CHENOPODIACEAE

13. SALICORNIA, Linn.

(Halocnemum, *Bieb.*; Arthrocnemum, *Moq.*)

Flowers hermaphrodite or polygamous. Perianth thin and membranous or at length thickened and fungous, with 2 to 5 teeth or lobes. Stamens 1 or 2. Styles 2 (rarely 3) united in a column or cone at the base. Fruit enclosed in the unchanged or slightly enlarged perianth. Seed ovoid or nearly globular, often compressed, oblique or vertical. Testa crustaceous or thin. Embryo folded or semicircular, either without albumen or with a small quantity, either lateral or within the curve of the embryo.—Succulent herbs with a hard base or shrubs. Branches articulate, leafless, each article usually concave at the upper end and often dilated into a circular border or into 2 opposite protuberances or lobes (rudiments of opposite leaves) and receiving the next article in the concavity, the articles becoming at length united into a continuous woody stem in the shrubby species; the flowering articles shorter, usually more dilated, forming more or less compact terminal spikes. Flowers usually 3 together, rarely 5 or 7, on each side of each article and more or less immersed in its base, without bracts or bracteoles.

The genus, which with Hooker and others I take in the Linnean sense, including the whole tribe of Salicornieæ as defined by Moquin in DC. Prod., has a wide range over the seacoasts and saline marshes of most parts of the globe, more especially in the Old World. Of the seven Australian species, one extends to New Zealand, another is possibly the same as an Asiatic one, the remaining five appear to be endemic. The species, however, require much further investigation from living plants before the value of the differences in the flowers, which are considerable, can be properly appreciated. A large proportion of the dried specimens before me are not in a state to be satisfactorily examined.

Sect. 1. **Halocnemum.**—*Perianths not dilated at the top, usually narrow. Spikes usually short. Flowers in threes, all or the central one hermaphrodite.*

Spikes ovoid or shortly oblong, with few articles, the margins forming opposite thick triangular-conical lobes.
- Stout shrub. Spikes 5 to 6 lines thick . . . . . 1. *S. robusta.*
- Intricately branched shrub. Spikes not 2 lines thick . . . . . 2. *S. arbuscula.*

Spikes oblong-cylindrical, the articles numerous, very short and closely imbricate, the margins dilated into semicircular opposite scarious scales . . . . . 3. *S. cinerea.*

Sect. 2 **Arthrocnemum.**—*Perianths at length dilated into a flat transverse or oblique top. Spikes cylindrical, often elongated.*

Flowers in threes, all or the central one hermaphrodite.
- Spikes continuous, the margins of the articles broad obtuse and not prominent. . . . . 4. *S. leiostachya.*
- Spikes interrupted by the very prominent 2-lobed margins of the articles . . . . . 5. *S. bidens.*

Flowers in threes, unisexual (dioecious?). Articles of the spikes with prominent 2-lobed margins . . . . . 6. *S. tenuis.*

Flowers in fives or sevens, mostly hermaphrodite. Articles of the spikes with slightly prominent annular margins . . . . . 7. *S. australis.*

Besides the above, I am unable to identify the *Halocnemum australasicum*, Moq. Chenop. Enum. 110, and in DC. Prod. xiii. ii. 149, from King George's Sound, *Herb. Mus. Par.*, which I have not seen. It is certainly not *S. indica*, Br. It is described as having herbaceous ascending stems, with the articles of the branches 2-lobed, those of the spikes broad concave and very obtuse (as in *S. leiostachya?*), but the spikes are said to be very large, conico-cylindrical and 6 to 15 lines long, which does not agree with any of our species. The perianth is described as that of the section *Halocnemum*.

Sect. 1. Halocnemum.—Perianths not dilated at the top, usually hyaline and narrow. Spikes usually short.

1. **S. robusta,** *F. Muell. Fragm.* vi. 251, *and Pl. Vict. t.* 83, *ined.* (*F. Mueller*). Shrubby and much stouter than the other species, the articles ½ to ¾ in. long, with two opposite prominent angles ending in opposite thick triangular lobes or rudimentary leaves projecting to nearly 2 lines. Spikes ovoid or nearly globular, ½ in. diameter, with very thick prominent points of the floral scales or lobes of the floral articles. Flowers in threes, partially immersed and shorter than the subtending scales. Perianths adnate to the article above them at the base, with narrow hyaline lobes, the two lateral perianths 2-lobed enclosing each 1 stamen only, the central one (always?) 3-lobed, enclosing the pistil and 1 stamen. Seed nearly globular; embryo vertical, enclosing a mealy albumen, the radicle ascending beyond the cotyledonar end.—*Arthrocnemum triandrum*, F. Muell. Fragm. i. 139.

N. S. Wales. Salt desert near the junction of the Darling and Murray, *F. Mueller.*
Victoria. Lake Victoria, Murray river, *F. Mueller.*
I have not yet received the plate above referred to.

NIB

CHENOPODIACEAE

Arthrocnemum auriculatum

4. **S. leiostachya,** *Benth.* A spreading much-branched shrub of 2 or 3 ft., the articles of the branches cylindrical, ¼ to ½ in. long, slightly thickened but not lobed at the top. Spikes numerous, nearly sessile and opposite at the nodes or terminal, cylindrical, compact, ½ to nearly 1 in. long; articles numerous, at first rather distinct with their obtuse margins slightly prominent, but at length very closely packed into an apparently continuous spike of 2 lines diameter, without prominent scales, the separation of the articles only marked by slightly depressed transverse lines. Flowers in threes, wholly immersed and closely packed side by side (not in a triangle as in *S. herbacea*), all hermaphrodite and monandrous, but often only the central one perfecting its seed. Perianths thickened upwards, with a narrow triangular obliquely truncate top. Seed apparently compressed and vertical but not seen very perfect.

N. Australia. Sandflats about Providence Hill and between M'Adam Range and Point Pearce, *F. Mueller;* Kyejeron Creek, Central Australia, *M'Douall Stuart's Expedition.*

W. Australia, *Drummond,* (*Herb. F. Mueller.*).

CHENOPODIACEAE

4. ATRIPLEX, Linn.

(Obione and Theleophyton, *Moq.*)

Flowers unequal. Male perianth nearly globular, deeply divided into 5, rarely fewer segments. Stamens 5 or fewer. Female perianth very small at the time of flowering, 2-toothed or 2-lobed, enclosing the ovary. Styles 2, free or united at the base. Fruiting perianth much enlarged and variously shaped, the tube very small or large, flat or variously thickened, the limb of 2 variously shaped segments or *valves* closely appressed, at least at the margin (except in *A. campanulata*), entire or toothed. Fruit entirely enclosed in the tube or between the valves. Pericarp membranous, very thin. Seed compressed, vertical; testa crustaceous, often thin with a very thin inner integument sometimes scarcely distinct. Embryo surrounding a mealy albumen, the radicle superior lateral or inferior.—Herbs or shrubs, more or less mealy or scaly-tomentose. Leaves alternate or the lower ones rarely opposite, flat, entire hastate or sinuate-toothed. Male flowers in globular clusters, either detached from the females in close or interrupted simple or paniculate spikes, or axillary and then each cluster usually surrounded by females; female flowers usually in axillary clusters, rarely solitary or the clusters in terminal leafless panicles. Bracts subtending the male as well as the female flowers usually minute, or quite obsolete.

