

ADDITIONS TO THE FLORA OF SOUTH AUSTRALIA.  
No. 9.

By J. M. BLACK.

[Read May 11, 1916.]

PLATES V. TO VIII.

This list is largely the result of three excursions:—1. Up the Murray to Renmark by water, returning by the Paringa-Tailem Bend railway, October, 1915. 2. To Gladstone and Melrose, in the same month. 3. To Murat Bay, *viâ* the newly-opened railway from Port Lincoln, November, 1915. Specimens gathered on other occasions, and many forwarded by friendly collectors, have also been taken into account.

In dealing with the eucalypts I have had the great advantage of consulting Mr. J. H. Maiden, Government Botanist of New South Wales, and the leading authority on this difficult genus. Professor A. J. Ewart, Government Botanist of Victoria, has also lent me much kind assistance, especially in comparing doubtful specimens with those in the great herbarium under his control.

An asterisk denotes an alien plant more or less established in our State.

The contraction "Dist." placed between brackets and followed by a capital letter refers to the botanical districts in Tate's "Flora of Extra-tropical South Australia," and implies that the locality mentioned is a new record for the district.

Four new species are described and figured—in the genera *Triodia*, *Trichinium*, *Poranthera*, and *Brachycome*—and one new variety.

CONIFERAE.

*Callitris robusta*, R. Br. "Murray Pine." A large tree with spreading branches; Pinery, Melrose. *C. propinqua*, R. Br. Wudinna. Much the same tree in appearance; the cones comparatively small (20-23 mm. long), but with the thick valves and peduncles of the species. *C. verrucosa*, R. Br. A compact shrub under 2 m. high, with branches mostly erect, growing in mallee scrub at Karoonda; old fruits often less warted. Also Loxton, with very warted cones.

GRAMINEAE.

\**Bromus rubens*, L. Moolooloo (S. A. White); Edillillie; Minnipa. Specimens with the typical compact heads, turning

dark-purple when ripe. *B. arenarius*, Labill. The description in Fl. Aust., vii., 661, should read:—"Spikelets 15-30 mm. long, 5-14-flowered; the lowest glume 3-nerved, the second 5-7-nerved."

\**Agrostis verticillata*, Vill. Creek near the brewery, Melrose. *A. quadriseta*, R. Br. Cummins (Dist. L.).

\**Festuca Myuros*, L. Minnipa; Moolooloo. \**F. bromoides*, Smith. Minnipa; Pungonda.

\**Trisetum pumilum*, Kunth. Moolooloo.

\**Lolium temulentum*, L. "Darnel." Cummins. \**L. rigidum*, Gaud. Gladstone.

\**Avena orientalis*, Schreb. The species of cultivated Oat, which seems to be usually sown in South Australia, is growing wild on the sandy soil of Thevenard Peninsula. \**A. barbata*, Brot., the slender Wild Oat, seems to avoid cultivated land and is found in such places as the Adelaide Park Lands, roadsides, creeks, gullies, railway reserves, and generally in waste places, at least as far north as Melrose, whereas \**A. fatua*, L., the common Wild Oat, is almost always found in cultivated soil.

\**Koeleria phleoides*, Pers. With typical tuberculate flowering glumes; Tooligie; Melrose.

\**Lamarckia aurea*, Moench. A Mediterranean grass common at Renmark and at Woolshed Flat, near Quorn (Miss J. Mills). Recorded by Mueller in 1864 as growing at Swan Hill, on the Murray, but not previously noted for South Australia.

***Triodia lanata*, sp. nova** (tab. v.). *Gramen caespitosum, caulibus geniculato-ascendentibus 30-50 cm. longis, foliorum laminis rigidis subulato-pungentibus patentibus intus basin versus lanatis 5-12 cm. longis, vaginis extus lanatis demum glabrescentibus, ligulâ e pilis longis constante, paniculâ sublaixâ, spiculis 5-7-floris, glumis omnibus sericeo-villosis, vacuis 10 mm. longis 3-nerviis acutis, glumâ floriferâ 7-8 mm. longâ truncatâ subtiliter 9-nerviâ, nervis ternatim ordinatis mediano dentes laterales subaequante.* In the scrub at Minnipa. Chiefly distinguished from *T. irritans* and *T. aristata* by the short bent stem, the shorter and woolly leaves, and the silky outer glumes. A "Porcupine Grass."

*Poa nodosa*, Nees. Thevenard Peninsula. Locally called "Shaking grass," from its likeness to \**Briza minor*, L. I found the grain adhering to the palea in all the flowers examined, so that this species should be placed in the same section as *P. Billardieri* and *P. homomalla*.

*Stipa elegantissima*, Labill. Melrose (Dist. N).

*Anthistiria imberbis*, Retz. Observ. bot., v., 22 (1789). "Common Kangaroo Grass." All the leading authorities are

agreed that the name of *A. ciliata*, L.f., adopted by Bentham in the "Flora Australiensis" and by Mueller in his 1st and 2nd Census, must be abandoned. *A. ciliata* is an annual grass, native in India and introduced in South Africa, but not found in Australia, while *A. imberbis* is a perennial grass, distributed throughout Australia, India, and parts of Africa. Retzius' name is the oldest for this plant, with the exception of *Themeda triandra*, Forsk. (1775), but the generic name *Themeda* fell into disuse for over one hundred years and all attempts to revive it seem destined to failure, although it was not placed by the Botanical Congress of Vienna on the index of names to be rejected. The synonymy is fully dealt with by J. D. Hooker in Fl. Brit. Ind., vii., 212.

*Aristida Behriana*, F. v. M. Numerous in a paddock of ringed gums two or three miles north of Melrose. Apparently a very localized and comparatively rare grass. The ascending stems only 4-8 cm. long below the inflorescence and the rhizome thick and matted. The description in the "Fl. Aust." and in Tate's "Fl. Extratrop., S.A.," should be altered from "outer glumes nearly equal" to "outer glumes unequal, the lower about half as long as the upper." The description is correctly given by Mueller and Moore. Also at Moolooloo (Dist. S; S. A. White).

#### CYPERACEAE.

*Cyperus Iria*, L. Near Tarcoola (Dist. W; J. W. Mellor). *C. Gunnii*, Hook, f. Myponga; Mount Barker. United by Mueller and Tate with *C. lucidus*, from which it differs by having the spikelets in dense globular heads. *C. pygmaeus*, Rottb. River Murray (Dist. M; H. H. D. Griffith). This species, and not the very similar *Scirpus Michelianus*, L., is supposed to be represented in Australia, but the Murray specimens have at least some of the glumes in each spikelet arranged irregularly round the rhachis, the style is 2-3-fid, and the glumes are 3-nerved, the two lateral nerves very faint. These three characters point to *S. Michelianus* rather than to *C. pygmaeus*.

*Scirpus setaceus*, L. Melrose (Dist. N). Nuts of the typical form, subglobular, not exceeding  $\frac{3}{4}$  mm. in length, of a dull-white colour, with about 16 clathrate longitudinal ribs. In all the flowers examined only two stamens were found. *S. cernuus*, Vahl, ann. 1806 (*S. riparius*, Poir., ann. 1820), with still weaker stems and shorter involucre bract, from National Park, Belair, and Nuriootpa; the nut about the same size, shining, finely punctulate; both species growing in moist spots. *S. antarcticus*, L., ann. 1771 (*S. cartilagineus*, Poir., ann. 1820). Myponga; scrub between Murray Bridge

and Callington; Karoonda; Melrose; Robe. The nut broader and 1 mm. long, without any point, either brownish and smooth or dark-brown and punctulate-striate. Growing in dryer ground, with less slender stems, longer and more spreading involucre bract, and stiffer glumes.

#### JUNCACEAE.

*Xerotes leucocephala*, R. Br. Musgrave Ranges (Dist. C; S. A. White); Tintinara (Dist. T). *X. effusa*, Lindl. Gladstone (Dist. N).

*Xanthorrhoea quadrangulata*, F. v. M. Telowie Gorge (Dist. N); Moolooloo (Dist. S; S. A. White).

\**Juncus capitatus*, Weig. Barossa Range; Bordertown (Miss Turner); Kangaroo Island.

