

The author draws the following conclusions from his analysis of the two floras:—

1. Amongst the identical families many are of very general distribution; others, such as the *Elæocarpaceæ*, *Aristoleliæ*, *Cumoniaceæ*, *Halorrhagaceæ*, &c., are of wide distribution over the Southern Hemisphere; others, again, have their headquarters in the tropics, extending thence into the neighbouring regions (*Sapindaceæ*, *Anacardiaceæ*, &c.).

2. The comparison of identical genera not possessing identical species emphasizes the correspondence with genera of the Southern Hemisphere, and especially of the Antarctic region, more than does a comparison of families, the ferns alone showing a special affinity to the tropical flora.

3. The identical species are either markedly ubiquitous, as along the coast-line, or belong to the Southern Hemisphere in general, while of special interest are the numerous Antarctic species.

4. Regarding the families which occur in New Zealand but not in Chile, some have a wide distribution (*Caprifoliaceæ* and *Pittosporaceæ*), others belong to the tropics, and *Stackhousiaceæ* and *Myoporaceæ* are Australian types.

5. As for the families found in Chile but not in New Zealand, naturally many are American, whilst some are confined to Chile (especially Andine South America or Juan Fernandez). The greater number of genera in these families than in (4) depends upon the greater extent of Chile, and, moreover, on the fact that it is bound by land to the rest of South America, whereas New Zealand is an archipelago.

Finally, it must be pointed out that the *Eucryphiaceæ* of southern Chile are absent in New Zealand, but occur in Australia. L. C.

5. "The Male Gametophyte of *Dacrydium*," by M. S. Young. (*Botanical Gazette*, xlv, pp. 189-96, pl. xix. 1907.)

The material used for the investigation was collected in New Zealand by the reviewer, and consisted of staminate strobili of *Dacrydium bifforme*, *D. Bidwillii*, *D. cupressinum*, *D. laxifolium*, and young ovules of the two last-named and *D. intermedium*. No complete series was obtained from any one of the species. At the time of the research the only previous work on the subject was that of Coker in 1902 on *Podocarpus coriaces*, the gametophytes of the *Podocarpineæ* being quite unknown. The following is the author's summary of her results:—

"1. There are two prothallial cells cut off from the main body of the spore. In *Dacrydium Bidwillii* usually only the second divides; in *D. laxifolium* and *D. cupressinum* both divide.

"2. The generative cell divides by an anticlinal wall, one daughter cell functioning as a body cell, and the other being sterile. In some cases both produce body cells.

"3. The walls of the prothallial cells and the two generative daughter cells disappear.

"4. The mature pollen-grain contains the body cell and five or six free nuclei, according as the first prothallial cell has or has not divided." L. C.