The genus is widely distributed over most parts of the globe, chiefly in maritime or subsaline districts, some species also frequenting rich cultivated grounds. Of the thirty Australian species, one is a common European weed of cultivation possibly of modern introduction into Australia, two are also in New Zealand, the others appear all to be endemic, for although one is nearly allied to a New Caledonian species, another to a South African one, and others may be more or less compared with other exotic ones, there are none which I have been able precisely to identify. The specific characters are in many instances taken chiefly from the fruiting perianths, which are so extraordinarily diversified in the genus, and which evidently vary also to a certain degree even on the same individual. It may therefore possibly be shown hereafter that in some instances the distinctions here relied upon may not prove sufficiently constant to retain their specific value.

Moquin, relying apparently on observations communicated by Fengl, considers that the lobes or valves of the female perianth of *Atriplex* are really bracts (bracteoles), for, he says, in monstrous female flowers of *Atriplex* and normally in *Exomis*, minute perianth-segments occur within these bracts. Trusting implicitly to his observations I should, with most recent botanists, have adopted his views, but that, on a careful examination of the various forms assumed by this perianth in Australian species and of its structure at the time of flowering, I could by no means reconcile its insertion and development with any other view than that of its being the homologue of the male perianth. This induced me to examine a considerable number of flowers and fruits of both species of *Exomis*. In *E. albicans* I find the structure quite that of *Atriplex*, nor can I discover anything that might be taken for minute perianth-segments unless it be sometimes some rudimentary stamens. A small additional perianth-lobe occurred once, not inside of the two valves, but in their sinus on one side, and I have occasionally but very rarely seen three valves to the perianth of *Atriplex*. In *Exomis aryrioides* the case is quite different. I find the female perianth abortive or reduced to minute scales and the quasi-petiolate bracts described by Moquin appear to me to be real subtending bracts or floral leaves, one only to each flower, although when in fruit, owing to the abortion of some of the ovaries, there may be 2 or 3 bracts to one fruit, but never two opposite ones united at the base and enclosing the fruit, as in *Atriplex* and in *Exomis albicans*, which latter species ought surely to be restored to *Atriplex*.

A few modern botanists have, after Pliny, treated the name *Atriplex* as of the neuter instead of the feminine gender. As there is classical authority for both, I have preferred following Linnæus, De Candolle and the great majority of botanists in treating it as feminine.

In the arrangement of the Australian species I have been unable to retain Moquin's distinction between *Atriplex* and *Obione* even as sectional. The thickening of the perianth over the fruit may be observed in every degree from flat and membranous to hard and terete, and in species so closely allied as *A. inflata* and *A. holocarpa*, or as *A. Drummondi* and *A. isatidea*, the radicle is superior in the one and inferior or lateral in the other. The deviation from the normal position of the seed, transverse instead of parallel to the valves, in *A. Billardieri* is remarkable, but is scarcely sufficient for separating, on that character alone, a single species from a large genus otherwise so natural and so well defined.

SERIES 1. **Paniculatæ.**—*Dicecious or semidicecious scaly tomentose shrubs, the male clusters in more or less branched or paniculate dense or interrupted leafless spikes.*

Dicœcious, both sexes paniculate.
- Fruiting perianths flat.
  - Fruiting perianths reniform. Spikes in male panicles interrupted.
    - Fruiting perianths on a slender stipes . . . . . 1. *A. stipitata.*
    - Fruiting-perianths sessile . . . . . 2. *A. Moquiniana.*
  - Fruiting perianths ovate or broadly cordate, with a short solid base or stipes. Leaves narrow (female inflorescence more simple and leafy) . . . . . 3. *A. paludosa.*
  - Fruiting perianths ovate or slightly cordate, quite sessile. Leaves mostly obovate. Female panicles more branched 4. *A. Drummondii.*
- Fruiting perianths with thick convex valves.
  - Leaves elliptical or oblong, 1½ to 3 in. Female panicles branched . . . . . 5. *A. isatidea.*
  - Leaves mostly orbicular, ½ to 1 in. Female inflorescence more simple and leafy . . . . . 6. *A. nummularia.*

Semi-dicœcious. Female flowers solitary or very few in the axils of the stem-leaves of the male plants, more clustered but all axillary in the females.
- Leaves mostly oblong: Fruiting perianths broadly triangular or rhomboid, flat or thickened over the fruit, with a turbinate solid base . . . . . 7. *A. cinerea.*
- Leaves ovate or lanceolate sometimes hastate. Fruiting perianths thickened to the margin.
  - Fruiting perianths 1½ to 3 lines diameter . . . . . 8. *A. rhagodioides.*
  - Fruiting perianths 4 to 5 lines diameter . . . . . 9. *A. incrassata.*

cont'd

SERIES 2. **Vesicariæ.**—*Small bushy or decumbent more or less scaly-tomentose shrubs, diœcious or monœcious. Male flowers in short terminal dense spikes, females axillary. Fruiting perianth orbicular, membranous, with large membranous appendages on each face.*

Leaves obovate or oblong-lanceolate, usually white, 4 to 8 lines long. Eastern species mostly monœcious . . . . . 10. *A. vesicaria.*
Leaves narrow, less white, mostly 2 to 4 lines long. Western species mostly diœcious . . . . . 11. *A. hymenotheca.*

SERIES 3. **Oleraceæ.**—*Monœcious annuals usually tall or spreading, green or slightly mealy. Flowers clustered in the axils and in terminal panicles. Valves of the fruiting perianth flat or muricate. (Introduced species.)*

Erect plant of 4 or 5 ft. Leaves broad. Flowers crowded in a long panicle. Fruiting perianth broad, thin and flat, the valves free to the base . . . . . * *A. hortensis.*
Erect and 2 or 3 ft., or spreading or procumbent. Leaves narrow except the lower ones. Flowers usually in distant clusters. Fruiting perianth thickened at the base; the valves united to near the middle . . . . . 12. *A. patula.*

