

LISTS OF THE PLANTS AND ANALYSES OF THE COMPOSITION OF THE
FLORAS OF VARIOUS ISLANDS NOT INCLUDED IN THE REPORTS.

I.—VEGETATION CONTAINING A LARGE ENDEMIC ELEMENT, INCLUDING
DISTINCT GENERIC TYPES.

THE SANDWICH ISLANDS.¹

“Of the flowering plants, the most remarkable family is the Lobeliaceæ, represented by six genera, five peculiar to the Hawaiian Islands, and thirty-five species, all endemic. Many of these, indeed almost all, are arborescent, and some of great interest. Our [the American] explorations added ten new species and one very remarkable genus (*Brighamia*) to this family. The Compositæ hold an important place, as will be seen by the accompanying table, and of these the new genus *Hesperomannia* and four new species were collected for the first time.

“Remy endeavoured to divide the island flora into five zones, but with indifferent success; three are tolerably distinct,—the alluvial plains, the valleys, and the mountain region. The alluvial plains are on the shores, where most of the introduced plants are found. The valleys, which have generally been long the residence of man, and have been cultivated and cleared, are more tropical, and because better watered than the plains, and of richer soil than the mountains, are filled with a much more luxuriant vegetation; in this region are found most of the introduced fruits. The third, or mountain region, extends from the grass lands which usually occupy the lower slopes of the mountains as high as eight hundred or a thousand feet, almost to the limit of vegetation, and this point is determined by the aspect; on the windward side of Mauna Kéa it is at a height of nearly twelve thousand feet, while on the lee of Mauna Lōa it is no higher than eight thousand. There is no truly alpine zone; the trees and shrubs of the lower regions become stunted, and finally disappear, and the upper regions are wholly destitute of vegetable life. *Dodonæa*, *Sophora*, *Osteomeles*, *Vaccinium*, *Gouania orbicularis*, are found near the upper limits. The timber of the forest is largely *Metrosideros*, and *Acacia koa*, while the *Aleurites* is abundant. It is in the dense woods of the lower slopes (three thousand to four thousand feet) that the tree-ferns, and lower still the Lobeliaceæ, the Labiatae, and the *Cordyline* are found.

“The regions yielding the richest harvest of species lie between fifteen hundred and six thousand feet above the sea. *Drosera longifolia* is found at an elevation of eight thousand feet, many thousand miles from its nearest known habitat. There are but few showy flowers, and still fewer fragrant ones, in the Hawaiian flora. The genera *Hibiscus*, *Gardenia*, *Bryonia*, *Brighamia*, *Metrosideros*, *Eugenia*, *Scaevola*, *Cyrtandra*, *Phyllostegia*, with a few Compositæ, Convolvulaceæ, and Leguminosæ, comprise nearly all the showy or beautiful flowers. In the colouring, white or greenish-white is predominant, and yellow and pink follow at a respectful distance. There are very few blue flowers. *Strongylodon lucidum* is a rich crimson, and some other leguminous plants are violet, but the various and brilliant colouring of the Californian plants is wholly absent.

¹ An analysis of H. Mann's Enumeration of the Plants, by W. T. Brigham, extracted from the *Proceedings of the Boston Society of Natural History*, xii., 1868. This is reproduced without the modifications necessary to bring it in harmony with Bentham and Hooker's *Genera Plantarum*; but the alterations would be unimportant. See p. 11, and also p. 19, for the distribution and affinities of the arboreous Compositæ.