#### LILIACEAE.

*Dianella revoluta*, R. Br. Moolooloo (Dist. S; S. A. White).

*Arthropodium minus*, R. Br. Bordertown (Dist. T).

*Thysanotus Patersonii*, R. Br. Gawler Ranges (Dist. W; S. A. White).

#### CASUARINACEAE.

*Casuarina stricta*, Ait. Some specimens of this Sheoak were found above Campbell Creek, at a fair elevation on Mount Remarkable, but most of them appeared to be dying, possibly as a result of the drought of 1914.

#### PROTEACEAE.

*Grevillea Huegelii*, Meissn. Moolooloo (Dist. S; S. A. White).

*Hakea leucoptera*, R. Br. Minnipa. Varies from the type in the perianth (especially the limb) and the pedicel pubescent with short appressed hairs. This appears to be *H. Kippistiana*, Meissn., a species established on Western Australian specimens and united by Mueller with *H. leucoptera*. The type is found in this State from Renmark to Spencer Gulf, and it would be well to distinguish the form with pubescent flowers, which I have also received from Woolshed Flat, near Quorn (Miss J. Mills), as var. *Kippistiana*. At Minnipa it is a shrub about 3 m. high, flowering and fruiting in November; the flowers, which grow in great profusion, are pure white when fresh. Leaves of both type and variety sometimes attain 9½ cm. in length. *H. flexilis*, F. v. M. Scrub at East Wellington.

## CHENOPODIACEAE.

*Enchylaena villosa*, F. v. M. Warramboe (Dist. L).

*Bassia Birchii*, F. v. M. Minnipa (Dist. L). A small undershrub about 20 cm. high; branches erect or spreading; the fruits in the Minnipa specimens have six rather unequal spreading spines, two of them connate towards the base and with a ridge on the perianth between them. *B. uniflora*, F. v. M. Murat Bay and north thereof. Stems procumbent, tomentum hoary, fruit oblique at base with a very short spine at one side of the summit and a hard tubercle at the other. Agrees exactly with specimens gathered at Port Vincent (Dist. Y). Of the form with fulvous tomentum I have a specimen from Port Lincoln (Dist. L; H. H. D. Griffith). *B. tricornis*, F. v. M. Renmark. Bentham gives the number of style-branches as three; in all the flowers examined I found only two.

*Kochia decaptera*, F. v. M. A few miles north of Murat Bay. An erect shrub about 1 m. high; stem and branches densely white-tomentose, as also the raised summit of the fruit; leaves linear, thick, green, 5-10 mm. long. Specimens from Dublin (Dist. A; H. H. D. Griffith) have the horizontal wing pink; linear-clavate glaucous leaves and tomentose stem and branches. This probably represents Tate's *K. pentatropis*, which he afterwards reduced to a form of *K. decaptera*. Specimens from Arkaringa (Dist. C; Miss Staer) have the stem and branches glabrous; leaves cylindrical, 10-13 mm. long. In drying, all the leaves turn black.

*Threlkeldia diffusa*, R. Br. Althorpe Island (Dist. Y; S. A. White). *Th. inchoata*. This is the correct name of *Th. obliqua* (these Transactions, xxxix., p. 94), as it appears imperative, under article 48 of the Vienna rules, to retain the original specific name, even if somewhat inappropriate, when a species is transferred to another genus.

*Atriplex paludosa*, R. Br., var. *appendiculata*, Benth. Both the type and the variety are found on Thevenard Peninsula. Flowers dioecious in my specimens and the small bladderly appendage of the variety occurs near the base of each valve (not of one only, as stated by Bentham), although frequently one falls off before maturity. Some specimens of *A. vesicaria*, Hew., brought by Captain White from the Musgrave Ranges, show the same caducity of the appendage, and unquestionably there is a close relation between the two species. *A. halimoides*, Lindl. Goat Island (Dist. Y; S. A. White); Telowie (Dist. N). *A. campanulata*, Benth. Berri; Mann Flat; Carrieton; Gladstone; Moolooloo. This species was united by Mueller with *A. angulata*, Benth., but in the

specimens from the above-named places, and from Broken Hill, I have never seen any with the exappendiculate perianth of *A. angulata*. *A. Muelleri*, Benth. "Annual Saltbush." North Park Lands of Adelaide; Woodville; Port Adelaide; Roseworthy (Dist. A); Gladstone (Dist. N).

#### AMARANTACEAE.

**Trichinium seminudum**, *sp. nova* (tab. vi.). *Herba perennis circiter 30 cm. alta, caulibus erectis vel ascendentibus ramosis pilosiusculis, foliis glabrescentibus, radicalibus lanceolatis in petiolum alatum angustatis cum petiolo 7-14 cm. longis, caulinis brevioribus latioribus vix petiolatis, spicis primum hemisphaericis demum ovoideis vel oblongis 4-5 cm. longis 3 cm. latis, bracteis bracteolisque ovato-lanceolatis acuminatis parce pilosis 8-9 mm. longis, illis brunneis his fere albis, perianthio 12-15 mm. longo prope basin constricto, segmentis apice albo-scariosis medio viridibus et villosis basin versus rigidis et fere nudis, duobus exterioribus truncato-emarginatis margine inferiore ciliolatis, interioribus acutis infra longe inflexo-ciliatis, tubo pubescente, filamentis inferne dilatatis tribus anantheris, stylo brevi glabro, ovario supra sparse piloso stipitato.* Minnipa. Should probably be placed in Series *Straminea* beside *T. alopecuroides*, Lindl., which it somewhat resembles in habit, but the dividing line between *Straminea* and *Rhodostachya* is not so well marked as would appear from the text-books. Both *T. macrocephalum* (placed in *Straminea*) and *T. exaltatum* (placed in *Rhodostachya*) have, for instance, the inner perianth-segments "glabrous inside," strictly speaking, the difference being that the former has only a few of the long marginal hairs inflexed, while in *exaltatum* they form an intricate woolly mass which occupies the lower part of the convex inner surface of the segment. None of the hairs, however, rise from the inner surface itself, but only from the margins. The new species differs from all others in the glabrous condition of the outside of the lower part of the perianth.

*T. alopecuroides*, F. v. M., var. *nova rubriflorum*. Variat perianthio rubro, spicâ paulo angustiore (20-25 mm. latâ), cupulâ staminali pilis brevissimis ciliatâ. Near Oodnadatta (Miss Staer, November, 1914). A very handsome plant on account of its long red spikes.

*Alternanthera nana*, R. Br. Oodnadatta (Dist. C; Miss Staer). *A. angustifolia*, R. Br. Oodnadatta (Miss Staer). Not previously recorded for South Australia, the nearest locality quoted being Sturt Creek, in North-western Australia.

## PHYTOLACCACEAE.

*Didymotheca thesioides*, Hook. f. Karoonda (Dist. M).  
*Codonocarpus cotinifolius*, F. v. M. North of Murat Bay (Border of Dist. L and W). Mr. B. P. Bowering, the local schoolmaster, says there are only a few of these trees in the locality.

## AIZOACEAE.

\**Mesembryanthemum crystallinum*, L. "Ice Plant." Spreading on the sandy soil near Murat Bay.

\**Galenia secunda*, Sond. Received by the Agricultural Department from Port Germein, where it is called "Californian lucerne," because the seed is believed to have come in the ballast of a ship from California. A South African weed, recorded in Victoria in 1902, but not found hitherto in South Australia.

## CARYOPHYLLACEAE.

\**Silene nocturna*, L. Renmark.

\**Spergula arvensis*, L. "Corn Spurry." Karoonda.

\**Herniaria hirsuta*, L. Mannum. This Mediterranean plant has already been noted for Woolshed Flat and Wallaroo, but has not hitherto been collected on the Murray.

## PAPAVERACEAE.

\**Papaver Argemone*, L. Melrose. Only one specimen of this European poppy (not hitherto recorded for South Australia) was found.