SERIES 4. **Glomeratæ.**—*Monœcious decumbent procumbent or spreading herbs, scaly-tomentose or very rarely green. Male flowers in globular clusters surrounded by a few females in the upper axils or rarely forming a short terminal spike, females clustered in the lower axils without males. Fruiting perianths more or less compressed, conspicuously 2-valved.*

Fruiting perianth flat, rhomboidal, the valves free almost or quite to the base, closing over the fruit.
Leaves narrow, entire. Male flowers in short terminal compact spikes. Fruiting perianth with a small turbinate solid base . . . . . 13. *A. humilis.*
Leaves broad, mostly sinuate. Male flowers axillary or the upper ones spicate. Fruiting perianth triangular with a broad base . . . . . 14. *A. velutinella.*
Fruiting perianth with a compressed turbinate base half enclosing the fruit, shorter than or not longer than the valves
Leaves nearly orbicular, about 1 in. diameter. Fruiting perianth stipitate, the valves more than twice as broad as the tube . . . . . 15. *A. angulata.*
Leaves narrow, usually green, ½ to 1 in. long. Fruiting perianth sessile, rhomboidal, the valves not broader than the tube . . 16. *A. semibaccata.*
Leaves 2 to 3 lines long. Fruiting perianth rhomboidal, about 1 line diameter, with a short solid base . . . . . 17. *A. exilifolia.*
Fruiting perianth with a globular ovoid or slightly compressed tube enclosing the fruit, the valves shorter than the tube.
Spreading (or erect?). Leaves broad, mostly toothed and 2 in. long or more. Fruiting perianth 1 to 1½ lines diameter . . 18. *A. Muelleri.*
Diffuse. Leaves obovate or oblong, rarely above 2 lines long. Fruiting perianth 1 to 1¼ lines diameter . . . . . 19. *A. elachophylla.*
Procumbent. Leaves narrow, ¼ to ½ in. long. Fruiting perianths clustered, nearly 1 line diameter . . . . . 20. *A. microcarpa.*
Prostrate. Leaves narrow, 1 to 2 lines long. Fruiting perianths clustered, scarcely ½ line diameter . . . . . 21. *A. prostrata.*
Procumbent. Leaves ovate, 1 to 1½ lines long. Fruiting perianths 1 or 2 in the axils, scarcely ½ line diameter . . . . 22. *A. pumilio.*
Fruiting perianth minute, the valves free, spreading. Small erect plant glabrous and green. Leaves 2 lines long . . . . . 23. *A. glomulifera.*
Fruiting perianth with an obliquely campanulate slightly compressed tube with appendages on the shorter face. Valves toothed, unequal and scarcely appressed . . . . . 24. *A campanulata.*

SERIES 5. **Parviloba.**—*Monœcious spreading or procumbent herbs or undershrubs scaly-tomentose or mealy. Inflorescence of the Glomeratæ. Fruiting perianths not compressed, enclosing the fruit, the orifice small closed by small erect appressed valves.*

Fruiting perianth cylindrical, narrow.
Valves of the fruiting perianth minute, entire, without appendages . . . . . 25. *A. leptocarpa.*
Valves 2-horned with a minute central lobe and a dorsal appendage between the horns . . . . . 26. *A. limbata.*
Fruiting perianth inflated and spongy.
Fruiting perianth hemispherical or turbinate with an almost flat top and acute or winged margin. Radicle lateral or almost inferior . . . . . 27. *A. halimoides.*
Fruiting perianth turbinate-globular, 4 to 6 lines diameter. Radicle superior . . . . . 28. *A. holocarpa.*
Fruiting perianth depressed-globular, not 2 lines diameter. Radicle superior . . . . . 29. *A. spongiosa.*

SERIES 6 (or SECTION 2). **Theleophyton.**—*Monœcious prostrate crystalline herb. Flowers axillary. Perianth obovoid with short valves. Seed compressed, at right angles with, not parallel to the valves.*

Single species . . . . . 30. *A. Billardieri.*

* *A. hortensis*, Linn. (*Atriplex* sect. *Dichospermum* Moq. in DC. Prod. xiii. ii. 90, 91), an erect green annual of 4 or 5 ft., with large broad leaves, and numerous flowers crowded in a long terminal panicle, the fruiting perianths broad, thin, flat and entire, intermixed with a few small regular 5-cleft perianths with horizontal seeds, a plant of east European or west Asiatic origin, very long cultivated as a vegetable under the name of *Orache*, has been sent from N. S. Wales and from Victoria as an escape from gardens.

19. **A. elachophylla,** *F. Muell. Fragm.* vii. 8. A small slender much-branched plant, hard and almost woody, diffuse or procumbent, the specimens not exceeding 6 in., more or less scaly-tomentose. Leaves shortly petiolate, from obovate to oblong or almost lanceolate, obtuse, rather thick, rarely exceeding 2 lines. Flowers monœcious, the males in globular clusters of less than 1 line diameter, sessile within a floral leaf, either terminal or on a short axillary peduncle-like branchlet; the females axillary, solitary or 2 or 3 together, Fruiting perianth rhomboid-globular, but slightly compressed, 1 to $1\frac{1}{4}$ line diameter, hard, scaly-tomentose, with 2 very short broad green valves, usually toothed on the margin. Fruit enclosed in the tube. Seed compressed; radicle superior.

N. Australia. Desert of Sturt's Creek, *F. Mueller.*

NIB

CHENOPODIACEAE

Atriplex semilunaris

NSB

CHENOPODIACEAE

Bassia astrocarpa

NSB

CHENOPODIACEAE

Bassia bicornis

NIB

CHENOPODIACEAE

Bassia crenata

NIB

CHENOPODIACEAE

Bassia glabra

NIB

CHENOPODIACEAE

Bassia hostilis

NIB

CHENOPODIACEAE

Bassia lanicuspis

NIB

CHENOPODIACEAE

Bassia luehmannii

NSB

CHENOPODIACEAE

Bassia muelleri

NIB

CHENOPODIACEAE

Bassia symoniana

NIB

CHENOPODIACEAE

Bassia uniflora

2. CHENOPODIUM, Linn.

(Ambrina, *Moq.*, Blitum, *Moq. (partly)*.

Flowers hermaphrodite or rarely polygamous. Perianth herbaceous, deeply divided into 5 or rarely 4 or 3 lobes or segments which are obtuse and concave or rarely acute and erect, scarcely altered or slightly enlarged after flowering. Stamens 5 or fewer, filaments filiform or flattened. Ovary globular or ovoid; styles 2 or rarely 3, usually united at the base. Fruit depressed or ovoid, partially or completely covered by the persistent perianth, pericarp dry, membranous, distinct from or inseparable from the seed. Seed horizontally flattened, or vertical and less compressed; testa crustaceous; embryo circular, enclosing a mealy albumen.—Herbs or rarely shrubs or undershrubs. Leaves alternate, flat, entire toothed or divided. Flowers small, sessile in clusters, either axillary or in interrupted terminal spikes or panicles.

