Zealand species of *Veronica*.

Another remarkable illustration of the almost universal dispersion of northern types is offered by the composition of the bulk of the vegetation of the central desert-region of Australia, where the *Chenopodiaceæ* number upwards of a hundred species, including thirty of *Atriplex*, fifteen of *Kochia*, twelve of *Chenopodium*, and seven of *Salicornia*, and associated with these are the European *Suaeda maritima* and *Salsola kali*, and several endemic genera, mostly of one or very few species, except *Rhagodia* (12 species), which differs chiefly from *Chenopodium* in having a fleshy fruit.

It has been shown (pp. xix-xxii) how few natural orders are unrepresented in any one of the large areas under consideration; and ninety-five or nearly half of the natural orders are represented in the Sandwich Islands. So far as we know, the African region is poorer than either the South-American or the Indian region, but further explorations may reveal the existence of several of the natural orders hitherto undiscovered. Those of relatively restricted areas are almost all small, and consist of one or few genera and few species, as may be seen on referring to the table on page xi; and most of them are more definitely characterized than some of the larger, generally-dispersed orders. Indeed, it is the absence, through destruction, dying out, or some other cause, of connecting links, that gives some at least of these small groups the status of natural orders.

Turning to the groups intermediate in rank between orders and genera, a considerable number of which are regarded by some botanists as distinct natural orders, we can better appreciate and estimate the amount of differentiation in development in different areas. As an illustration, a few of the more important in the thalamifloral Polypetalæ are noted. The Fouquieriæ, Fremontieæ, Limnantheæ, Clusiæ, Rhizoboleæ, Marcgraviæ, Malpighiæ, Gaudichaudieæ, Cuspariæ, and Luxemburgiæ are examples of distinct tribes or suborders restricted to America; and the Dilleniæ, Dombeyæ, Aurantiæ, and Phytocreneæ are peculiar to the Old World. On the other hand, the Zanthoxyleæ is one out of many tribes that are generally spread in warm countries. The Lardizabaleæ are divided between Peru and Chili and Eastern Asia, from North India to Japan; the Hermannieæ are African, with three or four representatives in Mexico, and the Colletieæ are Andine and Australasian.

Similar illustrations of the distribution of plants might be indefinitely multiplied. It is clear, as Sir Joseph Hooker suggests, that a classification of plants by Linnæus or Jussieu would have been essentially the same had it been based entirely upon Chinese, Australian, South-American, or Mexican instead of mainly upon European plants.

Whether the plants (and animals) of the earth had a common northern origin, as supposed by some writers, and the highly differentiated southern forms are descendants of northern ancestors which have undergone their great differentiation in the south, are