## CRUCIFERAE.

*Menkea villosula* (F. v. M. et Tate), J. M. Black. This alteration of the specific name of *M. hispidula* (these Trans., xxxix., 830) has become necessary under Art. 48 of the rules of nomenclature adopted at the Vienna Congress, because Professor Ewart finds, after comparison with Helms' specimens in the National Herbarium of Victoria, that *M. hispidula* is identical with *Capsella villosula*, F. v. M. et Tate. His examination of the Melbourne specimens confirms the necessity of transferring the species to *Menkea*.

*Stenopetalum sphaerocarpum*, F. v. M. Minnipa (border of Dist. L and W). Slender annual in fruit (November); growing in the shelter of Porcupine Grass (*Triodia lanata*).

\**Sisymbrium orientale*, L. "Oriental Rocket" or "Wild Mustard." Grows with extreme luxuriance in the Trans-Murray scrub near Karoonda.

*Lepidium fasciculatum*, Thell. Renmark; Gladstone. Differs from *L. ruderale*, L., in the short dense fruiting raceme, the pod cuneate towards the base, and the four minute white petals about half the length of the sepals. L.

*foliosum*, Desv. Little Althorpe Island (Dist. Y; S. A. White). Valves of pod wingless and fruiting pedicels sometimes elongated.

\**Carrichtera annua* (L.), Prantl. Sent to Department of Agriculture from Port Pirie, and appears to have established itself near that town. Spain, Eastern Mediterranean region, and Mesopotamia.

#### CRASSULACEAE.

*Tillaea acuminata*, F. M. Reader. This species is widely distributed in South Australia, and is distinguished from *T. Sieberiana*, Schult., ann. 1825 (*T. verticillaris*, DC., ann. 1828), by its pentamerous flowers, sessile or subsessile, its broad abruptly acuminate scarious-striate sepals and its long-beaked carpels, which (like the petals) are quite as long as the sepals. In the flower the beaks protrude conspicuously beyond the sepals. The carpels are tuberculate in the lower half, a peculiarity not found in *T. Sieberiana*. The latter species has almost always a few pedicellate flowers springing from the clusters of sessile ones; its flowers are tetramerous, and the sepals are narrower, acute rather than acuminate, and considerably exceed both the petals and the small obtuse short-beaked carpels. (See figures in pl. vii.) Both these species are common. I have specimens of *T. Sieberiana* from sandhills at the Grange (near Adelaide), Clarendon, scrub between Murray Bridge and Callington, Gladstone, Beetaloo, Melrose, Loxton, Karoonda, Robe, and Kangaroo Island; and of *T. acuminata* from Black Hill (near Adelaide), Bugle Ranges, Halbury, Melrose, Woolshed Flat (near Quorn), Berri, Blanchetown, Renmark, Karoonda, Taplan, Port Lincoln, and Minnipa. *T. recurva*, Hook. f. I have only found this as a rare plant in the Onkaparinga, the North Para at Nuriootpa, and the Glenelg River. *T. purpurata*, Hook. f., also appears to be very rare. Var. *pedicellosa*, F. v. M., of *T. macrantha*, Hook. f., varies from the type by the very long pedicels of some of the flowers, erect growth, and fewer stems. The typical form has the stems often prostrate for a short distance and rooting at the nodes. Ewart follows Mueller's later opinion in raising var. *pedicellosa* to the rank of a species, but some specimens from Brighton, Strathalbyn, Willunga, and Clarendon appear intermediate, and we have not in this case any difference in the flowers to fall back upon in case of doubt. Hooker, in his description of *T. macrantha* (Fl. Tasm., i., 145), says: "Squamis hypogynis nullis," and Bentham is silent on this point. There is, however, a crimson scale at the base of each carpel, although in the dried state the colour is usually lost and the scale is difficult to find.

The scale occurs in the var. *pedicellosa* (which I have from Burnside, Port Lincoln, Robe, and Kangaroo Island), as well as in the type.

#### PITTOSPORACEAE.

*Billardiera cymosa*, F. v. M. Karoonda; Lameroo (Dist. M). Var. *sericophora*, Benth. Strathalbyn; Port Lincoln.

*Pittosporum phillyraeoides*, DC. In the dry country north of Murat this is only a shrub, not above 2 m. high, leaves small ( $2\frac{1}{2}$ -5 cm. long), fruit unripe, but much smaller than the unripe fruit gathered about the same date on typical trees at Minnipa. This is doubtless the same form as was found by Captain White in the Everard Range, with hoary pedicels and small leaves.

#### LEGUMINOSAE.

*Acacia Oswaldii*, F. v. M. Minnipa and Chillundie, with lanceolate phyllodia; also at Murat Bay (with oblong-lanceolate phyllodia), where it is known as "Prickly Myall." At Iron Knob it has linear-lanceolate phyllodia, very pungent-pointed, and is known as "Dead Finish Myall." Some specimens from the Murray have the pungent point transferred to one corner of the oblique summit of the curved phyllodium, which thus presents a curious cimitar-like appearance. *A. continua*, Benth. Moolooloo (Dist. S). *A. aneura*, F. v. M. "Mulga." Iron Knob (Wm. C. Newbold). Phyllodia narrow, 4-9 cm. long. This species appears to flower from July to November. *A. Burkittii*, F. v. M. Iron Knob (Wm. C. Newbold). Flowers July-September; pods (hitherto unknown) become ripe in November. This species, the type of which was collected near Lake Gilles, also occurs near Broken Hill. Mr. J. H. Maiden, at whose instance the pods were obtained, proposes to describe it fully and to illustrate it in his "Forest Flora of New South Wales." *A. colletioides*, A. Cunn. Dublin scrub (Dist. A; H. H. D. Griffith). *A. rigens*, A. Cunn. Gawler Ranges (Dist. W; S. A. White). *A. rupicola*, F. v. M. Morialta Gully; Beetaloo. Specimens from these two places have the phyllodia 15-25 mm. long; peduncles only 5-6 mm. long. From Port Lincoln we have typical specimens, with peduncles usually longer than the phyllodia. *A. sentis*, F. v. M. Marino (Dist. A). A few shrubs, about 2 m. high, on a hillside near the Cement Works, also one shrub on the Henley Beach road. Probably the most southerly *habitat* of a species which extends north to Oodnadatta and Central Australia. Also Gladstone (Dist. N); a few specimens remaining on the roadsides, and flowering vigorously in October, 1914, in spite of the terrible drought of that year. In Baroota it is a neat,

ornamental shrub, branching at some distance from the ground, and growing in clearings among the denser scrub; in the Baroota Creek it becomes a small tree. Also north-west of Port Augusta (Dist. W; S. A. White). *A. acinacea*, Lindl. Mount Thisbe, K.I. (Dist. K; H. H. D. Griffith). *A. dodonaeifolia*, Willd. Marino, near Cement Works (Dist. A). Grown as a hedge at Port Elliot and Victor Harbour, and said to be indigenous in that locality also. *A. iteaphylla*, F. v. M. Telowie Gorge (Dist. N). A shrub with drooping branches. Woolshed Flat (on the border of Dist. N and S; Miss J. Mills). *A. brachystachya*, Benth., ann. 1864 (*A. cibaria*, F. v. M., ann. 1882). Tarcoola (Dist. W; J. W. Mellor); Mount Gunson (Dist. W; Mrs. Beckwith); Oodnadatta (Dist. C; Miss Staer); Everard and Musgrave Ranges (Dist. C; S. A. White). A long-leaved Mulga. *A. frumentacea*, Tate. Ruby Gap, Hale River; between Love Creek and Deep Well (S. A. White). All these places are in Central Australia. Tate quotes Dist. C for this species in his "Flora of South Australia," but all the localities mentioned in the report of the Horn Expedition appear to be in Central Australia (Northern Territory). It is evidently a very handsome desert acacia.

*Daviesia genistifolia*, A. Cunn. Strathalbyn (Dist. A).

*Aotus villosa*, Smith. Victor Harbour (Dist. A); Eyre Peninsula (Dist. L; S. A. White).

*Dillwynia hispida*, Lindl. Scrub near Murray Bridge; East Wellington (Dist. M). *D. uncinata* (Turcz.), J. M. Black (*D. patula*, F. v. M.). Near Murray Bridge (H. H. D. Griffith); Karoonda (Dist. M). The original dates of publication of these species are:—*Eutaxia uncinata*, Turcz., 1853; *E. sparsifolia*, F. v. M., 1854; *E. patula*, F. v. M., 1861.