The genus is widely distributed over the globe, but appears to be really indigenous chiefly in temperate and subtropical regions, some species, including four of the Australian ones, probably of European origin, are amongst the most generally dispersed weeds of cultivation. Of the remaining eight Australian species one is also in New Zealand and New Caledonia, the other seven appear to be endemic although one of them is perhaps too closely connected with an East Asiatic one.

The precise limits to be assigned to the genus are as yet very uncertain. The last four species here included, with the seeds all erect and the inflorescence axillary, are certainly nearly allied to the European *Blita* originally characterized by the succulent perianth, but recently extended to the majority of *Chenopodia* with erect seeds. The adoption of the latter character entails however the assigning *C. nitrariacea* and *C. Bonus-henricus* to *Blitum*, a most unnatural combination, and leaves *C. glaucum* and *C. rubrum*, in which the seeds of some of the flowers are often erect, ambiguous between the two genera. I have therefore followed F. Mueller in reuniting them, at least as to the Australian species, and the very variable consistence of the fruiting perianth in *C. carinatum* and *C. rubrum*, leaves it very doubtful whether even the Linnean *Blita*, with their berry-like fruits, can be distinctly separated from *Chenopodium*.

Sect. 1. **Rhagodioides.**—*Spinescent shrub. Flower-clusters in terminal spikes. Seeds vertical.*

Plant hoary or mealy-white. Leaves entire . . . . . 1. *C. nitrariacea.*

Sect. 2. **Chenopodiastrum.**—*Herbs mealy-white or glabrous. Flower-clusters in terminal or axillary spikes or panicles. Seeds all or mostly horizontal.*

Erect and mealy-white or almost glabrous. Spikes terminal, often paniculate.
- Leaves (usually very hoary or white) entire or very rarely hastate — 2. *C. auricomum.*
- Leaves (green or mealy-white underneath or on both sides) at least the lower ones coarsely sinuate-toothed . . . . . 3. *C. album.*

Erect green annual. Cymes or panicles axillary and loose.
- Leaves broad, coarsely-toothed . . . . . 4. *C. murale.*

Decumbent or prostrate herbs (mostly annual).
- Leaves entire or hastate. Stamen usually 1.
  - Stems weak and elongated. Leaves green or scarcely mealy. Flower-clusters in terminal interrupted spikes . . . . 5. *C. triangulare.*
  - Stems short, much-branched. Leaves small, mealy. Flower-clusters small in the upper axils or scarcely spicate . . . 6. *C. microphyllum.*
- Lower leaves sinuate-toothed, mostly green above, white underneath. Stamen usually 1 . . . . . 7. *C. glaucum.*

Sect. 3. **Botryois.**—*Erect glandular aromatic herbs or undershrubs not mealy. Seeds all or mostly horizontal.*

Leaves narrow, mostly sinuate-toothed. Flower-clusters axillary, forming a leafy panicle . . . . . 8. *C. ambrosioides.*

Sect. 4. **Orthosporum.**—*Decumbent glandular herbs not mealy. Seeds all vertical. Flower-clusters all axillary.*

Perianth-segments broad, concave with a thickened keel . . . 9. *C. carinatum.*
Perianth-segments narrow, nearly erect, with a thickened keel.
- Minute filiform plant . . . . . 10. *C. pumilio.*

Perianth-segments linear, erect, the keel dilated into a broad fringed wing or crest . . . . . 11. *C. cristatum.*
Perianth-segments lanceolate, erect, the keel much thickened and angular at the base . . . . . 12. *C. atriplicinum.*

2. **C. auricomum,** *Lindl. in Mitch. Trop. Austr.* 94. Erect and probably tall, more or less white or hoary all over, apparently herbaceous and not spinescent. Leaves on rather long petioles, ovate or oblong, very obtuse, entire or rarely hastate with prominent basal lobes, mostly ¾ to 1½ in. long. Flowers in little dense globular clusters along the branches of a terminal panicle, sometimes distinct and rather distant, sometimes crowded into dense spikes. Perianth-segments broad, concave, closing over the fruit. Stamens 5, shortly exserted. Ovary small, globular, contracted into a long neck or united base of the styles. Pericarp depressed-globose, membranous. Seed very flat, horizontal. Embryo annular.—Moq. in DC. Prod. xiii. ii. 460.

N. Australia. Upper Victoria river and Sturt's Creek, *F. Mueller*; Gulf of Carpentaria, *Landsborough*; in the interior, *M'Douall Stuart's Expedition.*

Queensland. Narran river, *Mitchell*; Curriwillighie, *Dalton*; Suttor and Bowen rivers, *Bowman.*

N. S. Wales. Darling river and Duroodoo, *Victorian Expedition.*

This species undoubtedly comes near to some forms of *C. album*, differing in its entire more tomentose leaves and larger flowers. It appears to be still more closely allied to and perhaps not really distinct from the East Asiatic *C. acuminatum*, Willd.

C. furfuraceum, Moq. in DC. Prod. xiii. ii. 64, from the Straits of Entrecasteaux, **Tasmania,** is unknown to me. The character given agrees with that of *C. auricomum*, of which however I have seen no specimen from Tasmania, nor from the south coast of the continent of Australia.

9. **C. carinatum,** *R. Br. Prod.* 407. Stems much-branched and procumbent or prostrate at the base, ascending to from ½ to 1 ft. or more, the whole plant more or less glandular-pubescent. Leaves on long petioles, ovate or oblong, obtuse, coarsely sinuate-toothed, usually rather thick and rugose, glandular-scabrous on both sides, ½ to 1 in. long, the upper floral ones often much reduced, and sometimes all the leaves almost orbicular and small. Flowers small, in dense globular clusters in almost all the axils, the upper ones sometimes forming interrupted more or less leafy spikes. Perianth-segments erect, incurved, broadly oblong, concave and almost boat-shaped, with a thickened broad obtuse keel, more or less pubescent or hirsute. Stamen usually 1. Fruit small, ovoid, erect, the pericarp inseparable from the seed.—*Salsola carinata*, Spreng. Syst. i. 923; *Ambrina carinata*, Moq. Chenop. Enum. 41; *Blitum carinatum* and *B. glandulosum*, Moq. in DC. Prod. xiii. ii. 81, 82; *Chenopodium glandulosum*, F. Muell. Fragm. vii. 11.

