

The first who collected *Centaurodendron* was not JOHOW, but BERTERO; still, B. did not discover it. Under the name of *Dendroseris micrantha*, BERTERO no. 1602! (Herb. Kew) there is one sheet with pieces of an old inflorescence of the latter together with a leaf of *Centaurodendron*.

JOHOW discovered this in July, 1892, and found it again in June, 1895; to judge from a specimen in his herbarium it was also gathered by SÖHRENS, probably in April, 1895, on the same occasion when S. found *Robinsonia thurifera*, for it lies together with this under the same name. I rediscovered it in August, 1908, and found the old inflorescence, just as JOHOW did, but there was no trace of new ones. From this I concluded that it flowers late in the summer or even in the autumn, and I expected to get flowers this time, but was cruelly deceived. For all I could do was to state that in certain years not a single specimen produces flowers, and that the year 1916—17 was one of them.

**Area of distribution:** Endemic in Masatierra; monotypic.

### *Dendroseris* D. Don.

The type of the genus is *D. macrophylla* D. Don, Phil. Mag. XI (1832) 388, collected in Masafuera by CUMING (Herb. Kew!). One year later DECAISNE, in Arch. de Bot. I (1833) 513, described the genus *Rea* Bert. ms., with the following species: *R. macrantha* Bert. et Dcne (Masatierra), *Berteriana* Dcne (Masatierra), *pinnata* Bert. et Dcne (Masatierra), *neriifolia* Dcne (Masatierra), *micrantha* Bert. et Dcne (Masatierra), *marginata* Bert. et Dcne (Masatierra: Portezuelo), *mollis* Bert. et Dcne (Masatierra: Portezuelo). In Comp. Bot. Mag. I. 32 HOOKER and ARNOTT reduced *Rea* to *Dendroseris*, listing the following species: *D. macrophylla* (with *R. macrantha* as syn.), *Berteriana*, *pinnata*, *neriifolia*, *micrantha*, *marginata* and *mollis*.

JOHOW, Estud., reduced these seven species to four, declaring *D. Berteriana* identical with *pinnata* and *marginata* with *macrophylla* and rejecting *D. mollis* altogether. Of this, only the leaves, described as »subincano-velutina» — glabrous in all the others — are known. There is no specimen in Kew, nor in Paris, and I have not been able to discover the type. JOHOW guessed that a stout specimen of *Gnaphalium citrinum* (= cheiranthifolium) or some other similar plant was mistaken for *Dendroseris*. This is hardly probable. In the locality given, Portezuelo, nothing like it is found, unless a young *Robinsonia* or *Rhetinodendron* was mistaken for a *Dendroseris*. With regard to BERTERO's ability as an observer, this is difficult to believe.

The treatment of *Dendroseris* in JOHOW's flora is not quite satisfactory; still, he is not to blame. He had no opportunity to see BERTERO's types, his own material was scarce; further, when HOOKER and ARNOTT reduced *Rea macrantha* to *D. macrophylla* they indicated the wrong course later followed by GAY and JOHOW. HEMSLEY pointed out the validity of *D. marginata*, but JOHOW brought this to *macrophylla*. He was equally critical against his own discoveries, for the peculiar *micrantha* from the coast rocks was only with hesitation classified even as a variety, v. *pruinata*. In the case of *D. Berteriana*,

type and agree perfectly well with the herbarium specimens as to the leaves. They are 3—4 years old but have not yet flowered.

**Area of distribution:** Endemic in Santa Clara and Morro Viñillo.

137. **D. pinnata** (Bert. et Dcne) Hook. et Arn. — JOHOW, Estud. 71.

**Masatierra:** On the higher ridges, at the limit of the forest, among shrubs and small trees, not uncommon. — Between Q. Laura and Q. de la Piedra Agujereada, c. 600 m, large trees; El Pangal, west branch, c. 400 m, and on the narrow crest above Pangal, c. 800 m; north face of Co Damajuana, 500—530 m; V. Colonial, C. Central (JOHOW), solitary in the forest down to 350 m; Portezuelo de Villagra (JOHOW), scattered on both sides, 5—600 m, one specimen (no. 1235) growing on *Blechnum cycadifolium*; C. Salsipuedes (JOHOW), 600—750 m, scattered in the shrubberies (beg. fl.  $\frac{8}{12}$  16, no. 79 — one single tree, all others sterile); Q. de los Helechos, on *Dicksonia*; between Q. Salsipuedes and Pto Ingles; Pto Ingles, central ridge c. 470 m.

var. **insignis** Bert. ms., Johow. — Syn. *Rea Berteriana* Dcne. — **Masatierra:** Q. de la Piedra Agujereada, in wet forest c. 600 m; in the gap between Damajuana and Yunque, c. 580 m, in the humid forest, no. 164 (BERTERO no. 1505! [type] labelled »El Yunque Majo 1830«; the Kew sheet consists of two leaves and one [complete??] inflorescence, the latter very small).