*Pultenaea densifolia*, F. v. M. Murray Bridge (Dist. M; H. H. D. Griffith). *P. largiflorens*, F. v. M. Hills near Gladstone; Telowie Gorge (Dist. N). In specimens from Black Hill, near Adelaide, most of the leaves are arranged in threes. *P. tenuifolia*, R. Br. Strathalbyn (Dist. A); Port Lincoln (Dist. L). Var. *glabra*, Benth. Warunda (Dist. L).

*Templetonia retusa*, R. Br. Wedge Island (Gambier Isles; S. A. White). *T. egena*, Benth. Between Booleroo and Tarcowie (Dist. N). *T. aculeata*, Benth. Between Gladstone and Bundaleer (Dist. N).

*Swainsona procumbens*, F. v. M. "Broughton Pea." This plant is still to be found along the Gladstone and Laura railway, and was no doubt at one time common on the plains. The handsome flowers are at first purple, changing to blue,

and the standard is bent backwards almost at right angles to the claw, at the summit of which are two flat, white, rounded confluent callosities. This species should therefore, at least as regards South Australian specimens, be removed to Bentham's section B in the key to *Swainsona*. *S. Burkei*, F. v. M. Oodnadatta (Dist. C; Miss Staer).

*Psoralea eriantha*, Benth. Oodnadatta (Dist. C; Miss Staer).

*Cassia artemisioides*, Gaud. Gladstone; Telowie Gorge (Dist. N); Arkaringa (Dist. C; Miss Staer). *C. Sturtii*, R. Br. Marino (Dist. A); Telowie (Dist. N).

\**Medicago denticulata*, Willd. Melrose; Gladstone; Mannum. \**M. reticulata*, Benth. Gladstone. \**M. minima*, L. Mannum; Gladstone; Napperby. \**M. truncatula*, Gaertn. Mannum.

\**Trifolium glomeratum*, L. Melrose.

#### ZYGOPHYLLACEAE.

*Zygophyllum fruticulosum*, DC. Minnipa; Yanninee; north of Murat Bay. Cells of fruit usually 1-seeded, but sometimes with two seeds and often barren. *Z. apiculatum*, F. v. M. Dublin (Dist. A). *Z. ovatum*, Ewart et White. Loxton; Alawoona; Minnipa; Poochera. First record for South Australia; grows also in Western Australia and Victoria (Mildura). The small flowers are deflexed from the time they open; capsule opening loculicidally, the endocarp of each 1-2-seeded cell separating in two valves.

*Nitraria Schoeberi*, L. Growing in natural hedges just behind the sandy shores of Murat Bay.

#### RUTACEAE.

*Boronia inornata*, Turcz., ann. 1852 (*B. clavellifolia*, F. v. M., ann. 1854). Between Murray Bridge and Callington (Dist. M); near Port Broughton (Dist. N); Yeelanna (Dist. L; T. G. B. Osborn). *B. coerulescens*, F. v. M. Near Murray Bridge; Karoonda (Dist. M).

#### EUPHORBIACEAE.

***Poranthera triandra*, sp. nova (tab. vii.).** *Parva planta annua 2-4 cm. alta, caule rigido erecto, ramis divaricatis, foliis obovatis vel oblanceolatis planis 2-7 mm. longis, caulinis oppositis vel alternis petiolatis, floralibus alternis, stipulis lanceolatis integris, pedicellis fructiferis elongatis, floribus minimis albis, calycis segmentis petalis staminibusque 3 (floribus foemineis rarius tetrameris), glandulis florum foemineorum in discum hypogynum scilobatum coalitis, stylis apice emarginatis, seminibus brunneis verrucosis, embryone*

*curvo cylindrico*. Yeelanna (T. G. B. Osborn, November, 1915). Specimens apparently from Ardrossan (J. G. O. Tepper, November, 1879) are in the Tate Herbarium, placed under *P. microphylla*, which the new species resembles considerably in habit. It is removed from all other species by its trimerous flowers, and styles merely notched at the summit, but it has the anthers and other characters of *Poranthera*, and it seems better to place it there and widen the generic definition rather than invent a new genus for its reception. In several Euphorbiaceous genera there is considerable latitude allowed in the number of floral parts.

#### SAPINDACEAE.

*Dodonaea bursariifolia*, Behr et F. v. M. Yeelanna (Dist. L). *D. stenozyga*, F. v. M. Minnipa (Dist. L); Loxton (Dist. M).

#### RHAMNACEAE.

*Trymalium Wayii*, F. v. M. et Tate. The localities for this beautiful little shrub, which is peculiar to our State, are:—Gorge of the Onkaparinga, above Noarlunga (where the type was collected by Tate about 1881); south bank of Torrens River, about half-a-mile above the weir; Rocky River, near Narridy, and Barunga Range (S. Dixon); near Gladstone; Kingscote, Kangaroo Island (H. H. D. Griffith). It appears always to grow near water.

*Stenanthemum leucophractum*, Reiss. Gladstone (Dist. N).

*Spyridium subochreatum*, Reiss. Typical specimens of this shrub grow at Karoonda, with stipules half as long as the leaves. *S. bifidum*, F. v. M. Between Gladstone and Beetaloo (Dist. N).

*Cryptandra amara*, Smith. Bundaleer Hills (Dist. N).

#### MALVACEAE.

*Hibiscus Drummondii*, Turcz. Minnipa. A slender shrub about 1 m. high, growing in the scrub on the western side of the railway; petals lilac with a large purple blotch inside near the base. Hitherto recorded only from Western Australia. Professor Ewart kindly confirmed the determination by comparison with specimens in the National Herbarium of Victoria.

\**Malva parviflora*, L. Berri.

#### DILLENACEAE.

*Hibbertia stricta*, R. Br. Coomunga. A small form where the sepals and leaves are villous with long, loose hairs; leaves crowded, becoming almost glabrous with age; ovules

only three in each ovary. Near var. *hirtiflora*, Benth., except for the number of ovules. Var. *glabriuscula*, Benth., occurs at Wanilla, the specimens being similar to others from Fulham, Blackwood, and Pinnaroo. *H. fasciculata*, R. Br. Karoonda (Dist. M).

#### FRANKENIACEAE.

*Frankenia tetrapetala*, Labill. (?) This is in many ways a doubtful species (see Fl. Aust., i., 152, and Diels, Fragm. Phyt. Aust. occid. 390), but a small ashy-grey plant from Thevenard Peninsula is near it and is almost certainly the same as the specimens mentioned by Diels from Israelite Bay, Eucla, and Esperance Bay. Branches mostly ascending; flowers white, tetramerous or pentamerous, usually terminating short branchlets, rarely axillary or in the forks, style-branches and placentas two, with only one ovule to each placenta; leaves 2-3 mm. long, sessile and united by a conspicuous ciliolate sheath. All the flowers on some specimens are tetramerous and on others all are pentamerous. Until botanists who have the opportunity examine carefully Labillardière's types and compare them with specimens from the Great Bight or elsewhere it will be impossible to come to any satisfactory decision on this question.

#### THYMELAEACEAE.

*Pimelea trichostachya*, Lindl. Minnipa (border of Dists. L and W).

#### MYRTACEAE.

*Eucalyptus cladocalyx*, F. v. M., ann. 1852 (*E. corynocalyx*, F. v. M., ann. 1860). "Sugar Gum." Wanilla and thereabouts, but on Eyre Peninsula it is a lower, more straggling tree than in the North and is often reminiscent of Peppermint (*E. odorata*) on the Adelaide foothills.

*E. calycogona*, Turcz. Scrub between Murray Bridge and Callington; Warunda, E.P. Fruits urn-shaped, about 10 mm. long, strongly 4-ribbed; leaves often black-dotted and glossy. Var. *gracilis*, Maiden (*E. gracilis*, F. v. M.). Minnipa. A fair-sized mallee, with smooth, white bark on the upper stem and branches, and rough, dark, peeling bark below; fruits small, glossy, sometimes slightly angled; leaves usually narrow and black-dotted. Baroota—the same, but a taller tree, called "Red" or "White Mallee" according to the colour of the bark. Port Vincent, Ardrossan, Arno Bay, Milang Road, between Murray Bridge and Callington—usually a dwarf mallee in these places.

