

6. **DATURA**, Linn.

SOLANACEAE

Calyx tubular, circumsciss near the base after flowering. Corolla funnel-shaped, with a long tube and a broad 5-angled or 5-toothed limb, folded in the bud. Ovary 2-celled, each cell incompletely divided into two. Fruit an ovoid or globular capsule, opening in 4 short valves, and usually beset with prickles. Embryo curved round a fleshy albumen.—Tall coarse herbs, or, in S. American species, shrubs or soft-wooded trees. Leaves alternate, often in pairs. Flowers solitary, terminal or lateral, usually very large.

A small genus, chiefly American, with two or three species equally common in, and perhaps indigenous to, the Old World. The only Australian species is endemic, at least in its Australian form.

1. **D. Leichhardtii**, *F. Muell. in Trans. Phil. Soc. Vict.* i. 20. An erect annual of 1 to 3 ft., sparingly pubescent. Leaves petiolate, ovate, acute or shortly acuminate, irregularly sinuate-toothed or lobed, mostly 3 to 4 in. long. Flowers of a pale yellowish-white, on short peduncles either terminal or in the forks, and recurved after flowering. Calyx scarcely above 1 in. long. Corolla about twice as long as the calyx, the angles produced into short points. Capsule reflexed, globular, about 1 in. diameter, very prickly, resting on the broadly expanded persistent base of the calyx.—*D. alba*, *F. Muell. Fragm.* vi. 144, but scarcely of Nees.

N. Australia. Gulf of Carpentaria, *Landsborough*; Ashburton river, *Walcott*.

Queensland. Gilbert river, *F. Mueller*; Comet river, *Leichhardt*; Suttor river, *Dorsay*; Rockingham Bay, *O'Shanesy*; Armadillo, *Barton*.

The very common East Indian *D. alba*, Nees, or *D. Metel*, *Roxb.*, has the flowers fully twice as large as *D. Leichhardtii*, and the leaves more entire. The Australian plant has more the aspect of the common *D. Stramonium* or of *D. ferox*, with the small flowers of the latter, but differs from both in the reflexed capsule.

D. Tatula, *Linn. Sp. Pl.* 256; *Sweet, Brit. Fl. Gard.* t. 83, regarded by *Dunal* and most authors as a variety of *D. Stramonium* with blue flowers, but whose claims to be retained as a species have been recently again brought forward by *Naudin's* hybridizing experiments, has appeared in Australia as an introduced weed.

N.I.B.

SOLANACEA

Duboisia hopwoodii

(F. Muell.)

F. Muell.

7. *NICOTIANA*, Linn.

SOLANACEAE

Calyx campanulate, 5-lobed, persistent. Corolla with a cylindrical tube, the limb more or less spreading, 5-lobed, induplicate or folded in the bud. Stamens 5, included in the tube, often unequal; anthers 2-celled, opening longitudinally. Ovary 2-celled; stigma broadly 2-lobed. Fruit a capsule opening in 2 bifid valves parallel to the dissepiment which remains attached to the axis. Seeds numerous. Embryo slightly curved, in a fleshy albumen. —Herbs usually erect and coarse. Leaves alternate, entire. Flowers white greenish-yellow or dull-red, in terminal racemes often branching into very loose panicle-like cymes.

The genus is entirely American, with the exception of the single Australian species, which, however, is scarcely to be distinguished from a S. American one, and of one nearly allied to it from the S. Pacific islands. Some species, long cultivated under the name of *Tobacco*, have become almost naturalized in the warmer regions of the Old World, but we have as yet seen no Australian specimens. F. Mueller's collection contains, however, as an escape from gardens, a specimen of *N. glauca*, Grah. in Bot. Mag. t. 2837, a perfectly glabrous glaucous species, with rather slender tubular flowers of a greenish yellow, with a very small limb.

N.I.B.

SOLANACEAE
Nicotiana benthamii
Domini.

N.1.B.

SOLANACEAE

Nicotiana glauca
N.1. Burbidge

N.I.B.

SOLANACEAE

Nicotiana occidentalis

Wheeler.

N.I.B.

SOLANACEAE

Nicotiana simulans

N.T. Burbidge.

N.I.B.

SOLANACEAE

Nicotiana umbratica

N.I. Burbidge.

3. **PHYSALIS**, Linn.

SOLANACEAE

Calyx 5-toothed or 5-lobed, inflated after flowering. Corolla broadly campanulate or nearly rotate, 5-angled, folded in the bud. Anthers short, opening longitudinally. Ovary 2-celled. Berry globular, enclosed in the inflated calyx. Embryo circular or spiral round the fleshy albumen.—Herbs either annual or with a perennial stock. Leaves often in pairs. Flowers solitary, usually small, on axillary or lateral pedicels.

