

of flowering plants in the Flora of India yield nearly 37 per cent. of the total number of species. In Mexico 4·6 per cent. of the genera comprise 39 per cent. of the species; and in Australia the amounts are about 4·64 and 37 per cent. It is unnecessary to add that most of the above genera are widely spread, and many of them common to the New World.

Genera common to the widely separated areas of India and Mexico.

From the relations of the average number of species to a genus in the areas under consideration to the average for the whole world, it follows that the average area of a genus must be at least double one of these areas. But there is no necessary relation between the area a genus covers and the number of species it contains, though, speaking generally, monotypes have a restricted area. Indeed, if we exclude aquatic and sea-coast plants, and such as have probably been dispersed through human agency, it is difficult to multiply instances of monotypes with a large area. The curious *Cressa cretica* may be cited as a possible exception*. On the other hand, the species of some large genera are concentrated in one region, as *Eucalyptus* in Australia, and *Miconia* in America.

Disregarding exceptions, it may be stated that the genera and species of the northern Floras have the widest range; those of the tropics an intermediate one, and those characteristic of the southern Floras, excluding that of the coldest zone, the most restricted range. Probably not less than 75 per cent. of the genera of the Flora of Eastern America, north of Mexico, are represented in the Old World, for in some statistics on the vegetation of the north-eastern part of the United States, drawn up by the late Dr. A. Gray more than thirty years ago†, it is shown that 63 per cent. of the then known genera were common to America and Europe, or America and eastern temperate Asia. Since that date many others have proved to be common to America and the Old World, and the rich collections made by Dr. A. Henry within the last three years in Hupeh, one of the central provinces of China, have added several conspicuous genera to the number.

A careful comparison of the generic composition of the Mexican and Indian Floras reveals the fact that 581, or 25·58 per cent., of the Indian genera are likewise represented in Mexico. Our own table (vol. iv. pp. 207, 208) shows that more than a third of the Mexican genera are widely dispersed, that is to say, they occur as well in two or more of the large divisions of the Old World; and only 11 per cent. are endemic. Engler‡ finds that only about an eighth of the tropical dicotyledonous genera inhabit both America and some part or parts of the Old World. On the other hand, 30·5 per cent. of the Australian genera and 35·5 per cent. of the South-African are endemic.

* Grisebach (Symb. ad Fl. Argent. p. 266) refers a second species to this genus with an extended diagnosis.

† Silliman's 'Journal of Science and Art,' 2nd series, xxii. (1856) pp. 204-231.

‡ Versuch einer Entwicklungsgeschichte der Florengebiete, ii. p. 174.