*E. diversifolia*, Bonpl., ann. 1813 (*E. santalifolia*, F. v. M., ann. 1855, partly). East Wellington; Coorong (S. A.

White); Port Lincoln; Goat Island, Y.P.; Kingscote and American Beach, K.I. The fruits are often mealy-white when fresh.

*E. bicolor*, A. Cunn., ann. 1835 (*E. largiflorens*, F. v. M., ann. 1855). Mannum; Berri; Settlers' Bend; Renmark.

*E. Behriana*, F. v. M. Nuriootpa (Dist. A).

*E. fasciculosa*, F. v. M. Black Hill, near Adelaide; Brownhill Creek; Torrens Gorge; Bridgewater; Willunga; National Park, Belair; Greenhill Road. A small straggling tree, often with several bent stems (like a mallee); outer bark rough, brown, deciduous; inner bark smooth, white. Formerly included in *E. paniculata*, Smith, which is an erect tree of New South Wales and Queensland. *E. fasciculosa* is confined to South Australia.

*E. hemiphloia*, F. v. M. "Box Gum." Numerous about Melrose and on the foothills of Mount Remarkable, where its distribution extends down to the creek, so that it is often found growing within a few yards of the Red Gum (*E. rostrata*). In the field *E. hemiphloia* is distinguished by its lofty stature, its usually straight and single stem, and its light-brown bark, streaked longitudinally, but in the herbarium it is often hard to separate from large-fruited forms of Peppermint Gum (*E. odorata*).

*E. leucoxydon*, F. v. M., var. *pauperita*, J. E. Brown. "Scrubby Blue Gum." Hamilton; Kapunda; Nuriootpa; near Gladstone and Beetaloo.

*E. incrassata*, Labill., var. *dumosa*, Maiden (*E. dumosa*, A. Cunn.) Probably the commonest mallee about Murat Bay and north thereof; native name "gheelya." Grows 3 to 8 m. high; bark smooth and white except at base of tree, where it is dark and rough; buds of the "egg-in-egg-cup" shape; fruits small. Very near some forms of *E. oleosa*, but the anthers oblong with parallel cells. Also at Kingscote, K.I. Var. *conglobata*, Maiden. Port Lincoln. A small tree with very thick, stiff, broad leaves. Var. *angulosa*, F. v. M. Port Vincent; Edilillie; Arno Bay, with very large fruits, 17 mm. long; also in scrub between Murray Bridge and Monarto: Square Waterhole; Renmark, Karoonda—the fruits in all these latter places rather smaller, 12-13 mm. long. In the Cis-Murray scrub this is a "dwarf mallee," 3 to 5 m. high, distinguished from other neighbouring species of similar height and appearance by the smooth bark of the stem, which peels off and hangs down in long strips on the ground. In the Trans-Murray scrub (at Karoonda) it is a small "whip-stick mallee," rarely exceeding 2 m. in height, with the bark peeling at the base of the stem in the same way.

*E. oleosa*, F. v. M., is apparently the tallest mallee at Minnipa, 5 to 8 m. high, the stems and branches white, with rough bark only near the base of the tree. Also at Tooligie, Warrambo, Wudinna, and north of Murat, but not so tall at those places, and often only a small mallee.

*Darwinia Schuermannii*, Benth. Port Lincoln, Coomunga. In all the flowers examined the number of ovules was 8-10, not 2, as stated by Bentham.

*Melaleuca uncinata*, R. Br., is numerous along the railway from Edilillie to Minnipa. The "Broom-bush" of Eyre Peninsula and the Murray country is either *M. uncinata* or *Baeckea Behri*, F. v. M., while in the North "Broom-bush" usually means *Templetonia egena*, Benth. *Pholidia scoparia*, R. Br., is also a small erect broomlike shrub growing in dry country, but at Murat it has for some reason obtained the name of "Candle-bush." *M. squamea*, Labill. Myponga (Dist. A). *M. ericifolia*, Smith. Torrens Gorge (Dist. A). *M. acuminata*, F. v. M. Fairly common in the scrub at Karoonda. All my specimens, from there and elsewhere, have conspicuous translucent oil-glands on the lower surface of the leaves.

*Baeckea crassifolia*, Lindl. Karoonda (Dist. M). Petals light-violet; anthers purple. *B. Behri*, F. v. M. Barossa Range (Dist. A); Sherlock; Lameroo (Dist. M). *B. ericaea*, F. v. M. Kangaroo Island (Dist. K; H. H. D. Griffith).

*Leptospermum laevigatum*, var. *minus*, F. v. M. Karoonda. Also at Mulgundawa and Port Lincoln.

*Calythrix tetragona*, Labill. Moolooloo (Dist. S).

#### UMBELLIFERAE.

*Eryngium rostratum*, Cav. Murray Bridge (Dist. M).

#### PLUMBAGINACEAE.

\**Statice Thouini*, Viv. Received by the Agricultural Department from a farm near Yorketown, Y.P., but has apparently not established itself. Eastern Mediterranean region, North Africa, and Southern Spain.

#### LOGANIACEAE.

*Logania linifolia*, Schlecht. Karoonda (Dist. M).

#### APOCYNACEAE.

*Alyxia burifolia*, R. Br. This handsome shrub is numerous in the scrub at Minnipa, which is nearly forty miles from the sea, as the crow flies, so that it is not always a maritime plant.

## BORAGINACEAE.

*Halgania lavandulacea*, Endl. Waikerie; Karoonda; Lameroo; Pinnaroo (Dist. M). A shrub with very sticky leaves. *H. cyanea*, Lindl., ann. 1839 (*H. strigosa*, Schlecht., ann. 1847). Common at Karoonda and Minnipa.

## SOLANACEAE.

*Solanum hystrix*, R. Br. Beautiful Valley; Murat Bay. Berry to 3 cm. diameter. The type of this very prickly plant was gathered by Robert Brown on February 4, 1802, at Petrel Bay in the Isle of St. Francis. It appears to be confined to the country near the Great Bight. *S. coactiliferum*, J. M. Black. Minnipa; Murat Bay; Renmark. The coastal specimens have broader, thicker, and more densely tomentose leaves; pedicels solitary or twin; flowers all tetramerous, but in the Renmark specimens one of the four corolla-lobes is notched at the summit. Called "koomba" by the natives at Murat Bay. \**S. cinereum*, R. Br. Roadside near Melrose. Hitherto this New South Wales species has only been recorded from the Greenhill Road, near Adelaide.

*Lycium australe*, F. v. M. Bundaleer Hills; Orroroo (Dist. N).

## LABIATAE.

*Westringia Dampieri*, R. Br. I follow Maiden (Trans. Roy. Soc. S.A., xxxii., 267) in merging *W. rigida*, R. Br., in this species, although I have not found any specimens in South Australia with the leaves in whorls of four, but always in threes. Two very different forms grow on Thevenard Peninsula. One is a low intricate shrub, with very short leaves (4-6 mm.) and small flowers; the other form grows close to the sea, and stands about 1 m. high, with erect or spreading branches, the leaves 10-20 mm. long, and the corolla about 14 mm. long. I have very similar specimens from Kangaroo Island, with some of the leaves 30 mm. long.

*Teucrium sessiliflorum*, Benth. Dublin scrub (H. H. D. Griffith; Dist. A).

## SCROPHULARIACEAE.

*Veronica peregrina*, L. Renmark (Dist. M). In moist spot near river.

## MYOPORACEAE.

*Myoporum brevipes*, Benth. Murat Bay; Coorabie (Fowler Bay). Professor Ewart says these specimens are "close to, if not identical with *M. brevipes*." They differ from Bentham's description in the whole plant densely tuberculate, pedicels 1-6 in the axil, corolla slightly hairy inside, ovary 2-4-celled, and the fruit globular (as in *M. parvifolium*,

Benth.) not oblong. A small erect shrub, about 50 cm. high; corolla white, somewhat two-lipped, with pink spots on the lower lip; leaves 6-18 mm. long. Also Murray Bridge (H. H. D. Griffith), with smaller leaves and less tuberculate.