A genus rather numerous in America, of which two or three species, including the Australian ones, extend over the warmer regions of the Old World.

- Stock perennial, the whole plant softly pubescent 1. *P. peruviana*.
- Annual, sparingly pubescent. Flowers very small 2. *P. minima*.

2. **P. minima**, Linn.; Dun. in DC. Prod. xiii. part i. 445. An erect annual of about 1 ft., with spreading branches, more or less pubescent with scattered simple hairs. Leaves petiolate, ovate, acute or acuminate, irregularly sinuate-toothed or rarely entire, thin and membranous, mostly 2 to 3 in. long. Flowers very small, on filiform pedicels sometimes very short, sometimes above $\frac{1}{2}$ in. long. Calyx when in flower scarcely $1\frac{1}{2}$ lines long, with short acuminate teeth. Corolla about twice as long as the calyx, pale yellow, the centre often purple. Fruiting calyx about 1 in. long, vesicular, with 5 prominent angles and acuminate connivent teeth. Berry globular.—*P. parviflora*, R. Br. Prod. 447; Dun. in DC. Prod. xiii. part i. 444, with some other supposed species enumerated by Dunal.

N. Australia. Victoria river, *F. Mueller*.

Queensland. Broad Sound and Keppel Bay, *R. Brown*; Moreton Bay, *Leichhardt*. *F. Mueller*; Rockhampton, *O'Shanesy, Dallachy*; Nercool and Crocodile Creeks, *Bowman*; Rockingham Bay, *Dallachy*; Port Molle, *M'Gillivray*.

The species is dispersed over tropical America, Asia, and Africa, and very common in E. India.

Calyx with 5, rarely with 4 or more than 5 teeth or lobes. Corolla rotate or very broadly campanulate, with 5 or rarely 4 angles or lobes, folded in

the bud. Filaments usually very short, rarely as long as the anthers; anthers oblong or linear, erect and connivent, either parallel or more frequently tapering upwards and forming a cone round the style, opening at the top in pores or transverse slits, rarely continued down the sides of the anthers, without any prominent connectivum between the cells. Fruit a berry, usually 2-celled rarely 4-celled (the cells divided by a spurious dissepiment) or in species or varieties not Australian several-celled. Seeds several, flattened, with a curved or spiral embryo surrounding a fleshy albumen.—Herbs shrubs or rarely low soft-wooded trees, either unarmed or with prickles scattered on the branches, on the principal veins of the leaves, especially on the upper surface and in some species also on the inflorescence and calyxes, straight and slender in most Australian species, stout and recurved in some others. Leaves alternate, but often in pairs, a smaller one being developed in the axil of the larger one, entire or irregularly toothed lobed or divided. Flowers normally in terminal centrifugal cymes; but, owing to the rapid development of the branch, the inflorescence becomes usually lateral and very often, by the abortion of one branch, reduced to a simple unilateral apparently centripetal raceme or to a single flower. Corolla usually blue purplish or white or in species not Australian yellow, always tomentose outside in the species where the tomentum is stellate, but usually only on the part exposed in the bud, with the induplicate margins glabrous. Style frequently curved to one side, the stigma slightly dilated, entire or 2-lobed.

A very large genus, spread over the warmer and temperate regions of the globe, but most abundant in tropical America. Besides the introduced species, there are forty-eight described below, of which one is a common weed over the whole range of the Order; another is spread over the tropical regions of the Old as well as the New World; one extends only to New Zealand; another to Timor; and a third only to the islands of the South Pacific; the remaining forty-three are endemic, belonging chiefly to groups sparingly or not at all represented in S. America; and *S. indicum* and other species with short stout prickles, so common in tropical Asia, have not as yet been detected in Australia.

The distinction and determination of the numerous species of this genus (most extravagantly multiplied by Dunal in the 'Prodrômus') is attended with peculiar difficulties, the chief characters being derived from the very variable ones of foliage, armature and indumentum. The sections proposed by Sendtner, Dunal, and others break down in several instances, and are scarcely applicable to the Australian species. The three first here enumerated have a marked difference in the anthers, but there are extra-Australian intermediates; the differences in the form of the corolla, often very difficult to ascertain from dried specimens, are seldom in relation to other characters; and the form and colour of the fruit varies in a remarkable degree in some individual species. If, therefore, in the following key I have founded the principal groups or series chiefly upon indumentum and armature, it is not that I regard them as good sections, but only because I have as yet found no better way of leading to the determination of the Australian species.

