1. STYLIDIUM, Swartz.

(Forsteropsis, Sond.)

Calyx-lobes 5, often more or less united in 2 lips. Corolla irregular, 1

of the lobes or labellum much smaller and turned down or rarely nearly as long and curved upwards, the other 4 ascending in pairs. Column elongated and bent down or folded, elastic in most of the species if not in all. Stigma undivided. Ovary 2-celled .- Habit and foliage those of the Order. Flowers in racemes, panicles or corymbose cymes on terminal peduncles or radical scapes.

A genus comprising nearly the whole Order, and entirely Australian, with the exception of one species extending into tropical Asia, and another East Indian species not yet identified with certainty with any Australian one. The majority of the species form a rosette or spreading tuft of radical leaves, from the midst of which springs the scape. Sometimes the following year the new leaves and scape are close upon the old ones, forming a dense, tufted stock, the bases of the leaves sometimes assuming a bulbous appearance; in others, one or two short stems are formed above the old tuft, each crowned by a new rosette and scape, and sometimes several successive tufts of leaves, separated by short stems or branches, may be observed; these are termed proliferous stems or branches, and occasionally emit adventitious roots from several of the lower tufts. In a few species the leaves are all, or only the small upper ones, in almost regular whorls; and in a few others they are alternate or scattered without forming tufts. The inflorescence in different species shows every gradation, from the simple forming tutts. The inflorescence in different species shows every gradation, from the simple raceme or raceme-like paniele to the corymb or to the dichotomous cyme with sessile or pedicellate flowers in the forks. The precise form of the corolla, the direction of its lobes in the expanded flower, and the small scales or glandular appendages in the throat or at the in the expanded flower, and the small scales or glandular appendages in the throat or at the base of the labellum may be constant in many cases, and might serve for good specific characters; but these parts are so delicate that there is great uncertainty in describing them from dried specimens. Different botanists have described them differently in the same species, and I have myself found considerable discrepancies in this respect in different flowers even of the same specimens; the characters founded on them must therefore not be absolutely relied on. The colour of the flower is also said to be constant in some species, and has been made use of as a specific character since the time of Brown; but it appears to be variable in other species, and in most cases it is either unknown, or only given in vague and often contradictory notes of collectors. It is only a botanist resident on the spot that can complete the specific characters in the above respects.

Sect. I. Tolypangium.—Capsule globular-ovoid, obovoid or oblong.

Series I. Squamosæ.—Slock tufted, rarely proliferous. Leaves radical, intermixed with lanceolate, scarious scales, which are wanting in all the following sections. Scapes leafless, except a few scattered bracts.—Western species.

1. S. carnosum.

3. S. reduplicatum.

4. S. scabridum.

5. S. hirsutum.

2. S. pilosum.

Inflorescence a long raceme, simple or slightly branched at the base. Leaves obovate or orbicular, not above 1 in. long.

glabrous .

Leaves linear or lanccolate, 4 in. to 1 ft. long. Scape hairy
Inflorescence a loose thyrsoid panicle. Leaves linear. Scape hairy.
Leaves usually glabrous. Scapes (with the inflorescence) much longer than the leaves.

Leaves pubescent. Scapes but slightly exceeding the leaves .

Inflorescence short, compact and spike-like. Leaves linear.

Spike oblong, hirsute as well as the scape. Bracts small.

Spike coutracted into a depressed head. Bracts ½ in. long with

scarious margins . 6. S. crossocephalum. (In a few of the Lineares and other series the bases of the old leaves persist on the stock in the form of scales, always much shorter and more rigid than the true scales of the Squamosæ.)

Series II. **Peltigerm**.—Stock tufted or proliferous-branched. Leaves radical. Flowers in a dense spike or cluster with numerous bracts produced below their insertion, the scapes otherwise leafless.—Western species.

Scapes erect and rush-like or long and twining. Spike oblong. Flowers almost sessile