Queensland. Moreton Bay, *W. Hill, F. Mueller*, and others; Peak Downs, *F. Mueller;* Rockhampton, *O'Shanesy;* Armadilla, *Barton.*

N. S. Wales. Port Jackson, *R. Brown, J. D. Hooker;* Bengalla, *Leichhardt;* Clarence river, *Beckler;* Murray and Darling rivers, *Victorian and other Expeditions.*

Victoria. Yarra-Yarra, *F. Mueller;* Skipton and Creswick, *Whan;* Lockwood, *Bissil.*

S. Australia. Bethanie, *Behr.;* Mount Barker, Lofty Ranges, Lake Torrens, *F. Mueller.*

W. Australia, *Drummond, n.* 165, 715.

The species is also in New Zealand and New Caledonia. In most of Drummond's specimens and in some others, the fruiting perianth has a tendency to dry black and become rather thick, showing an approach to the European typical *Blita.*

NSB

CHENOPODIACEAE

Chenopodium inflatum

NSO

CHENOPODIACEAE

Chenopodium
plantagnellum

NIB

CHENOPODIACEAE

Chenopodium

rhadinostachyum

CHENOPODIACEAE

3. DYSPHANIA, R. Br.

Flowers polygamous. Perianth of 1 to 3 minute segments, which when in fruit are clavate, concave or hood-shaped, white and almost transparent. Stems 1 to 3. Ovary ovoid; styles 1 or 2, very finely filiform. Fruit ovoid, the pericarp inseparable from the seed. Seed erect, testa crustaceous with a very thin membranous inner integument. Embryo circular enclosing a mealy albumen; radicle inferior.—Small annuals. Leaves alternate, flat, entire. Flowers minute, in clusters either all axillary or in terminal spikes, the females numerous, the hermaphrodite ones few in each cluster.

The genus is limited to Australia. It is nearly allied to the section *Orthosporum* of *Chenopodium*, but readily distinguished by the remarkable perianth.

Fruiting perianth of 3 (rarely 2) segments falling off with the fruit. Style 1. Plant of 1 to 3 in.
- Flower-clusters forming a dense terminal leafless spike . . . 1. *D. plantaginella.*
- Flower-clusters closely contiguous but axillary, forming a leafy spike . . . . . 2. *D. littoralis.*

Fruiting perianth usually of a single segment. Styles 2. Plant of 3 to 6 in. Flower-clusters all axillary and distinct . . . 3. *D. myriocephala.*

1. **D. plantaginella,** *F. Muell. Fragm.* i. 61. An erect branching annual of 1 to 3 in., slightly glandular-hairy. Stem leaves in the lower part of the plant petiolate, ovate or obovate, obtuse, entire, 2 to 4 lines long. Flowers resembling those of *D. littoralis*, but the clusters crowded in dense terminal cylindrical leafless spikes of 1 to 2 in., and consequently occupying the greater portion of the plant. Perianth of 3 obovate-clavate concave segments, about $\frac{1}{4}$ line long, and falling off with the fruit. Style 1, very deciduous.

N. Australia. Sturt's Creek, *F. Mueller.*

5. ENCHYLÆNA, R. Br.

Flowers hermaphrodite. Perianth urceolate, at length depressed-globular, succulent or coriaceous, with 5 short broad lobes or teeth connivent and closing over the fruit, without any dorsal wings or appendages. Stamens 5 or fewer. Ovary depressed-globular. Styles 2 or 3, shortly connate at the base. Fruit depressed-globular, enclosed in the perianth, pericarp membranous. Seed more or less flattened, horizontal; testa membranous; embryo horseshoe-shaped or almost annular, enclosing a very scanty albumen.—Undershrubs or shrubs. Leaves linear-terete or linear-lanceolate, entire. Flowers solitary in the axils and sessile, without any or with one or two minute bracts.

The genus is limited to Australia. It only differs from *Kochia* in the fruiting perianth of a thicker consistence and often succulent, without any dorsal wings or appendages.

Leaves 1 to 2 lines long. Flowers numerous, mostly crowded in terminal leafy spikes. Perianth not above 1 line diameter . . 1. *E. microphylla.*

Leaves mostly above ¼ in. long. Flowers distant.

Fruiting perianth globular, about ¾ line diameter, smooth, hairy at the top. Plant very villous with soft fulvous hairs . . 2. *E. micrantha.*

Fruiting perianth depressed-globular, about 1½ lines diameter, quite smooth, with very short teeth . . . . . 3. *E. tomentosa.*

Fruiting perianth coriaceous, depressed-globular, about 2 lines diameter, the lobes more or less gibbous outside . . . . 4. *E. villosa.*

Fruiting perianth broadly turbinate, very flat, with a nerve-like edge, nearly 2 lines diameter, the tube 10-ribbed . . . . 5. *E. marginata.*

3. **E. tomentosa,** *R. Br. Prod.* 408. A procumbent or divaricately branched undershrub, sometimes with ascending slightly branched stems under 6 in. long, sometimes much branched and attaining several feet, the branches hoary or silvery with a close or woolly tomentum, rarely glabrous or nearly so. Leaves linear-terete, entire, rarely above ½ in. long and sometimes under ¼ in. Flowers all axillary, solitary and sessile and usually distant, with 1 or 2 minute bracts at the base. Perianth small at the time of flowering, 1½ lines diameter when in fruit and then depressed-globular, red and succulent when fresh, black when dry and perfectly smooth, the orifice closed by 5 short connivent teeth quite glabrous or minutely ciliate. Stamens very shortly exserted, the anthers very deciduous. Fruit enclosed in the perianth, the pericarp membranous and glabrous or scarcely hairy in the normal state. Styles usually 3 but sometimes 2.—Moq. in DC. Prod. xiii. ii. 128; Nees in Pl. Preiss. i. 635; *E. paradoxa,* R. Br. Prod. 408; Moq. l.c.; *E. pubescens,* Moq. l.c. (monstrous states, see below).

N. Australia. Sturt's Creek, *F. Mueller.*

Queensland. Burdekin river, *F. Mueller;* Bokhara Creek, *Leichhardt;* Rockhampton, *O'Shanesy;* Suttor river, *Bowman;* Armadilla, *Barton.*
N. S. Wales. Liverpool plains, *A. Cunningham;* Castlereagh river, *C. Moore;* Murray desert and Goyinga mountains, *Victorian Expedition.*
Victoria. Murray river, *Herrgott.*
S. Australia. Islands off the S. Coast, *R. Brown;* from the Murray river to St. Vincent's Gulf, *F. Mueller;* Mount Searl, *Warburton;* Cooper's Creek, *Murray.*
W. Australia, *Drummond, n.* 717; Murchison river, *Oldfield;* Sharks Bay, *Gaudichaud;* Ayon river, *Preiss, n.* 1935 (Moquin).