§ 1. *No prickles. Whole plant glabrous or pubescent with simple hairs (not stellate).*

Anthers very obtuse, parallel, the terminal slits continued more or less down the sides.

- Annual. Leaves ovate on long petioles. Flowers very small, in pedunculate umbels 1. *S. nigrum*.
- Perennials or shrubs. Leaves lanceolate or linear, entire or pinnatifid. Flowers in short lateral loose racemes. Leaves mostly acute, the longer ones with a few long lobes. Flowers large. Berries green or yellow 2. *S. aviculare*.
- Leaves mostly obtuse, very rarely and shortly lobed. Flowers moderate. Berries purple 3. *S. simile*.

- Anthers tapering upwards, opening only at the end. Glabrous shrub. Leaves broadly lanceolate. Corolla deeply lobed *4. *S. pseudocapsicum*.
- Flowers unknown. Shrub. Leaves ovate, pubescent underneath 5. *S. Shanessii*.

§ 2. *No prickles. Stellate pubescence or tomentum on the whole plant or rarely on the flowers only.*

- Flowers in forked pedunculate cymes. Leaves quite glabrous. Cymes loose. Corolla deeply lobed 6. *S. viride*.
- Leaves (large) very soft and densely tomentose. Cymes dense. Leaves shortly acuminate, without stipule-like leaves at the base 8. *S. verbascifolium*.
- Leaves long-acuminate, mostly with small semicircular stipule-like leaves at the base **S. auriculatum*.
- Flowers in simple lateral racemes or clusters. Leaves sprinkled with scattered stellate hairs. Corolla deeply lobed 7. *S. tetrandrum*.
- Leaves densely or closely tomentose underneath or on both sides. (See § 3, of which several species, especially *S. discolor*, *S. esuriens*, *S. furfuraceum*, and *S. dianthophorum*, are occasionally unarmed.)

§ 3. *Prickles slender on the branches and leaves (numerous few or very rare), none on the calyxes. Stellate pubescence or tomentum on the whole plant or rarely on the flowers only.*

- Leaves glabrous above except along the veins (rarely scabrous-pubescent in *S. violaceum*), tomentose underneath (except in *S. defensum*).
- Flowers rather small, the corolla deeply lobed. Leaves tomentose and white underneath. Leaves ovate or elliptical, rarely above 2 in. long. Tomentum very close and short 9. *S. discolor*.
- Leaves lanceolate, large and broad or small and narrow, mostly acute. Tomentum close or loose 10. *S. stelligerum*.
- Leaves narrow-oblong obtuse, usually small. Tomentum close 11. *S. parvifolium*.

