

ALTITUDINAL DISTRIBUTION OF ORCHIDS IN SOUTH MEXICO, AND THE DOMINATING FEATURES OF THE GENERAL VEGETATION.

THE general distribution of orchids is discussed with some fulness in a preceding paragraph (p. 267); and here we propose reviewing the salient features of their distribution in South Mexico, especially in relation to the sequence in which the various types appear in ascending from the coast to their upper limits on the mountain-peaks, and also, briefly, in relation to the characteristic plants with which they are associated in the successive zones. Too much importance must not be attached to the actual heights given, because they greatly vary for the same genera and species, according to situation, aspect, and other local conditions. The data are almost wholly extracted from an article by Richard and Galeotti*, compiled from Galeotti's own observations, supplemented by those of Linden, Ghiesbreght, Hartweg, Andrieux, and other travellers. Their zonal divisions, though perhaps not the best that could be devised, are adopted, as any deviations therefrom would deprive the sketch of much of its value. Metres have been roughly reduced to feet.

1. *The Tropical or Hot Region.*—This is divisible into two subregions. The vegetation covering the slopes of the cordillera from the sea-shore up to an approximate altitude of 3250 feet is tolerably uniform in character. Little else than prickly mimosas, tall grasses, and arboreous bignonias is to be seen, though here and there the burning solitude is relieved by patches of verdure looking like so many oases. From the end of October until June this desolate region is scorched up and almost inanimate. But there is a region within a region in this zone, formed by the numerous ravines which serpentine through the plains, and shelter a rich and varied vegetation. Prominent among the trees are:—*Cecropia*, *Castilloa elastica*, various species of *Bignonia* and *Zamia*, with such orchids as *Schomburgkia tibicinis* and various *Oncidia* having cylindrical fleshy leaves. Even in the small ravines which pierce the dunes near Vera Cruz *Mormodes pardina* and *Chysis aurea* grow, hidden in the darkest and most humid localities, whilst the *Cyrtopodia* attach their long pseudobulbs to the basaltic rocks in the most exposed and sunny situations. The nearer we approach the cordillera the richer are these ravines in interesting and curious plants, the rock varying in composition in different States. Thus in Vera Cruz it is basaltic; in Tamaulipas calcareous; and schistose or gneissic in Oaxaca, embellished with dwarf palms of the genus *Chamædorea*; various ferns, such as *Aspidium serra*, *A. heracleifolium*, *Adiantum villosum*, *Polypodium cordifolium*, and *Lygodium polymorphum*; *Ficus* of kinds, *Cecropia*; showy Gesneraceæ, as *Gloxinia guttata*†, *Episcia rosea*, and *Achimenes grandiflora*; the tall

* “Monographie des Orchidées Mexicaines, précédée de considérations générales sur la Végétation du Mexique et sur les diverses stations où croissent les espèces d'Orchidées Mexicaines.” Par A. Richard et H. Galeotti. Comptes Rendus des séances de l'Académie des Sciences, xviii. 1844.

† Some of the names cited in this sketch stand as synonyms in our Enumeration, while a few others, chiefly of orchids, given by Richard and Galeotti, have not been connected with their respective species by subsequent botanists.