Var. *villosa.* Very densely fulvous-villous.—Cudnaka, *F. Mueller.*

Var.? *leptophylla.* Leaves very slender. Perianths very small.—Near Gainsford, Queensland, *Bowman.*—Perhaps a distinct species, but the specimens are very small.

Var. *glabra.* Stems and leaves quite glabrous.—Bay of Inlets, *Banks and Solander;* Brisbane river, *F. Mueller;* Darling river, *Victorian Expedition;* between Stokes Range and Cooper's Creek, *Wheeler.*

Besides the woolly globular galls to which this species is liable (like those of *Kochia villosa* and other Chenopodiaceæ), it is subject to a monstrosity, apparently caused also by an insect, by which the pericarp becomes densely enveloped in woolly intricate hairs proceeding from near the base and bursting through the apex of the perianth; whilst the ovary is abortive, and I have sometimes found its place occupied by a small grub. It is this monstrosity in the typical form that is described by Moquin as *E. pubescens,* and in the glabrous variety constitutes the *E. paradoxa,* Br.

6. KOCHIA, Schrad.

(Maireana, *Moq.*; Sclerochlamys, *F. Muell.*)

Flowers hermaphrodite or polygamous. Perianth at first nearly globular, at length depressed turbinate or pyramidal, not succulent, with 5 rarely 4 short broad lobes connivent and closing over the fruit, imbricate in the bud and 3 outer ones often rather larger than the 2 inner ones, bearing on their backs horizontal wings either distinct or united in a single annular wing surrounding the perianth. Stamens usually 5 or fewer by abortion. Styles 2 or 3, shortly connate at the base. Fruit depressed-globular, enclosed in the perianth; pericarp membranous. Seed more or less flattened, horizontal; testa membranous; embryo horseshoe-shaped or almost annular, enclosing a scanty albumen.—Undershrubs or shrubs, usually procumbent or spreading. Leaves linear or rarely oblong, usually small thick and often semiterete. Flowers solitary or very rarely 2 together in the axils, sessile, with very minute or without any bracts, the perianth very small at the time of flowering with the stamens and styles shortly exserted, but in most species there appear to be many female flowers without any perfect stamens. Fruiting perianth usually described as variously coloured red, from a pale pink to a rich crimson, but no colour remains in the dried specimens.

The genus is limited to the extratropical and subtropical regions of the Old World, the Australian species being apparently all endemic.

- Fruiting perianth with an appendage to each sinus, besides the horizontal wings. Leaves softly silky.
  - Sinus-appendages linear-spathulate, reflexed below the horizontal wings which are all distinct . . . . . 1. *K. lobiflora.*
  - Sinus-appendages linear, acute, erect above the horizontal wings which are more or less united in a ring . . . . . 2. *K. lanosa.*
- Fruiting perianth without sinus-appendages, but with 3 rarely 4 longitudinal wings on the tube below the horizontal ones which are united in a ring . . . . . 3. *K. triptera.*
- Fruiting perianth without any appendages besides the horizontal wings, which are membranous and entire or irregularly denticulate.
  - Horizontal wings all distinct.
    - Three outer horizontal wings equal, 2 inner ones smaller. Leaves broad thick and keeled, 1 to 2 lines long. . . . 4. *K. oppositifolia.*
    - All 5 horizontal wings equal. Leaves usually narrow, 1 to 2 lines long . . . . . 5. *K. brevifolia.*
  - Horizontal wings more or less perfectly united in a ring.
    - Perianth pyramidal within the wings, projecting about 2 lines . . . . . 6. *K. pyramidata.*
    - Perianth flat within the wings or nearly so.
      - Leaves mostly ¼ in. long, densely silky. Perianths enveloped in long dense woolly hairs . . . . . 7. *K. eriantha.*
      - Leaves mostly ¼ to ½ in. long, linear or terete, tomentose or nearly glabrous (sometimes small and slender), spreading. Perianth glabrous or tomentose . . . . 8. *K. villosa.*
      - Leaves oblong or oblanceolate, flat, ¼ to ½ in. long. Perianth of *K. villosa* . . . . . 9. *K. planifolia.*
      - Leaves oblong-clavate, almost terete, densely cottony, not exceeding ¼ in. Perianth of *K. villosa* . . . . . 10. *K. sedifolia.*
      - Leaves cottony, erect and appressed, rarely exceeding 1 line. Perianth of *K. villosa* . . . . . 11. *K. appressa.*
      - Leaves minute, distant. Branches spinescent. Perianth of *K. villosa* . . . . . 12. *K. aphylla.*
- Fruiting perianth very flat at the top, surrounded by an annular more or less rigid horizontal border or thick wing, quite entire or regularly toothed.
  - Annular border of the perianth entire, densely ciliate . . . . 13. *K. ciliata.*
  - Annular border 5-angled, tube vertically 5-winged . . . . 14. *K. brachyptera.*
  - Annular border with 10 to 12 radiating points, tube smooth . 15. *K. stelligera.*

9. **K. planifolia,** *F. Muell. Fragm.* i. 213. An erect divaricately branched shrub of 2 to 3 ft. (*Oldfield*), the branches and young foliage covered with a soft and dense woolly tomentum which wears off from the older leaves. Leaves oblong or oblanceolate, obtuse, contracted into a distinct petiole, $\frac{1}{4}$ to $\frac{1}{2}$ in. long rather thick but flat. Fruiting perianth precisely that of *K. villosa*, glabrous or tomentose, the wing generally entire, membranous and attaining 5 to 6 lines diameter.

W. Australia. Murchison river, *Oldfield* (*Herb. F. Mueller*). Perhaps a variety only of *K. villosa*.

NSB

CHENOPODIACEAE

Kochia tomentosa

NSD

CHENOPODIACEAE

Maireana georgei

1. RHAGODIA, R. Br.

Flowers polygamous, mostly hermaphrodite or female, but sometimes almost dicœcious. Perianth deeply 5-cleft, the lobes or segments obtuse, concave, scarcely enlarged in fruit, and either closing over the fruit or expanded under it. Stamens 5 or fewer, filaments more or less flattened. Ovary globular or nearly so. Styles 2 or very rarely 3, shortly subulate, very shortly united at the base. Fruit a small depressed-globular berry. Seed flattened, horizontal; testa crustaceous. Embryo circular, enclosing a mealy albumen.—Shrubs undershrubs or rarely herbs. Leaves alternate or some or nearly all opposite, flat, entire. Flowers small, sessile or very rarely pedicellate, in clusters or rarely solitary, in interrupted terminal spikes or panicles, without bracts. Perianth tomentose outside, glabrous inside.