- Leaves green underneath, glabrous or loosely stellate-hairy.
 Leaves linear or linear-lanceolate, entire or hastate.
 Branches slender. Prickles abundant 12. *S. ferocissimum*.
 Leaves oblong-lanceolate, pinnatifid, 5 to 6 in. long. 13. *S. defensum*.
 Flowers large, the corolla-lobes broad and short.
 Leaves broadly lanceolate. Ovary 2-celled 14. *S. violaceum*.
 Leaves oblong-linear or linear-lanceolate. Ovary 2-celled 15. *S. amblymerum*.
 Leaves oblong or ovate-oblong, obtuse, cordate at the base.
 Ovary 4-celled 16. *S. tetralhecum*.
 Leaves closely whitish tomentose on both sides (the tomentum rarely disappearing at length on the upper side). Calyx-teeth very small at the time of flowering.
 Leaves small, mostly broad on very short petioles.
 Leaves under $\frac{1}{2}$ in. long, ovate or broadly oblong 17. *S. elachophyllum*.
 Leaves orbicular, about $\frac{1}{2}$ in. long. Corolla deeply lobed 18. *S. orbiculatum*.
 Leaves cordate, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Corolla-lobes short and broad 19. *S. oligacanthum*.
 Leaves narrow or on long petioles, mostly above $\frac{1}{2}$ in. long.
 Leaves ovate oblong or lanceolate, entire or sinuate-toothed.
 Corolla deeply lobed ($\frac{1}{2}$ to $\frac{3}{4}$ in. diameter) 20. *S. esuriate*.
 Leaves ovate-lanceolate or lanceolate, mostly lobed at the base. Corolla-lobes rather short ($\frac{1}{2}$ in. diameter) 21. *S. chenopodiiformis*.
 Leaves oblong or lanceolate, entire. Corolla with short broad lobes ($\frac{1}{2}$ to 1 in. diameter) 22. *S. Sturtianum*.
 Leaves densely and softly tomentose or velvety hirsute on both sides or at least underneath, sometimes greener and shortly tomentose above.
 Racemes short, few-flowered or pedicels solitary or 2 together.
 Calyx divided nearly to the base into narrow segments.
 Calyx-segments subulate-acuminate.
 Leaves mostly entire, scabrous above with scattered hairs.
 Stems usually prickly. Flowers mostly racemose 23. *S. furfuraceum*.
 Prickles exceedingly rare. Flowers mostly in pairs 24. *S. dianthophorum*.
 Leaves densely velvety-tomentose on both sides, the larger ones much sinuate 25. *S. Dallachii*.
 Calyx-segments lanceolate, acute. Leaves densely velvety tomentose or hirsute on both sides 26. *S. densevestitum*.
 Calyx-segments oblong-linear obtuse. Leaves (small) densely tomentose 27. *S. nemophilum*.
 Calyx campanulate with broad lobes. (Western species) 28. *S. Oldfieldii*.
 Racemes or cymes many-flowered, on long very prickly peduncles. Leaves green and closely tomentose above, white and softly tomentose underneath, often lobed 29. *S. semiarmatum*.
- § 4. Prickles slender or rarely thickened at the base on the calyxes as well as on the branches and generally on the leaves. Stellate pubescence, rarely mixed with simple hairs, on the whole plant or on the corolla only.
- Leaves green and glabrous or sprinkled with stellate hairs or hirsute on the upper or both sides, sinuate-lobed or pinnatifid.
 Leaves glabrous or sprinkled with very few small hairs. Flowers in short loose racemes.
 Leaf-lobes very obtuse and rounded at the end 30. *S. sodomæum*.
 Leaf-lobes mostly acute.
 Corolla unarmed 31. *S. armatum*.
 Corolla armed with prickles 32. *S. hystrix*.
 Leaves sprinkled with stellate hairs or hirsute, without any glandular pubescence.
 Male flowers racemose, female solitary. Berry enclosed in the very prickly calyx 33. *S. cataphractum*.
 Flowers hermaphrodite, in pairs, the pedicels slender, not racemose. Calyx-lobes narrow, acuminate 34. *S. pungetium*.
 Flowers hermaphrodite, racemose. Calyx-lobes broad, acute 35. *S. eremophilum*.
 Leaves hirsute and glandular-pubescent on both sides. Flowers racemose.
 Corolla large, broadly campanulate, very shortly lobed 36. *S. campanulatum*.
 Corolla rather small, deeply lobed 37. *S. adenophorum*.
 Leaves green and glabrous or slightly stellate above, white and densely tomentose underneath.
 Leaf-lobes rather acute. Calyx-lobes acuminate 38. *S. cinereum*.
 Leaf-lobes obtuse. Calyx-lobes short and broad, not acuminate 39. *S. lacunarium*.
 Leaves nearly equally tomentose on both sides, sinuate-lobed or pinnatifid.
 Calyx-lobes narrow, acuminate.
 Calyx-lobes with very prominent keels or midribs. Leaf-lobes short, very undulate 40. *S. petrophilum*.
 Calyx-lobe without prominent ribs. Leaf-lobes deep, very obtuse or spatulate 41. *S. diversiflorum*.
 Calyx-lobes broad, obtuse or acute, much enlarged round the fruit after flowering.
 Leaves narrow, shortly tomentose with very numerous long prickles 42. *S. carduiforme*.

- Leaves broad, very densely and softly tomentose with few prickles 43. *S. melanospermum*.
- Leaves nearly equally, densely and softly tomentose on both sides, entire or slightly sinuate.
- Leaves acute or scarcely obtuse, mostly undulate (1 to 2 in. long), with very numerous long prickles 44. *S. horridum*.
- Leaves obtuse (mostly under 2 in. long), entire or sinuate, with few or no prickles.
- Fruiting calyx membranous, globular, very prickly, completely enclosing the fruit. Leaves ovate or oblong . . . 45. *S. echinatum*.
- Fruiting calyx globular, thick, nearly enclosing the fruit. Leaves orbicular or broadly ovate 46. *S. lasiophyllum*.
- Fruiting calyx open, 6 to 8 lines diameter. Ovary 3-celled . . . 47. *S. ellipticum*.
- Leaves mostly acuminate or acute (3 in. long or more), entire, not at all or scarcely prickly.
- Flowering calyx under 3 lines long; fruiting calyx 6 to 8 lines diameter. Ovary 4-celled. 48. *S. quadriloculatum*.
- Flowering calyx $\frac{1}{2}$ in. long; fruiting calyx nearly 2 in. diameter. (Ovary not seen) 49. *S. phlomidis*.
- Leaves lanceolate, rather obtuse (1 to 3 in. long), entire. Calyx with a globular very prickly tube and long linear lobes. Flowers large 50. *S. Cunninghamii*.