*Pholidia Weldii*, F. v. M. Minnipa; Murat Bay and north thereof; Kingscote, K.I. (Dist. K; H. W. Andrew). The Kangaroo Island and Murat specimens have smaller leaves than those gathered at Minnipa; all are strongly tuberculate on leaves and branches. In the fresh flower there is a deep impression or hollow in the broad, almost reduplicate lowest lobe of the corolla. Near Murat the shrub is slightly above 1 m. high. *Ph. Behriana*, F. v. M. Specimens from Cummins and Yeelanna have the upper leaves conspicuously ciliate and the lower ones are sometimes 25 mm. long. *Ph. crassifolia*, F. v. M. Murray Bridge; Lameroo (Dist. M); Warramboc; Minnipa.

*Eremophila rotundifolia*, F. v. M. Tarcoola (Dist. W; J. W. Mellor). *E. Brownii*, F. v. M. Dublin scrub (Dist. A; H. H. D. Griffith). *E. Duttonii*, F. v. M. Mount Gunson, Dist. W; Mrs. Beckwith); Minnipa.

#### RUBIACEAE.

\**Galium Aparine*, L., var. *minor*, DC. Woolshed Flat, near Quorn (Miss J. Mills); Campbell Creek, Melrose. This clinging plant, called in England "Cleavers," was recorded from Mount Gambier by Benthham in 1866. \**G. murale*, DC. This little alien, which seems to have great facility in distributing its seeds, was found fruiting in the scrub at Minnipa in November.

#### GOODENIACEAE.

*Dampiera stricta*, R. Br. Myponga (Dist. A). *D. lanceolata*, Cunn. Longwood (Dist. A); Minnipa (Dist. L).

*Goodenia glauca*, F. v. M. I have this species from Renmark, Gladstone, Arkaringa, and Broken Hill, and always var. *sericea*, Benth. The indusium, although glabrous on the outer face, is appressed-silky on the inner and the style is hairy. *G. pusilliflora*, F. v. M. Brighton, Dublin (Dist. A); Halbury, Gladstone, Telowie Gorge (Dist. N).

*Scaevola spinescens*, R. Br. Minnipa (Dist. L). *S. aemula*, R. Br. (Dist. N) and *S. humilis*, R. Br., both grow at Gladstone. These two species are certainly rather difficult to distinguish and it might be better, as Benthham suggests, to treat *humilis* as a variety only. *S. aemula* has longer and less prominently toothed leaves, a soft pubescence which may almost wear off through age, and usually longer spikes and corollas. It is a larger plant and has a wide range throughout

the State. *S. humilis* is essentially northern in its habitat. Puzzling forms, almost intermediary, occur on Kangaroo Island, where Tate records the existence of both species.

#### COMPOSITAE.

*Helipterum floribundum*, DC., var. *Sturtianum*, Benth. Dublin scrub (H. H. D. Griffith); Gawler Ranges (S. A. White); Telowie; Pirie; Karoonda; Warrambo. This is the form with straw-coloured outer bracts of the involucre and pappus-bristles united only at base. The spreading snow-white inner bracts of this "everlasting" are a marked feature in many parts of the Murray Scrub and Eyre Peninsula. The type, with all the bracts white and the pappus-bristles dilated and united in their lower halves, is found chiefly in our Far North—Mount Lyndhurst, Oodnadatta, Tarcoola, Mount Gunson, Gawler Ranges, Arkaringa, Everard Range, River Finke. In these Transactions, xxxvi., 23, pl. ii., it was sought (I now think unnecessarily) to distinguish this form as var. *tubulipappum*. The specimens vary in size, and there are small intermediate forms from the Murray and Wallaroo, with all the bracts white but the pappus-bristles united only at base. *H. corymbiflorum*, Schlecht. This beautiful little plant often covers the ground along the banks of the Murray with a carpet of "white everlastings," as it also does in many of our northern districts. At Melrose it grows on the flats among the box-gums.

*Athrixia tenella*, Benth. Specimens from Edilillie have the upper part of the stems more or less clothed with erect or spreading bracts similar to those of the involucre. This character shows an approximation to the Western Australian *A. Croniniana*, F. v. M., but the pappus is normal.

*Cratystylis conocephala*, S. Moore, in Journ. Bot., xliii., 138, ann. 1905 (*Olearia conocephala*, F. v. M.; *Pluchea conocephala*, F. v. M.; *Stera conocephala*, Ewart et Rees). Common near Murat Bay and inland towards Chillundie. The conical heads are very fragile, finally falling from the branchlets and the bracts separating from the receptacle. The flowerheads seem to be constantly semi-dioecious or dioecious, the bisexual (or male?) corollas swollen towards the summit by the fertile, connate anthers, the female corollas cylindrical with the anthers abortive and free. (See pl. vii.) The pistil of the bisexual flowers appeared perfect, but it was too early in the season (November 11) to make certain on this interesting point. A densely-branched, compact shrub about 1 m. high, called locally "Bluebush," and so closely simulating in habit the other Bluebush of our northern and north-eastern country (*Kochia sedifolia*, F. v. M.) that at a short

distance it would be impossible to distinguish them. In view of the unisexual character of many, if not of all the flowers, it is evident that Moore's generic description must be partially altered.

*Gnephosis skirrophora*, Benth. Minnipa; Wudinna; Cape Thevenard.

*Angianthus Whitei*, J. M. Black. Broken Hill, N.S.W. (A. B. Black). As this plant has now been found so close to our eastern border, and as the type comes from Corunna Station, E.P., it probably inhabits some of the intervening country (Tate's District S).

*Podolepis Siemssenia*, F. v. M. Minnipa. *P. rugata*, Labill. Karoonda; Loxton (Dist. M). *P. acuminata*, R. Br. Gladstone (Dist. N).

*Helichrysum Tepperi*, F. v. M. Port Lincoln (Dist. L); Minnipa (Dist. L or W); Alawoona (Dist. M). *H. retusum*, Sond. et F. v. M. (including *H. decurrens*, F. v. M.). Karoonda; Lameroo; Murray Bridge; Gladstone; Strathalbyn; Nuriootpa; Port Lincoln; Yeelanna; Hog Bay, K.I. All the efforts I have made to distinguish satisfactorily these two species have failed, and I think they should be united. Mueller first sought to distinguish them by stating (Trans. Phil. Inst. Vict., iii., 59) that *H. decurrens* "differs from *H. retusum* in shorter more wrinkled leaves, with broader decurrent lines, in neither shining nor glabrous nor heterogamous flowerheads, and in more copious pappus-bristles." Later, in *Fragm.* viii., 46, he adopted another formula:—"Ab *H. retuso* distinguendum est capitulis paulo longioribus apice magis apertis, squamis involucri minus flavescentibus nunquam laxis." As regards the supposed presence of female flowers in *H. retusum* and their absence in *H. decurrens*, out of ten specimens examined only two (from Murray Bridge and Kangaroo Island) had no female flowers, and these two were not distinguishable by any other characteristic from specimens which had both bisexual and female flowers in each head. The leaves, which vary from 5 to 15 mm. in length and are usually spreading, have a narrow groove along the upper surface and a small point which is more or less recurved, so that the leaf appears either truncate or notched at the summit. The upper-surface varies from rough to almost smooth, and the margins are always more or less revolute, sometimes almost hiding the tomentose under-surface. The decurrent lines are often as long as the leaf itself and are always conspicuous, at least below the young leaves, for the prominence or otherwise of the lines is almost entirely a question of the age of the leaf, just as the looseness or otherwise of the involucre bracts is a matter of floral

development. The head contains 10-13 flowers, of which 1-3 are usually female, 4-toothed, and without pappus; rarely all are bisexual. The involucrel bracts vary from snow-white (like those of *Cassinia laevis*) to straw-colour. *H. adnatum*, with which *Ozothamnus retusus* was united by Bentham in Fl. Aust., iii., 629 (he has not noticed *O. decurrens* in that work), appears to be a distinct species with short, rather acute, erect leaves, adnate to the branch usually for the whole of their length (see J. H. Maiden, Illust. N.S.W. Plants, 23, pl. 8), but I have not seen any specimens from South Australia. As regards priority of specific name, *H. retusum* and *H. decurrens* are both of the same date—F. v. M., Fragm., viii., 46 (1873)—but the original descriptions are:—*Ozothamnus retusus*, Sond et Muell. in Linnaea, xxv., 510 (1852); *O. decurrens*, F. Muell., in Trans. Phil. Inst. Vict., iii., 59 (1859). *H. Jessenii*, F. v. M. To the stations mentioned by Mueller in Vict. Nat., vii., 48, for this species—River Murray, Gawler, Lake Alexandrina, Burra, Wirrabara, Port Augusta, Port Lincoln—may now be added: Halbury, Gladstone, Napperby, Telowie, Melrose, Whyte-Yarcowie, Meribah, Lake Gairdner, Gawler Ranges. For the closely-allied species, *H. hyalospermum*, F. v. M.:—Burnside, Kapunda, Melrose, Tarcowie, Gawler Ranges.