The genus is exclusively Australian, differing from *Chenopodium* in the succulent pericarp and usually in the more shrubby habit. The species are often very variable in stature and foliage and very difficult to mark out by positive characters. They are moreover often represented in herbaria by specimens so imperfect as to leave a large proportion of the determinations doubtful. The succulent pericarps or berries appear to vary in colour, even in the same species, from red or purple to yellow, but perhaps the collectors' notes in this respect are not all to be trusted.

Panicle usually much branched.
- Flowers polygamous.
  - Leaves almost all alternate, mostly narrow and green above, paler or whiter underneath than above, the margins often recurved . . . . . 1. *R. Billardieri.*
  - Leaves alternate or opposite, mostly broad, flat, green or white on both sides . . . . . 2. *R. parabolica.*
- Flowers dicœcious, very small. Leaves oblong or broad, flat, pale or white on both sides . . . . . 3. *R. dioica.*

Inflorescence nearly single or panicle not much branched.
- Leaves rather thick and fleshy, flat or concave, mostly alternate. Plant not spinescent.
  - Fruiting perianth 2 to 3 lines diameter when open and much larger than the fruit. Leaves mostly hastate 4. *R. Gaudichaudiana.*
  - Fruiting perianth 1 to 1½ lines diameter and usually not broader than the fruit.
    - Leaves rarely above ½ in. long, linear cuneate or rarely obovate . . . . . 5. *R. crassifolia.*
    - Leaves linear, ½ to 1 in. long . . . . . 6. *R. Preissii.*
    - Leaves broadly obovate to oblong, ½ to 1 in. long . . 7. *R. obovata.*
- Leaves flat, rather thin, mostly alternate broad and small. Plant spinescent . . . . . 8. *R. spinescens.*
- Leaves thin, green, opposite or alternate. Plant usually slender or weak.
  - Leaves mostly opposite, ovate or hastate, very obtuse . . 9. *R. hastata.*
  - Leaves mostly opposite, lanceolate or broad, all acute . . 10. *R. nutans.*
  - Leaves alternate, linear . . . . . 11. *R. linifolia.*

R. chenopodioides, Moq. Chenopod. Enum. 11, and in DC. Prod. xiii. ii. 52, from Port Jackson, *Gaudichaud*, is unknown to me, the character given agrees with that of *R. Billardieri*, except that the flowers are said to be pedicellate, which may have been an accidental anomaly in the specimens described.

NSB

CHENOPODIACEAE

Rhagodia baccata

10. **R. nutans,** *R. Br. Prod.* 408. Herbaceous, prostrate or procumbent and slender, often extending to 1 to 2 ft., green or the young foliage more or less mealy-white, the stems rarely almost woody at the base. Leaves opposite or here and there alternate, on rather slender petioles, from broadly hastate with very prominent basal lobes to lanceolate and angular only at the base, always acute, rather thin and green, rarely 1 in. long and often all under ½ in., the upper ones gradually smaller. Inflorescence simple or with a few short branches, terminal or in the upper axils, under 1 in. long or rarely elongated, sometimes nodding at the end, sometimes slightly leafy at the base, with one or two solitary flowers or small clusters in the axils of the upper leaves. Flowers very small, the males with 2 or 3 stamens and a rudimentary pistil, the females without any or with only 1 stamen. Fruit about ½ line diameter, the pericarp red and succulent when fresh, thin when dry.—Moq. in DC. Prod. xiii. ii. 53; Hook. f. Fl. Tasm. i. 312.

Queensland. Brisbane river, *F. Mueller;* Curriwillighie, *Dalton.*
N. S. Wales. Lachlan river, *A. Cunningham;* Lachlan and Darling rivers to the Barrier Range, *Victorian and other Expeditions;* Hastings river, *Beckler;* Ballandool river, *Locker.*
Victoria. Wendu vale, *Robertson;* Tambo river, *F. Mueller;* Creswick, *Whan.*
Tasmania. Derwent river, *R. Brown, J. D. Hooker;* abundant in plains near Ross, *Gunn;* S. Esk river, *C. Stuart.*
S. Australia. Kangaroo island, *R. Brown;* Murray river, Salt-Creek, Port Adelaide, *F. Mueller;* towards Cooper's Creek, *Wheeler, Howitt's Expedition.*

15. **SALSOLA**, Linn.

Flowers hermaphrodite. Perianth of 5 rarely 4 distinct segments when in fruit, bearing each on their backs a horizontal wing or protuberance, their points closed over the fruit. Stamens 5 or rarely fewer. Styles 2, rarely 3, united at the base or above the middle. Fruit enclosed in the perianth. Pericarp membranous. Seed depressed or nearly globular, testa membranous; embryo coiled in a conical or doubly convex spire, without albumen.—Herbs or undershrubs usually hard or fleshy. **Leaves narrow-linear or terete, entire. Flowers axillary, sessile, solitary within each floral leaf (or subtending bract), with 2 opposite bracteoles.**

The genus is widely spread over the temperate regions of the globe in more or less saline situations. The only Australian species is the most common one over nearly the whole area of the genus.

1. **S. Kali,** *Linn.; Moq. in DC. Prod.* xiii. ii. 187. A hard procumbent or divaricately-branched herb, glabrous or slightly pubescent, usually under 1 ft. but sometimes extending to 2 ft. Leaves alternate or rarely here and there opposite, sessile, hard and rigid in the typical form, the lower ones terete or dilated at the base, from ½ in. to above 2 in. long, the upper ones shorter, thicker, and often more flattened above, but sometimes all terete, the lower floral ones similar to the stem-leaves, the upper ones gradually smaller and sometimes, especially on side branches, reduced to thick triangular or lanceolate bracts not exceeding the calyx, all as well as the bracteoles ending in rigid pungent points. Flowers sessile and solitary in the axil of each bract, but often, owing to the reduction of the flowering branch, clustered in the axils of the primary floral leaves. Bracteoles similar to the floral leaf or subtending bract, but usually smaller. Segments of the fruiting perianth forming at the base a hard or thin campanulate or turbinate tube rarely much above 1 line long, surrounded at the top by the 5 horizontal wings which are either all equal or 2 narrower than the others, each one sometimes 2 lines long and broad, thin and scarious, sometimes very small and thick or in some flowers scarcely perceptible, the summit of each perianth-segment within the wing acute scarious and closing over the fruit. Pericarp with the upper portion flat circumsciss and deciduous. Embryo spiral, the two cotyledons in separate coils one over the other, with the radicle coiled horizontally round the lowest coil or between the two.—*S. australis*, R. Br. Prod. 411; Moq. in DC. Prod. xiii. ii. 188; *S. macrophylla*, R. Br. l.c.; Moq. l.c. 187; Nees in Pl. Preiss. i. 637.