Regarding *D. Berteriana* (*insignis*), the material collected hitherto is very scarce. BERTERO alone has found the flowers, and very late in the season (May). The very few plants seen by us suggested a *pinnata*-form of extreme shade and moisture. A seedling, quite like that of typical *pinnata*, was found with them. The primary leaves are simple but denticulate and reniform.

**Area of distribution:** Endemic in Masatierra.

\*138. **D. regia** nov. spec. — Plate 17, fig. 2; text fig. 38.

Phoenicoseris *D. pinnatae* affinis. Truncus simplex rectus ad 180 cm altus et 13 cm diam. visus, cicatricibus foliorum manifeste notatus, apice rosulam giganteam foliorum circ. 30 cm altam et 1 m latam gerens. Folia plantae juvenilis maxima, ad 150 cm longa et 57 cm lata a me visa, plantae adultae minora, 30—65 cm longa. Lamina crassiuscula, 3—6-pinnata, ambitu late vel latissime ovata, discolor subtus glaucescens, 24—36 cm longa et 16—31 cm lata, praecipue subtus secus nervos  $\pm$  irregulariter pulverulento-pubescentis mox glabra; pinnae laterales sinuato-dentatae, versus basin irregulariter et profunde dentato-laciniatae, flabellatim nervosae; terminalis triangulato-semiorbicularis basi totam latitudinem folii fere occupans, plicata,  $\pm$  profunde divisa et margine irregulariter dentata, pedato-nervosa; pinnae haud raro valde approximatae sese tegentes; petiolus ad 20 cm longus, crasse carnosus, inferne auriculis membranaceis pulchre reticulato venosis, versus basin angustatis, apice rotundatis et approximatis, 6—11 cm longis et 0,5—2,5 cm latis ornatus. Cetera ignota.

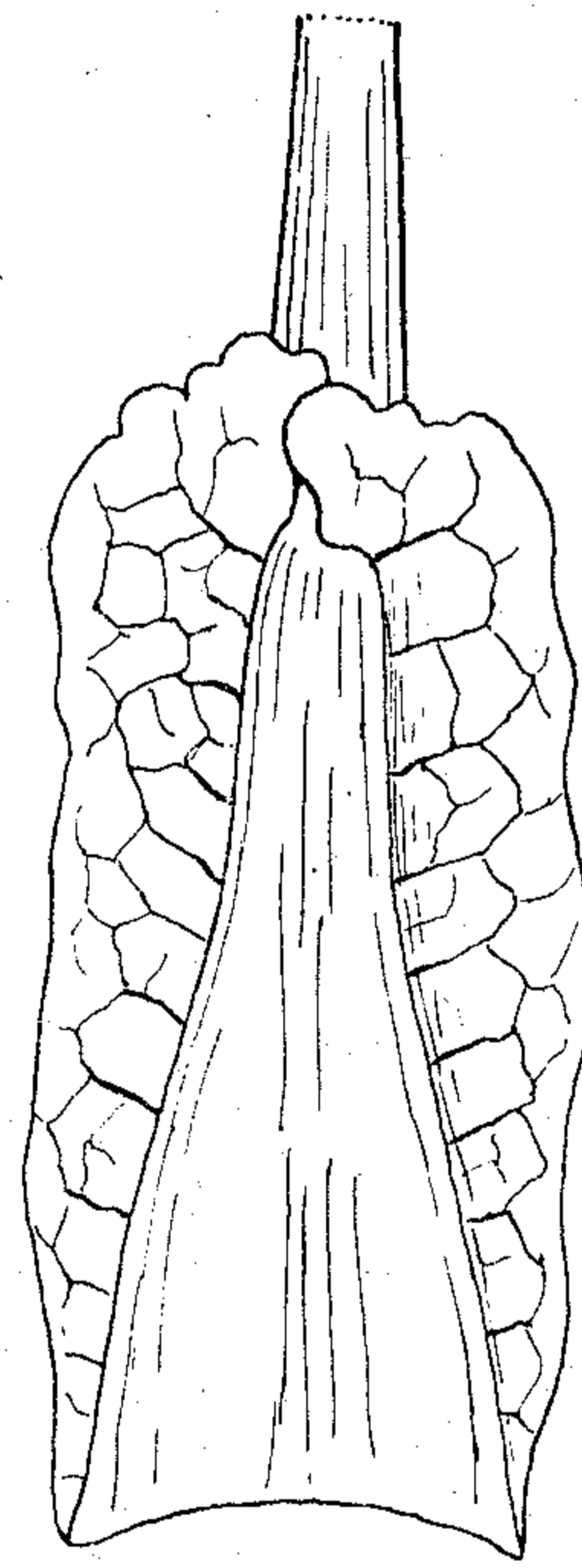


Fig. 38. *Dendroseris regia*, base of leaf showing auricles.  $\frac{1}{2}$  nat. size.