Scapes 1 to 2 in. Flowers sessile in a terminal globular cluster of small, leaf-like bracts. 8. S. guttatum. Stock or stem proliferous-branched and rooting at the tufts. Flowers pedicellate in terminal, globular clusters of small, leaf-	
like bracts 9. S. repens.	
Series III. Lineares.—Perennials with a tufted or shortly proliferous stock rarely annuals. Leaves radical, linear or rarely linear-lanceolate. Scapes leafless exceed few scattered bracts. Inflorescence racemose, paniculate or corymbose.	or ept
Calyx-lobes united in 2 lips. Inflorescence nearly simple, long and narrow.—Eastern species.	
Leaves linear-subulate, under 2 in. long. Fruit narrow-oblong.	•
oblong	
Leaves 2 to 6 in. long. Scape hirsute. Inflorescence thyrsoid. 12. S. elongatum.	
Leaves very narrow linear, mucronate. Raceme simple, loose, glandular	
Leaves mear but nat, obtuse or mucronate-acute densely	
tufted. Raceme loose, usually simple 14. S. cæspitosum. Leaves linear or slightly cuneate, usually erect, obtuse or rather acute. Raceme simple or nearly so. Stock often	
slightly elongated. Raceme nearly glabrous. Flowers purple or rarely yellow . 15. S. violaceum.	
Raceme glandular-pubescent. Flowers usually yellow . 16. S. luteum. Leaves densely tufted, linear or slightly cuneate, with a fine, usually hair-like point.	
Racemes mostly simple, slightly glaudular-pubescent 17. S. piliferum. Panicle narrow thyrsoid or rarely almost a simple raceme.	
clothed with yellowish, glandular hairs	
Perennial. Leaves in a dense globular tuft, with fine, hair-like points. Capsule 2 to 24 lines long	
Annual. Leaves linear-filiform. Capsule 1 to 1½ lines long 20. S. Fioodii. Calyr-lobes free. Inflorescence corymbose-paniculate. Capsule globular. Annual. Western species. 21. S. dispermum.	
Senies IV. Androsaceæ.—Small annuals, with radical resulate leaves and feu flowered, leafless scapes. Labellum long and ascending. Stigma stipitate between the anthers (sessile in all other series). Capsule globular.—Southern species.	o-
Corolla-tube spurred	
Series V. Spathulatee.—Perennials with a tufted or proliferous stock or rarely annuals. Leaves radical or terminal, from linear-spathulate to obovate. Scapes leafles except a few scattered bracts.	y
Tropical species. Leaves usually thin. Stock thick and woolly. Leaves pubescent, with a hair-like point. Panicle narrow-thyrsoid	
Raceme long and simple	
Scape with long, spreading, glandless hairs 26. S. floribundum. B 2	

Scape glabrous or with short, glandular hairs 27. S. leptorhizum. Western species. Percunials with firm leaves. Leaves linear connects thinks and the leaves.
Leaves linear-cuneate, thick and very obtuse. Panicle loosely
thyrsoid, glandular-pubescent
Leaves pubescent.
Stock proliferous-branched. Leaves under 1 in. long.
Scapes short, few-flowered. Leaves under § in. long. Leaves radical, ½ to 1½ in. long. Raceme long. Leaves entire
Leaves toothed
Series VI. Diversifoliæ. — Perennials with tufted or rosulate radical leaves. Scapes with 1, 2, 3, or 4 whorls of linear leaves, much smaller than the radical ones. Western species.
Radical leaves spathulate, under 2 in. Whorl-leaves very small and few. Raceme simple or nearly so.
Leaves obscurely striate
Radical larges about the strice
and few. Raceme simple or nearly so. Leaves obscurely striate
Radical leaves linear or oblanceolate
Whorls 1 or 2, very minute
Whorls several
Series VII. Verticillate.—Stems elongated, simple or branched. Leaves all linear in distant whorls, without larger radical ones. Western species
Inflorescence glabrons or nearly so
Series VIII. Sparsifoliæ.—Undershrubs or shrubs, with linear spreading leaves scattered along the branches and not collected in radical or terminal tufts.
Western species Branches toward
Eastern species. Petioles without adnate bases
Series IX. Imbricatee.—Stems branching, slender but hard, covered with small imbricate, almost scale-like leaves, not collected in radical or terminal tufts. Western species.
Leaves with scarious margins. Flowers few, sessile within the last Corolla-tube short 44. S. Preissii.
Dodres with stations marpins. Movere in a chart town
spike or raceme. Bracts leaf-like. Corolla-tube exserted 45. S. imbricatum. Leaves without scarious margins. Flowers few, in a pedunculate head or short raceme. Bracts leaf-like. Corolla-tube short . 46. S. adpressum.
Sect. II. Nitrangium.—Capsule linear or very narrow-oblong.
SERIES X. Tenelle - Slender annuals I
small. Bracts very
Capsule 2 to 4 lines long. Western species. Flowers pedicellate.

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lower ones not larger, the upper ones passing into the bracts.
      Tropical species.
   Series XI. Corymbulosee.—Slender annuals or small perennials. Leaves radical, rosalate or tufted. Scapes rarely exceeding 6 in. Flowers corymbose or sessile in the forks or along the scape or its branches, or solitary.
 Leaves radical, very small, oblong-linear or spathulate, not form-
 Flowers corymbose. Capsule oblong-linear. Western species . 55. S. brachyphyllum. Flowers 1 or 2. Capsule very narrow-linear. Tropical species 56. S. capillare.