There are in the Hookerian as well as in the Muellerian herbarium a few specimens of what appear to be additional species of *Solanum*, but too imperfect for determination.

§ 1. *Unarmed. Pubescence simple or none.*

N.I.B.

SOLANACEAE

Solanum beagleholei

Symon.

33. **S. cataphractum**, *A. Cunn. Herb.* A diffuse shrub or undershrub, the under side of the leaves usually sprinkled with stellate hairs, the whole plant otherwise glabrous or nearly so except the corolla. Prickles straight, rather slender, very numerous on the stems, foliage, inflorescence, and calyxes. Leaves petiolate, sinuate-lobed or deeply pinnatifid, with broad or narrow sinuate lobes, the whole leaf 2 to 4 in. long. Flowers monœcious, the males in pedunculate racemes, the females on solitary lateral pedicels. Flowering calyx not seen. Corolla violet, about $\frac{3}{4}$ in. diameter, scarcely lobed, tomentose outside. Anthers short, very obtuse. Fruiting pedicel thickened upwards, 1 in. long or more. Berry $\frac{3}{4}$ in. diameter, enclosed in the enlarged densely prickly calyx. Seeds large and black.

N. Australia. Bat Island and Regent river, N.W. coast, *A. Cunningham* (with linear-lanceolate leaf-lobes); Montague Sound, *A. Cunningham* (with broad less deeply lobed leaves). The specimens are all in fruit only. I describe the flowers from Cunningham's notes and from a drawing of a plant formerly raised in Kew Gardens from his seeds. He distinguished the broad-leaved form as a species under the name of *S. pectinatum*.

50. **S. Cunninghamii**, *Benth.* An undershrub or shrub, from under 1 ft. to 4 or 5 ft. high, the branches foliage and inflorescence covered with a stellate tomentum, sometimes thick and floccose especially on the under side of the leaves, shorter and harsher on the upper side. Prickles few and small except on the calyx-tube. Leaves petiolate, lanceolate or almost ovate, rather obtuse, entire, 2 to 3 in. long, rather thick and soft. Pedicels in all the specimens seen 1-flowered, lateral, 1 to $1\frac{1}{2}$ in. long. Calyx-tube globular, not 3 lines long, densely armed with long prickles; lobes linear, almost terete, fully twice as long as the tube. Corolla large with acute or acuminate lobes, not well open in our specimens, but evidently above $1\frac{1}{2}$ in. diameter. Fruit not seen.

N. Australia. Cygnet Bay, N.W. coast, *A. Cunningham, Bynoe*; Glenelg district, *Marten*. The flowers are probably moncecious, as in the *Melongenas*, and, if so, the male or sterile flowers may be, as in other species, racemose and less prickly.

N. 110.

SOLANACEAE
Solanum dioecium
W. V. Fitzg.

45. **S. echinatum**, *R. Br. Prod.* 447. An erect or diffuse undershrub, the branches foliage and inflorescence very densely and softly stellate-tomentose, often velvety or floccose. Prickles slender, rather small on the stems, few or none on the leaves, more abundant and longer on the calyxes. Leaves on rather long petioles, ovate oblong or lanceolate, obtuse, entire or slightly sinuate, very thick and soft, mostly 1 to 2 in. long. Racemes lateral, loose, the common peduncle elongated. Flowering calyx 2 to 3 lines long, with short lanceolate lobes, very tomentose, with small prickles; when in fruit globular, membranous, very prickly, about $\frac{3}{4}$ in. diameter, completely enclosing the globular berry, the broad triangular lobes almost meeting over it. Corolla very tomentose, $\frac{1}{2}$ to $\frac{3}{4}$ in. diameter, shortly and broadly lobed.—*Dun. in DC. Prod.* xiii. part i. 297.

N. Australia. N.W. coast, *Bynoe*; Upper Victoria river, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*.

According to *R. Brown* the berry is almost 4-celled (*subquadrilocularis*), which I have been unable to verify in our specimens. In two flowers that I examined I found the ovary 2-celled only, but with slight indications of transverse spurious dissepiments, which may probably grow out as the fruit enlarges.

41. **S. diversiflorum**, *F. Muell. Fragm.* vi. 146. A straggling shrub or undershrub of 1 ft. or more, the branches foliage and inflorescence thickly covered with stellate hairs, not usually so soft as in the allied species, but sometimes floccose on the young leaves. Prickles very small or rarely long, few or numerous on the branches and leaves, often entirely wanting on the male flowers, longer and more dense on the fertile and fruiting calyx.

