

slender and more branched habit and very much smaller clavate leaves. It is certainly not closely related to *S. divaricata* Moq., which is a large bush confined to Argentina.

## MALVACEAE

***Cristaria insularis*** F. Philippi, Anal. Univ. Chile, **47**: 186 (1875); Reiche, Anal. Univ. Chile, **91**: 405 (1895) and Fl. Chile, **1**: 257 (1896).

Collected on San Felix by Willis (no. 3 a-b) and by Chapin (nos. 388, 1111). Their collections are very mature with the leaves mostly dried and weathered. There are some flowers and much good fruit. The plant is endemic though related to a group of small-flowered annuals occurring in the coastal hills from central Chile to central Peru.

## COMPOSITAE

***Lycapsus tenuifolius*** Philippi, Bot. Zeit. **28**: 499, tab. 8a, fig. 1-5 (1870); Philippi, Anal. Univ. Chile, **43**: 484 (1873), locality incorrect; F. Philippi, Anal. Univ. Chile, **47**: 188 (1875). — *Alomia tenuifolia* (Phil.) Benth. & Hook. ex Reiche, Anal. Univ. Chile, **109**: 10 (1901) and Fl. Chile, **3**: 260 (1902); Robinson, Proc. Amer. Acad. **49**: 439 and 453 (1913).

There are photographs and fragments in the Gray Herbarium of the original collections at Santiago made by Simpson and by Vidal. Simpson's collection is labeled as from San Ambrosio. Vidal's collection is given as from San Felix. Dissections of this authentic material shows conclusively that this endemic genus is not a Eupatorioid as has been supposed. The plant has fertile pistillate marginal florets with a 3-toothed ligule about once and a half the length of the tube. The tubular inner florets appear to be hermaphroditic and sterile. The style-branches are linear, flattened and abruptly contracted into a short triangular apex. The receptacle bears conspicuous slender scales which seem to separate the marginal florets from the inner ones. Except for the bracteate receptacle the plant is very suggestive of some of the Helenioids or even certain Asterioids. The bracteate receptacle suggests the Helianthoids but none of the other structures suggest that group of the Compositae. The same may be also said for the Madineae. *Lycapsus* has relations even more vague than *Thamnoseris*, the other endemic genus of the Compositae.

***Thamnoseris lobata***, sp. nov. — *Thamnoseris laceratus* sensu F. Philippi, Anal. Univ. Chile, **47**: 190, cum tab. (1875); Reiche, Anal. Univ. Chile, **116**: 580 (1905) and Fl. Chile, **5**: 6 (1910), as to shrub of San Felix.

The specimens from Prof. Willis (no. 1) which consist of leaves, flow-

ering inflorescence and parts of stem, agree well with the collections from San Felix by Vidal which were described at length and illustrated by the younger Philippi. According to Willis' notes the plant grew in a sheltered ravine on Cerro Amarillo, 150 m. alt., and formed a low, abundantly lactiferous shrub with thick woody trunk and branches. The bark was light gray, smooth and "swollen looking."

Neither the collection by Vidal nor that by Willis matches the single leaf of the lactiferous shrub of San Ambrosio upon which the elder Philippi, Bot. Zeit. **28**: 499, tab. 8, fig. A6 (1873), based his *Rea ? lacerata*. This leaf from San Ambrosio is triangular in outline, broadest at the base, cut 9/10 of the way to the rachis and has the well spaced 3-4 pairs of lobes prominently and narrowly lobulate. In the San Felix plant, as given by the younger Philippi and later by Reiche, and as shown by the material collected by Bailey Willis, the leaves are lanceolate, broadest above the middle, gradually contracted towards the base, cut  $\frac{1}{2}$ - $\frac{2}{3}$  to the rachis, and the crowded 3-5 pairs of lobes sparsely lobulate-toothed. The material from San Felix is consequently quite different in appearance from the scanty specimen originally described from San Ambrosio and so seems to merit a new name. The lengthy descriptions given by the younger Philippi and by Reiche are based upon the collection of Vidal illustrated by the former author. This collection and the mentioned descriptions and plate amply characterize *Thamnoseric lobata* of San Felix.

The imperfectly known plant that is correctly known as *Rea lacerata* Phil., *Thamnoseric laceratus* (Phil.) F. Phil. or *Dendroseric lacerata* (Phil.) Hemsley, is consequently known only from San Ambrosio where Simpson reported it as common on the crests and Hemsley, Report Challenger Voy. Bot. **3**: 99 (1884), reported it as occurring on a rock just south of that island. Until the flowers and inflorescence of this plant of San Ambrosio are described, its exact relationship with *T. lobata* of San Felix must remain a matter of surmise.

The lactiferous shrub of San Felix is evidently a member of the Cichorioideae. It has naturally been compared with *Dendroseric*, an endemic genus of Juan Fernandez having similar habit, for *Thamnoseric* and *Dendroseric* not only occur in adjacent archipelagos, but are unique among the Cichorioids in having a pronounced woody habit. Floral structures of these two genera, however, show many differences. I am inclined to the opinion that we must await the judgment of some future student who has mastered the complexities of the classification and interrelation of the Cichorioids, before we definitely select similarities of habit as indicative of direct relationship between the two insular endemic

genera. The similarities of habit may be simply parallel evolution, the similar responses of two different stocks isolated under equitable insular climates. Many groups of angiosperms, prevailing low and herbaceous on the continents, have produced woody forms on oceanic islands. The woody habits of *Dendroseris* and *Thamnosseris*, accordingly may be simply ecological and not indicative of immediate relationship. The exact relationship of the two insular genera with each other and with other Cichorioids is still uncertain. Their relationship does not seem to be Old Pacific, for the Cichorioids are very scantily represented in New Zealand and Australia and northward in the Pacific, and none of them in this region have structures suggestive of close affinity with our insular genera. In the past our genera have been associated with the genus *Fitchia*, a woody group of Polynesia, but as suggested by Drake del Castillo, Jour. de Bot. **12**: 176 (1898), that genus now proves to be a Mutisioid. Consequently the old hypothesis as to an Old Pacific relationship of our shrubs must seek new justification. Though I can find no evident relatives of them in South America, I suspect that, like other members of our insular florulas, the insular Cichorioids were probably derived from South American ancestors. The best development of the Cichorioid Compositae in the Southern Hemisphere is to be found in western South America. Our insular Cichorioid shrub may be merely aspects of the evolutionary activity centering on the adjacent continent.

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