*Calotis scapigera*, Hook. Port Adelaide River (Dist. A; H. H. D. Griffith).

*Olearia rudis*, F. v. M. Karoonda. Extreme form of var. *glabriuscula*, Benth. Almost without hairs or roughness, but otherwise like the type.

*Humea squamata*, F. v. M., was common at Karoonda, but only budding in early October.

*Lagenophora Billardieri*, Cass. Campbell Creek, Melrose (Dist. N).

*Craspedia globosa*, Benth. This handsome and apparently rare plant was found in bud on the banks of Campbell Creek, Melrose, in the middle of October.

**Brachycome tesquorum**, *sp. nova* (tab. viii.). *Herba perennis tota glanduloso-hispidula basi lignea, caulibus erectis ramosis, foliis rigidulis oblanceolatis 2-3 cm. longis acute paucidentatis trinerviis, nervis infra prominentibus, pedunculis elongatis subcorymbosis, involucri bracteis oblongis margine late scariosis laceratis, ligulis florum marginalium conspicuis lilacinis, acheniis obovatis compressis margine incrassatis exalatis pilis uncinatis conspersis utrinque bicos-tatis, pappo nullo.* Oodnadatta (Miss Staer); Glen Ferdinand, Musgrave Ranges (S. A. White). Belongs to Section

*Paquerina*, and appears nearest to *B. angustifolia*, A. Cunn., but has three-nerved leaves with a few long sharp teeth or lobes and ribbed achenes.

*Senecio magnificus*, F. v. M. Pinnaroo; Karoonda (Dist. M); Oodnadatta; Everard Range (Dist. C). *S. brachyglossus*, F. v. M. At Renmark is a form with involucre 7-8 mm. long, of about 12 bracts; outer female flowers about 10, with a very short ligule not exceeding the style-branches; inner bisexual flowers 20-25. The heads correspond fairly with var. *major*, Benth., but the Renmark specimens are slender, few-flowered, with leaves nearly entire, and only about 12 cm. high.

\**Centaurea melitensis*, L. "Maltese Cockspur." Yaninee.

\**Hedypnois cretica*, Willd., is found at Gladstone in the form with glabrous involucre bracts and long diffuse stems. Moolooloo, ordinary form (S. A. White).

\**Cryptostemma calendulaceum*, R. Br. "Cape Dandelion." Forming great yellow patches on the slopes of Mount Remarkable in October.

\**Carduus tenuiflorus*, Curt. To the localities already given must be added Melrose, Robe, and Kangaroo Island.

\**Lactuca saligna*, L. "Willow Lettuce." Murray Bridge as a new locality.

\**Sonchus maritimus*, L. Henley Beach; Glenelg; Port Noarlunga; Port Elliot; Robe; Port MacDonnell. I don't know whether it is found on the seacoast north of Adelaide. Probably the plant referred to by Bentham in Fl. Aust., iii., 680, as a maritime variety of *S. oleraceus*, L., which it resembles in the achenes. In the Nat. Fl. of S.A. I called it var. *littoralis* of *S. asper*, but was not then aware that it was perennial, with long slender subterranean stolons penetrating the sand and forming new plants. In the South Australian specimens the leaves vary from almost entire, with small auricles, to sinuate-pinnatifid with large rounded auricles, and the achenes have usually 3-5 longitudinal ribs, the middle one most prominent, but with few or no transverse rugosities, which are also obsolescent in some Mediterranean forms. Our plant varies in height from 30 to 60 cm., and is often coarse and stout, the leaves bordered by spiny teeth. As this species is not mentioned by the early navigating botanists of Australia, it is very probably, like *Cakile maritima*, an introduction which has spread rapidly along our coasts. F. M. Bailey records the occurrence of *S. maritimus* in Queensland. \**S. asper*, Hoffm. Grows to a large size in Campbell Creek, Melrose.

\**Chrysanthemum coronarium*, L. As a garden escape at Berri.

\**Xanthium orientale*, L., ann. 1763 (*X. canadense*, Mill, ann. 1768). Sent to the Department of Agriculture from the neighbourhood of Renmark, and apparently numerous. This weed is a congener of the Bathurst Bur (\**X. spinosum*, L.), but has burs twice as large, with stouter and longer spines and two large divergent beaks at the summit of the bur. This is its first record in South Australia and it is a most undesirable introduction. The body of the bur is 14-18 mm. long and with the two beaks it measures 17-25 mm. in length. Originally an American species, but may have reached South Australia from the Mediterranean, as it approaches closely to the descriptions of *X. italicum*, Mor., the name given to a form of *X. orientale* naturalized in Mediterranean countries.

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## DESCRIPTION OF PLATES.

### PLATE V.

*Triodia lanata*, n. sp. 1, flowering glume. 2, palea. 3, pistil, stamens, and lodicules.

### PLATE VI.

*Trichinium seminudum*, n. sp. 1, perianth. 2, inner segment of perianth. 3, bract. 4, bracteole. 5, pistil and stamens.

### PLATE VII.

*Poranthera triandra*, n. sp. 1, male flower. 2, female flower. 3, female flower viewed from above after the fruit has fallen, showing the 3 calyx-segments and the hypogynous disk. 4, female flower and pedicel (fruit fallen). 5, embryo. 6, stamen.