Leaves deeply pinnatifid, with oblong very obtuse entire or sinuate lobes, the whole leaf 1 to 2 in. long. Flowers in lateral racemes, often as long as the leaves, but as in several allied species usually sterile except the lowest one of each raceme, which is on a longer pedicel proceeding from the base of the peduncle. Calyx about 3 lines long, with lanceolate acuminate lobes, without prominent keels or midribs, enlarged and very prickly round the growing fruit. Corolla (about $\frac{3}{4}$ in. diameter?) with short broad lobes. Anthers tapering upwards. Fruit only seen young.

N. Australia. Upper Victoria river, *F. Mueller*; La Grange Bay, N.W. coast, *Marten*; Port Walcott, *Harper*.

The monœcious character upon which the specific name was founded is common to several of the following species as well as to the American and Asiatic group of *Melongenæ*, but appears to exist in a less degree in some other groups so as to be scarcely available, in the present state of our acquaintance with the genus, as a sectional distinction.

47. **S. ellipticum**, *R. Br. Prod.* 446. A shrub or undershrub, either very low and spreading or taller and erect, the branches foliage and inflorescence covered with a dense stellate tomentum, sometimes very thick soft and velvety or floccose, sometimes shorter and closer. Prickles slender, few or numerous on the stems and calyxes, few or none on the leaves. Leaves petiolate, from broadly ovate to ovate-lanceolate or oblong, obtuse, entire or slightly sinuate or undulate, rounded or cordate at the base, mostly 1 to nearly 3 in. long. Flowers in lateral racemes, often longer than the leaves, the pedicels usually short. Calyx-tube at the time of flowering 1 to 2 lines long, the lobes or teeth narrow and thick, from very short to fully twice as long as the tube; after flowering the calyx much enlarged and dividing into broad lobes with short or long narrow points. Corolla violet, with short broad lobes, apparently varying in size from about $\frac{1}{2}$ to above $\frac{2}{3}$ in. diameter. Ovary 2-celled. Berry globular, surrounded by but not enclosed in the enlarged calyx.—Dun. in DC. *Prod.* xiii. part i. 298; *S. lithophilum*, F. Muell. in *Linnaea*, xxv. 434.

N. Australia. Hammersley Range, N.W. coast, *Maitland Brown*; Sea Range and Sturt's Creek, *F. Mueller*.

Queensland. Broad Sound, *R. Brown*; near Peak Range, *Leichhardt*; Suttor desert, Dawson and Mackenzie rivers, *F. Mueller*; Rockhampton, *O'Shanesy, Dallachy*; Suttor and Connor rivers and Nerkoool Creek, *Bowman*; Flinders river, *Sutherland*; Maranoa river, *Mitchell*; Armadillo, *Barton*.

N. S. Wales. Pelee's Range, *Fraser*; Darling river, *E. Giles*; thence to the Barrier Range, *Victorian Expedition*; Mount Murchison, *Bonney*.

S. Australia. Flinders Range and Cudnaka, *F. Mueller*; near Spencer's Gulf, *Warburton*; in the interior, *M'Douall Stuart*; Cooper's River, *A. C. Gregory*; Lake Gillies, *Burkitt*.

W. Australia, *Drummond*, n. 87; Murchison river, *Oldfield*.

Var. *pannifolium*, A. Cunn. Tomentum ferruginous, very copious, almost woolly. Stems very prickly but not the leaves.—Cambridge Gulf, N.W. coast, *A. Cunningham*.

20. **S. esuriale**, Lindl. in *Mitch. Three Exped.* ii. 43. A low shrub, often under 6 in. high and rarely exceeding 1 ft., the branches inflorescence and both sides of the leaves covered with a close but dense and soft stellate tomentum, rarely somewhat looser underneath. Prickles few and slender on the stems or the whole plant unarmed. Leaves petiolate, ovate oblong or lanceolate, obtuse, entire or sinuate-toothed, mostly $\frac{3}{4}$ to 1 in. long, but in luxuriant specimens narrow-lanceolate entire and 2 to 3 in. long. Flowers solitary or 2 to 4 together, on a very short lateral common peduncle, the pedicels lengthening to $\frac{1}{2}$ in. Calyx under 2 lines when in flower with narrow almost acute teeth, enlarged after flowering and dividing into triangular acuminate lobes. Corolla blue, $\frac{1}{2}$ to $\frac{3}{4}$ in. diameter, deeply lobed. Anthers tapering upwards. Berry globular.—Dun. in DC. Prod. xiii. part i. 373; *S. pulchellum*, F. Muell. in Trans. Phil. Soc. Vict. i. 13, and in Hook. Kew Journ. viii. 166.