Queensland. Bay of Inlets, *Banks and Solander;* Maria island, *Dallachy;* in the interior, *Mitchell;* Cape and Suttor rivers, *Bowman;* Armadilla, *Barton;* Currie-willighie, *Dalton.*

N. S. Wales. Botany Bay, *Banks and Solander;* Clay flats and saline places from the Murray and Darling to the Barrier Range, *Victorian and other Expeditions.*

Victoria. Lake Hindmarsh, *F. Mueller.*

S. Australia. Petrel Bay, *R. Brown;* St. Vincent's and Spencer's Gulfs, *F. Mueller;* between Stokes Range and Cooper's Creek, *Wheeler.*

W. Australia. *Drummond, n.* 244, 245; Swan river, *Preiss, n.* 2396; Murchison river, *Oldfield.*

The species is widely distributed over the temperate regions of the New as well as the Old World in more or less saline districts, extending not unfrequently to within the tropics. I can discover nothing to separate the Australian specimens from the European form even as a variety. Moquin cites both as growing together in Timor.

Var. *leptophylla.* Leaves slender, almost filiform, but pungent when full grown.—Queensland and N. S. Wales.

Var. *strobilifera.* Flowers densely clustered in globular heads with the points of the subtending bracts protruding like the scales of a pine-cone.—Darling desert and Mount Murchison.

Var. *brachypteris.* Wings or appendages of the perianth reduced to prominent transverse ribs, in all or nearly all the flowers.—*S. brachypteris*, Moq. in DC. Prod. xiii. ii. 189.—Rockingham Bay, *Dallachy;* Curtis island, *Thozet.* The size of the perianth-wings is as variable in European as in Australian specimens, and in some flowers of most specimens and in nearly all of other specimens they remain, in both countries, very short or undeveloped as in *S. brachypteris;* in this state *S. Kali* can always be readily distinguished from *S. Soda* by the pungent leaves.

14. SUÆDA, Forsk.

(Chenopodina, *Moq.*)

Flowers mostly hermaphrodite. Perianth depressed-globular, herbaceous or slightly fleshy, with 5 broad lobes connivent over the fruit, without appendages or with a slight horizontal protuberance or thick scale on the back at the base of each lobe. Stamens 5. Styles 2 or 3, rarely more; free or shortly united at the base. Fruit enclosed in the perianth; pericarp membranous, very thin but separable from the seed. Seed flat, horizontal or vertical; testa crustaceous with a thin inner membrane. Embryo flat, spirally twisted, without any or with scarcely any albumen.—Glabrous herbs or undershrubs. Leaves alternate, sessile, linear, thick or terete. Flowers small, sessile, solitary or clustered in the axils. Bracts and bracteoles very small and scarious.

The genus, consisting of a small number of species, is widely diffused over the sea-coasts and saline districts of both the New and the Old World, the only Australian species being the most common one over nearly the whole area of the genus.

NIB

CHENOPODIACEAE

Suaeda australis

NIO

CHENOPODIACEAE

Tecticornia cimerla

N=6

CHENOPODIACEAE

Tecticornia verrucosa

11. THRELKELDIA, R. Br.

(Osteocarpus, *F. Muell.*)

Flowers hermaphrodite. Perianth urceolate or cylindrical, hard when in fruit, with 4 or 5 short membranous lobes, without any dorsal appendages or in one species with 5 small erect spines. Stamens 5 or fewer. Styles 2 or 3, connate at the base. Fruit enclosed in the perianth, more or less depressed. Pericarp membranous. Seed horizontal or oblique. Testa membranous; embryo annular or nearly so, surrounding a mealy albumen; radicle ascending or level with the cotyledonar end or descending.—Diffuse procumbent or trailing undershrubs, quite glabrous or in one species scabrous. Leaves narrow, alternate. Flowers solitary in the axils, closely sessile but not obliquely adnate as in *Anisacantha*. Bracts none.

The genus is limited to Australia. It has the hard perianth of *Sclerolæna* and *Anisacantha*, but has either no spines or (in one species) very short erect ones, and differs moreover from the former in the want of any cottony wool, and from the latter in the seed. If, however, slight differences in the perianth and seed are taken into account, the four species here included might be regarded as forming as many genera.

Perianth without appendages or hollow base. Seed with an ascending rostellum.
- Fruiting perianth 1½ lines long, scarcely oblique at the top . . 1. *T. diffusa.*
- Fruiting perianth ¾ line long, very oblique and gibbous on one side at the top . . . . . 2. *T. salsuginosa.*

Perianth with a large hollow base below the fruit.
- Perianth 1 to 1½ lines long, with 5 small dorsal erect spines. Seed horizontal . . . . . 3. *T. brevicuspis.*
- Perianth 3 to 4 lines long, without spines. Seed very oblique, with a descending radicle . . . . . 4. *T. haloragoides.*

1. **T. diffusa,** *R. Br. Prod.* 410. A prostrate diffuse or trailing undershrub, sometimes very small, sometimes extending to 1 or 2 ft., with shortly ascending branches, the whole plant glabrous and somewhat fleshy. Leaves rather crowded, linear, mucronate-acute or obtuse, thick and semiterete, contracted at the base, 2 to 4 lines or rarely ½ in. long. Flowers small, the perianth tubular, ¾ line long, obliquely contracted above the middle, with 4 or 5 broad membranous erect lobes shortly ciliate. Styles 2 or 3, connate to above the middle. Fruiting perianth ovoid, about 1½ lines long, hard and ribbed when dry, said to be fleshy when fresh, the orifice open or half-closed by the withered lobes, without appendages. Fruit enclosed in the perianth and not raised above the base, nearly globular. Embryo horseshoe-shaped or annular and horizontal at the base, with an ascending radicle.—Moq. in DC. Prod. xiii. ii. 127; Nees in Pl. Preiss. i. 635; Hook. f. Fl. Tasm. i. 315.

Victoria. Wilson's Promontory, *F. Mueller.*

Tasmania. Kent's Group, Bass's Straits, *R. Brown;* seashore E. of George Town, *Gunn.*

S. Australia. Holdfast Bay, *F. Mueller.*

W. Australia. King George's Sound, *R. Brown;* Bald Island, *Oldfield;* N. W. of the head of the Great Bight, *Delisser;* Swan river, *Preiss, n.* 1235 (*Moquin*).

Var. *latifolia.* Leaves flatter, broader and more petiolate, but small.—Lucky Bay, *R. Brown*; Dirk Hartog's Island, *Milne.*