

has been brought forward to prove that North Mexico is the centre of a special xerophilous flora, which, there are good grounds for assuming, originated in this area, though this flora now has considerable northward and southward extensions. The problems concerning preglacial conditions and the successive changes the vegetation may have undergone we shall not attempt to discuss, for it is as true now as it was in 1881 that the geological and phyto-palæontological data are extremely meagre and wholly inadequate for tracing the development of the southern floras\*; and we have nothing new to add to the masterly disquisitions on the northern floras by Sir Joseph Hooker, Dr. Asa Gray, Dr. Engler, and other writers. It may be mentioned here, however, that Gray and Hooker recognize two characteristic elements in the North-American flora, namely a boreal-oriental and a Mexican-plateau element. The eastern deciduous trees enumerated above found in South Mexico belong to the first; "and a large part of the botany of California, still more of Nevada, Utah, and Western Texas, and, yet more, that of Arizona and New Mexico, may be regarded as a northward extension of the botany of the Mexican plateau"†.

Our South-Mexican or central floral province, which also includes Guatemala, Salvador, and Honduras, comprises three elements of unequal development. There is the tropical element, largely consisting of the littoral belt, which is comparatively unimportant, and may be dismissed here, as it will be necessary to define it more fully in the description of the southern floral province. Then there is the xerophilous element of the dry regions of the plateau, which is essentially the same as the characteristic flora of North Mexico and an extension of it; and it has been sufficiently examined and discussed‡. Finally, there is the distinct preponderating element, which, although we cannot deal with it quite separately so far as mere numbers are concerned, furnishes the prominent features of the whole flora. It seems almost superfluous to repeat here the obvious fact that some of the constituents of contiguous floral regions are the same, and that it is impossible in practice to make definite boundaries. But it is the dominant and characteristic constituents that afford the points of interest in a flora, and it is to these that attention is directed.

As the plants from the different areas of this province are separately tabulated, it is impossible to give the total number of genera and species recorded from the province without entering into fresh calculations, because a large number of both categories are common to two or more of the areas. Therefore it will be more convenient to take the figures for South Mexico and examine them as a sample of the whole flora, premising that the issue will be almost identical. Adding the 'uncertain' Mexican column, as has been done in previous calculations, there is a record of 160 natural orders, 1440 genera, and 7965 species of vascular plants from South Mexico. The

\* See Engler, Versuch, ii. p. 1.

† Bulletin of the United States Geological and Geographical Survey of the Territories, vi. p. 62.

‡ In some parts this element is as strongly developed as in North Mexico; in some regions there is a blending with the other elements, therefore we can only broadly generalize.