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

Queensland. Ranges about Lake Saluator, *Mitchell*; Upper Burdekin river, *F. Mueller*; Suttor and Bowen rivers, *Bowman*; Armadillo and Curriwillighi, *Barton*.

N. S. Wales. Peel's Range, *Mitchell*, *A. Cunningham*, *Fraser*; from the Murray, Lachlan, and Darling to the western frontier, *Victorian and other Expeditions*.

Victoria. Wimmera, Avoca, and Murray rivers, *F. Mueller*, *Dallachy*.

S. Australia. From the Murray to St. Vincent's and Spencer's gulfs, *F. Mueller* and others; Cooper's Creek, *Howitt's Expedition*; Purdie's Ponds, *Waterhouse*.

12. **S. ferocissimum**, *Lindl. in Mitch. Three Exped. ii. 58.* A low straggling slender shrub, allied to *S. parvifolium*, the branches rather loosely stellate-tomentose. Prickles long and slender, very numerous on the branches and leaves, none on the calyx. Leaves linear or linear-lanceolate, not so obtuse as in *S. parvifolium*, entire or the larger ones hastately lobed at the base, 1 to 2 in. long, glabrous or with loose stellate hairs especially underneath, without the close tomentum of *S. parvifolium*. Flowers small, blue, in loose racemes, with a very short common peduncle and slender pedicels. Calyx 1 to 1½ lines long in flower, somewhat enlarged in fruit, deeply divided into acuminate lobes. Corolla about ½ in. diameter, deeply lobed.—Dun. in DC. Prod. xiii. part i. 373.

N. S. Wales. Lachlan river, *Mitchell*; between that and the Upper Bogan, *L. Morton*; Darling river, *Bowman, Panton*; Peel's Range, *Fraser, A. Cunningham*; Mount Murchison, *Dallachy, E. Giles*.

N.I.B.

SOLANACEAE

Solanum gabrie
A. Cunn. ex Benth

N.J.B.

SOLANACEA
Solanum heteropax
Symon.

44. **S. horridum**, *Dun. Syn. Sol.* 28, and in *DC. Prod.* xiii. part i. 296. Branches foliage and inflorescence very copiously woolly-hirsute with long loose stellate hairs of a yellowish or rusty colour. Prickles long straight and very numerous on the stem and leaves, usually rather smaller on the calyxes. Leaves on long petioles, ovate or ovate-lanceolate, acute or scarcely obtuse, entire or sinuate and often much undulate, 1 to 2 in. long. Pedicels in the

specimens seen solitary and lateral. Calyx about 3 lines long at the time of flowering, with narrow lobes, much enlarged afterwards and more deeply divided into ovate-lanceolate acuminate lobes. Corolla under $\frac{3}{4}$ in. diameter, with short broad lobes. Anthers tapering upwards. Berry large, globular, the enlarged calyx spreading under it and very prickly, but the prickles smaller than those of the stem and leaves.

N. Australia, *Baudin's Expedition (Herb. Banks)*, and apparently the same species, with rather broader more undulate leaves, Depuech Island, N.W. coast, *Bynoe*.

The species is, according to Dunal, also in Timor.

N. I B .

SOLANACEAE

Solanum kurzii

Brace.

46. **S. lasiophyllum**, *Dun. in Poir. Dict. Suppl. iii. 764, not of Syn. Sol.*
A stout rigid shrub or undershrub attaining 2 or 3 ft., the branches foliage and inflorescence very densely and softly stellate-tomentose. Prickles very slender and not long, few or numerous on the branches, few or none on the leaves, rarely wanting on the young calyx and always present on the fruiting one. Leaves very shortly petiolate, from ovate-oblong to nearly orbicular, very obtuse, entire or scarcely sinuate, very thick and soft, rarely 2 in. long and often under 1 in. Flowers few, large, in short dense racemes, the peduncle and pedicels thick and soft. Calyx very thick and woolly, with short thick narrow lobes, 3 to 4 lines long when in flower, enlarged afterwards. Corolla 1 to 1½ in. diameter, very shortly and broadly lobed, the lobes generally with a short point. Anthers tapering at the end. Ovary 2-celled. Berry ovoid-globular, almost enclosed in the calyx, which is then globular and above ¼ in. diameter.—*S. eriophyllum*, *Dun. Syn. Sol. 30*, and in *DC. Prod. xiii. part i. 300*; *F. Muell. Fragm. vi. 145*.