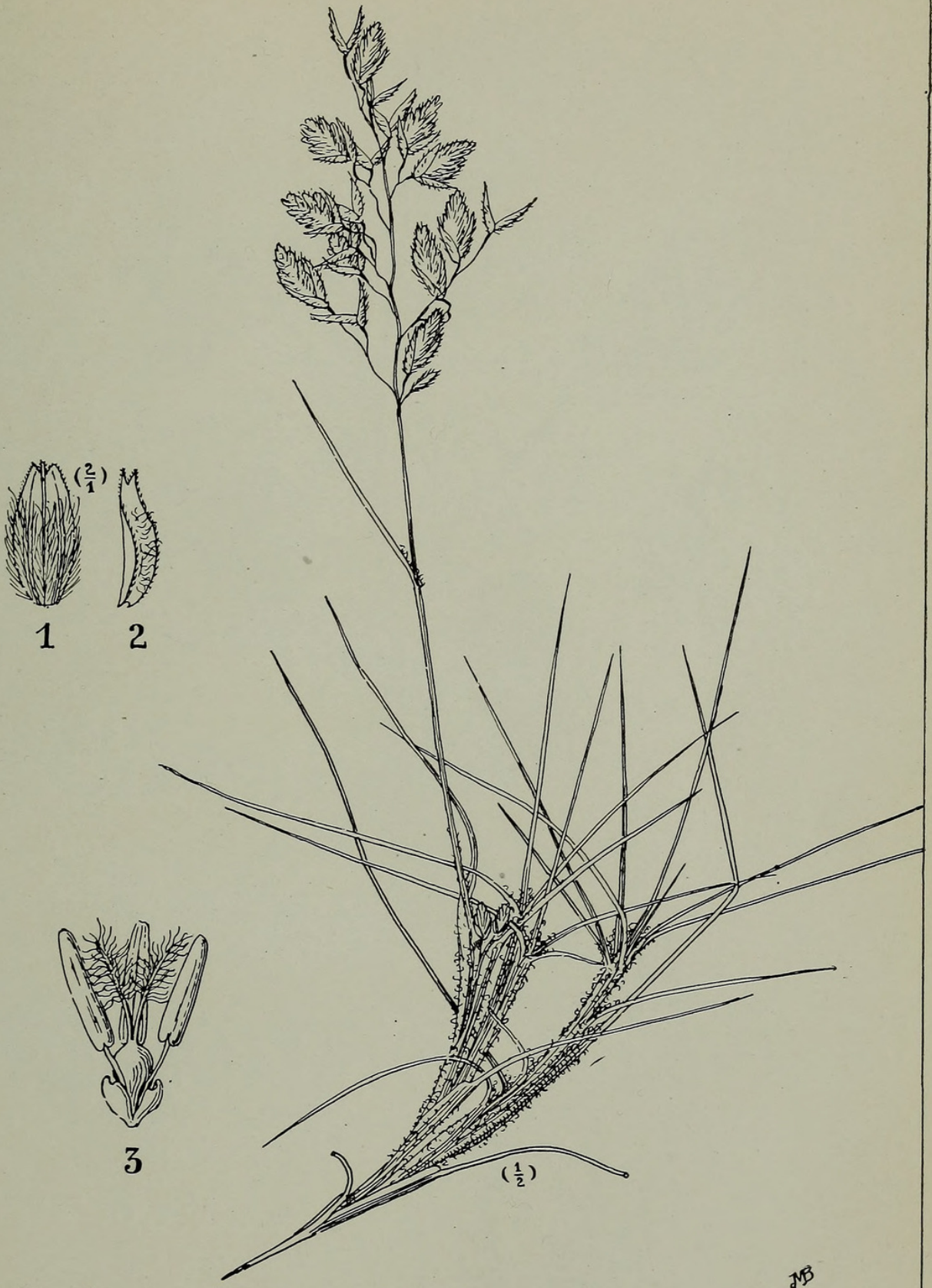
*Cratystylis conocephala*, S. Moore. 1, female flower. 2, bisexual (or male ?) flower. 3, free, barren stamen of female flower. 4, summit of style.

*Tillaea*. 1, flower of *T. Sieberiana*, Schult. 2, carpel of same. 3, carpel of *T. acuminata*, F. M. Reader. 4, flower of same.

### PLATE VIII.

*Brachycome tesquorum*, n. sp. 1, female flower. 2, bisexual flower. 3, outer involucrel bract. 4, inner involucrel bract. 5, achene.

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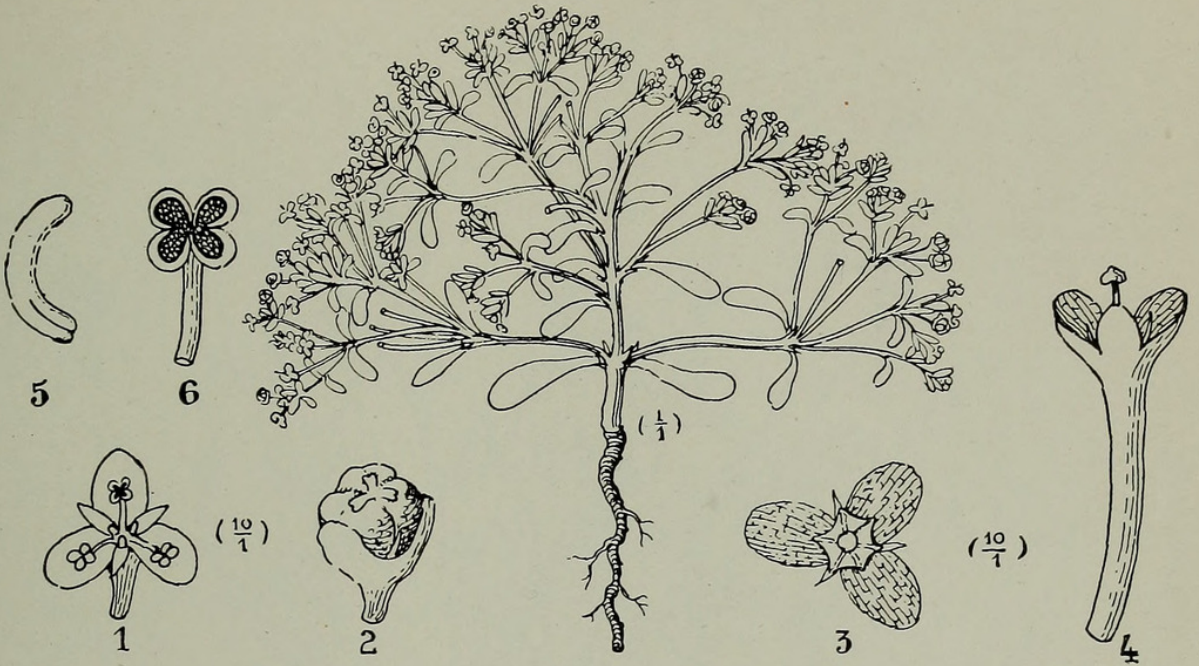


*Triodia lanata* sp. nova

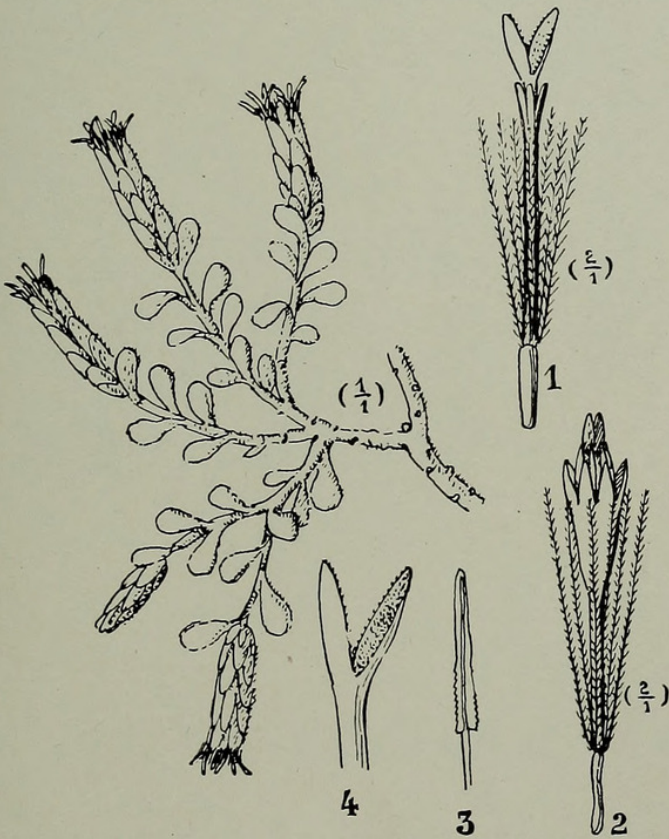


*Trichinium seminudum*

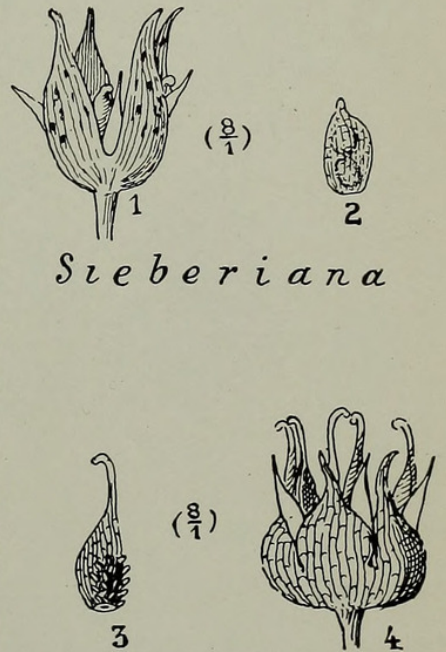
sp nova.



*Poranthera triandra* sp. nova



*Cratystylis conocephala* S. Moore.



*acuminata*

*Tilla*

JB



*Brachycome tesquorum* sp. nov.

MB



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