**Masafuera:** on the high ridges and in the alpine region, scattered and often associated with ferns. — Edge of western precipice above Buque Varado, c. 1250 m; Las Torres, 1370 m, rare; near the Correspondencia Camp 850—1130 m, stray specimens (no. 570); C. Atravesado, c. 1300 m, rare; C. del Barril, 925 m, many specimens on the steep slope of the Vacas gorge; east slope of Los Inocentes, 740—950, also observed growing on *Dicksonia*.

A most noticeable plant, the second species of the hitherto monotypic subgen. *Phoenicoseris*, not so tall as *pinnata*, but more robust than this and with different leaves. In a way these resemble the leaves of var. *insignis*, as the pinnae lack the basal segment characteristic of *pinnata* proper, but otherwise they are, of course, easy to distinguish from the variety and are known by their size, lacinated margins and auricles. Unfortunately, not a single specimen flowered or was going to bloom, and not one dead tree with an old inflorescence was ever seen, so that the species cannot have flowered recently. The seedling has simple, cordate-reniform leaves, just as in *D. pinnata*.

**Area of distribution:** Endemic in Masafuera.

139. ***D. neriifolia*** (Dcne) Hook. et Arn. — JOHOW, Estud. 69.

**Masatierra:** BERTERO no. 1499! Herb. Kew; leg. 1830, mart. flor.; valleys between Pto Frances and El Pangal, especially south of El Rabanal (JOHOW!).

According to JOHOW this occurs »con bastante frecuencia» south of Rabanal. Much to our regret we never found it, in spite of a regular hunt in all directions over the tract indicated by JOHOW; undoubtedly it is very local and JOHOW had good luck when he discovered it. We saw nothing but *D. micrantha* in these parts; it occurs here below the forest line in a stunted, narrow-leaved form, sometimes recalling *neriifolia*, but the leaves are thinner and the venation is different. The head is of about the same appearance in both, but with very few (7—8) scales in *neriifolia*. The flowers are very much the same.

**Area of distribution:** Endemic in Masatierra.

140. ***D. micrantha*** (Bert. et Dcne) Hook. et Arn. — JOHOW, Estud. 68. — Fig. 39 a—c.

**Masatierra:** Common in the east and central parts, from Pto Frances to Co Chumacera, in forests and thickets, especially higher up on the slopes of the valleys and on the dividing ridges, 400—600 m; also in the denser forests on steep slopes, but never seen in the high forest along the bottom of the valleys. In the eastern section, from Pto Frances to Pangal, it forms a conspicuous feature in the shubberies below the lower limit of the woods, where also the maqui is common. Here the trees are smaller, the leaves smaller and more firm and their edge generally quite entire; the inflorescence too, is smaller, but otherwise there seems to be no material difference, so I think we may explain this lowland form as a local adaptation to the dry, sunny stations. — Small buds  $\frac{1}{1}$  17, no. 1236; fl.  $\frac{19}{3}$  17, no. 567; fr.  $\frac{28}{3}$  17, no. 581,  $\frac{11}{4}$  17, no. 1237,  $\frac{17}{4}$  17, no. 618.

The head is about 9 mm high and 10 mm across, the funnel-shaped involucre 5 mm high and 4 mm across, composed of c. 11 scales. The flower

### Explanation of the Plates.

Nos. 12, 13, 15, 17—19 reproduced from photographs taken by C. SKOTTSBERG in the islands; nos. 10, 11, 14, 16 from photographs after dried specimens by A. KARNELL; no. 20 after pictures from nature by C. SKOTTSBERG.

#### Plate 10.

*Peperomia Skottsbergii* C. DC. —  $\frac{3}{5}$ .

#### Plate 11.

*Chenopodium Crusoeanum* Skotts. —  $\frac{3}{5}$ .

#### Plate 12.

1 *Lactoris fernandeziana* Phil: below Portezuelo, Masatierra. 2 *Eryngium inaccessum* Skotts. at Portezuelo, Masatierra.

#### Plate 13.

1 *Margyracaena Skottsbergii* Bitter (centre and right), *Acaena argentea* Ruiz et Pav. (left), Valle Colonial, Masatierra. 2 *Gunnera bracteata* Steud.  $\times$  *peltata* Phil., near the road to Portezuelo, Masatierra.

#### Plate 14.

*Solanum masafueranum* Bitter et Skotts. —  $\frac{3}{5}$ .

#### Plate 15.

1 *Euphrasia formosissima* Skotts., Masafuera. 2 *Wahlenbergia Grahamae* Hemsl., near Portezuelo, Masatierra.

#### Plate 16.

1 *Erigeron Ingae* Skotts. 2 *Erigeron turricola* Skotts. —  $\frac{3}{5}$ .

#### Plate 17.

1 *Robinsonia Masafuerae* Skotts. and 2 *Dendroseris regia* Skotts., near the Correspondencia Camp, Masafuera.

#### Plate 18.

*Dendroseris marginata* (Bert.) Hook. et Arn. at Portezuelo, Masatierra.



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