W. Australia. Sharks' Bay, *Milne*; Murchison river, *Oldfield*. The specimen of Baudin's in *Herb. Mus. Brit.* (probably from the W. not the E. coast), referred to by Dunal, has the leaves rather more sinuate than Drummond's. Dupal does not say for what reason he adopted Kunth's unpublished name of *S. lasiophyllum* for a S. American species, when his own, for the present species, had already been published by Poiret for three years.

Var. ? *crassissimum*. Leaves broad, almost orbicular, cordate at the base, 2 to 3 in. diameter, excessively thick. Racemes longer; flowers and calyx the same but more woolly.

N. Australia. N.W. coast, *Bynoe*.

N.I.B.

SOLANACEAE

Solanum leopoldense

Symon.

N.I.B.

SOLANACEAE

Solanum lucanum

F. Muell.

N.I.B.

SOLANACEAE

Solanum oedijius

Symon.

19. **S. oligacanthum**, *F. Muell. in Trans. Phil. Soc. Vict.* i. 19, and in *Hook. Kew Journ.* viii. 167. Evidently closely allied to *S. orbiculatum*, with the same tomentum, prickles, small leaves, inflorescence and flowers, except that the petioles are still shorter, the leaves more cordate, and the corolla apparently less deeply divided.

S. Australia. In the interior, *Sturt*, described from a single small specimen in *Herb. F. Mueller.*

N.I.B.

SOLANACEAE
Solanum pachypoda
Symon.

49. **S. phlomoides**, *A. Cunn. Herb.* An undershrub or shrub, either

low and prostrate or erect and attaining $1\frac{1}{2}$ to 2 ft., very densely and softly woolly with stellate hairs. Prickles slender, few or numerous, as in *S. quadriloculatum*. Leaves as in that species ovate or ovate-lanceolate, mostly acuminate, 3 to 4 in. long, but thicker and softer. Flowers large, numerous, in long racemes, on very short thick pedicels. Calyx nearly $\frac{1}{2}$ in. long when in flower, rather deeply divided into narrow thick lobes, much enlarged afterwards, divided under the fruit into broad acuminate lobes at least 1 in. long and very open. Corolla 1 to $1\frac{1}{2}$ in. diameter, with short broad lobes. Berry depressed, globular, above 1 in. diameter.

N. Australia. Enderby island, N.W. coast, *A. Cunningham*; Hammersley Range, *Mailland Brown*. I have been unable to examine the ovary, having found it destroyed by insects in the flowers I opened.

48. **S. quadriloculatum**, *F. Muell. Fragm.* ii. 161. An undershrub attaining several feet, the branches foliage and inflorescence densely and softly stellate-tomentose. Prickles straight, rather slender, long or short, few or many on the stems and calyxes, few or none on the leaves. Leaves petiolate, ovate or ovate-lanceolate, acute or acuminate, entire, very unequal at the base, thick and soft, 2 to 4 or even 5 in. long. Flowers small and numerous, in long lateral racemes (the upper ones sterile?), the pedicels rather short. Calyx-tube campanulate, under 2 lines long, with short or long soft points or lobes, enlarged after flowering and dividing into broad lobes with narrow points. Corolla above $\frac{1}{2}$ in. diameter, rather deeply lobed. Ovary 4-celled. Berry globular, surrounded by but not enclosed in the enlarged calyx, but not seen quite ripe.

N. Australia. Upper Victoria river and Nicholson river, Gulf of Carpentaria, *F. Mueller*; in the interior, lat. 22°, *M' Douall Stuart*.

22. **S. Sturtianum**, *F. Muell. in Trans. Phil. Soc. Vict.* i. 19, and in

Hook. Kew Journ. viii. 166. An erect shrub with the close stellate tomentum and rare prickles of *S. esuriale*, but apparently of taller stature. Leaves petiolate, oblong or lanceolate, obtuse, entire or scarcely sinuate, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long. Peduncles usually rather longer than in *S. esuriale*, bearing a short raceme of very few rather large flowers, the pedicels very short at the time of flowering but lengthening afterwards. Calyx about 2 lines long when in flower, with short acute teeth, much enlarged and irregularly lobed when in fruit. Corolla $\frac{3}{4}$ to 1 in. diameter, with short broad lobes. Anthers tapering upwards. Berry black, above $\frac{1}{2}$ in. diameter.

N. Australia, Glenelg district, N.W. coast, *Marten*.

S. Australia. In the interior, *Sturt*; Flinders Range and Cooper's Creek, *Howill's Expedition*; Mount Searl, *Warburton*; Lake Gillies, *Barkitt*.

The species differs from *S. esuriale* chiefly in the large slightly lobed corolla.