

good for the species I have not attempted to ascertain, nor have I attempted the separation of the tropical genera of either world for the totals above given.

I regard the tropical African Flora as a subdivision of that of the Old World, because I find no other essential difference between the Asiatic and African vegetations taken as wholes than the poverty of the latter, and because the peculiar botanical features of large tracts of Asia are repeated in Africa. Thus the Punjab, Scinde, and S. Persian Flora is largely represented all over north tropical Africa, extending to the Cape de Verde Islands; the notable absence in the Deccan peninsula of India of Cupuliferæ and the extreme rarity of Coniferæ are conspicuous characters of all tropical Africa; and the Indo-Malayan Flora has its representatives in Madagascar, and measurably on the coasts of the African mainland. If any part of the tropical Old World could be separated as a primary region that should rank as a kingdom, it would be New Guinea.

III. *The three Southern temperate regions (Extratropical America, Africa, and Australia).*—I cannot accept the merging the South-African Flora into the tropical African. Of the six well-defined botanical provinces of South Africa so ably established and limited by Mr. Bolus, not one is represented anywhere in tropical Africa, where there is no region of heaths, of Compositæ, of Crassulaceæ, of Campanulaceæ, of Proteaceæ, and of Restiaceæ, and where such few representative species of these orders as do occur are either confined to mountain-regions or are isolated amongst the prevalent Indian types of vegetation. On the other hand, the genuinely tropical types of Africa are few and scattered in its south temperate regions, where the Anonaceæ, Menispermaceæ, Guttiferæ, Rubiaceæ, Acanthaceæ, &c. are hardly even represented, and only locally. It is true that Mr. Bolus designates the western seaboard of South Africa as the tropical region, mainly because a palm there extends to 33° 30' lat. south; but as in New Zealand, the Himalayas, and at Gibraltar palms enter the middle temperate zone, their presence does not necessarily imply a tropical heat; and as the plants of the so-called tropical South-African region require no greater heat than that of an English conservatory, I cannot regard them as typical of a tropical Flora.

In the above sketch I have taken no account of exceptional Floras like those of St. Helena and the Sandwich Islands, whose relationships must be determined by a study of the flowering plants they contain. Nor have I taken into account theoretical considerations of any kind.

With regard to exact geographical limitations of any of these seven botanical areas, such are possible only where geographical features present insuperable obstacles to the further spread of the plants that characterize them. Where two are conterminous, there is always a neutral ground, often a very broad one, and this neutral ground may itself present a Flora which may be regarded as either tropical or temperate.