Leaves radical, not forming a bulb, the lamina thin, obovate-orbi-
      ing a bulb.
       cular. Tropical species.
    Flowers in a loose, irregularly-corymbose panicle. Capsule
         narrow-linear.
       Calvx-lips undivided, short and broad. Corolla-lobes nearly
                                                                         . 57. S. rotundifolium.
       equal .
Calyx lower lip 3-partite. Corolla with 2 lobes much longer
            and bifid.
    Very slender, slightly glandular. Flowers white . . . 58. S. schizanthum.
Rather more rigid and glandular. Flowers pink . . . 59. S. lobuliflorum.
Flowers sessile along the scape or its branches. Capsule shortly
                                                                          60. S. uliginosum.
 linear
Leaves radical, small, linear or spathulate, the dilated base of the petioles forming a little brown bulb. Western species.
Flowers in a small regular corymb. Capsule linear
Flowers in a loose, irregular corymb.
                                                                       . 61. S. pulchellum.
        Scape without any or very few scattered bracts below the in-
                                                              . . . . 62. S. petiolare.
       Leaves radical, linear, densely tufted, not bulbous, ½ to 2 in. long. Western species.
     Flowers in a compact corymb, with the central one sessile.

Leaves not very narrow. Bracts oblong or ovate. Calyx-
     Flowers in a loose, divaricate, irregularly conjugate flowers solitary on each scape

Stem shortly developed below the terminal tuft of leaves and peduncles. Tropical species (except S. brachyphyllum).

Leaves linear-subulate. Peduncles 1-flowered.

Leaves oblanceolate or spathulate. Stem thick and hard.
                                                                         . 67. S. unistorum.
                                                                        . 69. S. pachyrhizum.
        Flowers corymbose
      Leaves petiolate, orbicular, membranous (1/2 to 1 in.).
        Flowers sessile along the branches of the peduncles . . . 70. S. muscicola.
       Leaves very small, narrow. Flowers pedicellate . . . . 55. S. brachyphyllum.
     (See also 77. S. bulbiferum and 78. S. breviscapum, which have the inflorescence some-
 times almost corymbose, but a proliferous-branched stock.)
    Series XII. Thyrsiformes.—Perennials with a tufted or proliferous-branched stock
 or stem, with radical or terminal tufts of leaves. Flowers in an oblong or elongated
 thyrsoid panicle or raceme.
 Stock hard, at length horizontal. Leaves radical, elongated, thick,
ock or stem proliferous-branched. Leaves narrow-linear.

Inflorescence thyrsoid, many-flowered. Upper leaves 1 in long

76. S. dichotomum.
   Inflorescence short, few-flowered or compact. Leaves under
         l in. long.
  Flowers few, loosely racemose. Capsule long, linear . . . 77. S. bulbiferum. Flowers in a compact cluster. Capsule lanceolate-linear . . 78. S. breviscapum. Branches of the stem slender.
      Leaf-tufts woolly at the base
                                       . . . . . . . . . . . . . . . 79. S. eglandulosum.
   Sect. III. Rhynchangium.—Capsule lanceolate or linear, contracted into a slender
beak. Perennials.
                        Leaves linear, scattered along the stem, the upper ones usually
forming a terminal tuft.
Both cells of the capsule equal and fertile .
                                                               . . . 80. S. fasciculatum.
Upper cell of the capsule scarcely half as broad as the more per-
     fect one. Capsule much falcate. Raceme usually simple.
  Raceme several inches long. Beak of the capsule short.
Raceme sessile, scarcely exceeding the leaves. Beak of the capsule long.
                                                                      . 81. S. falcatum.
(52. S. fissilobum, a slender annual, with very small leaves, has also the linear capsule
more or less distinctly beaked.)
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53. S. alsinoides, R. Br. Prod. 572. A glabrous and weak but usually erect and branching annual of $\frac{1}{2}$ to nearly 1 ft. Leaves alternate or scattered below the inflorescence, shortly petiolate, broadly ovate, 2 to 4 lines scattered below the inflorescence, shortly petiolate, broadly ovate, 2 to 4 lines long, obtuse and thin, the upper ones passing gradually into the narrow, acute, sessile floral leaves or bracts, which are almost always opposite. Flowers sessile in one axil of each pair of bracts. Calyx-tube linear, nearly $\frac{1}{2}$ in. long, the lobes narrow, not 1 line long, the 2 lower ones more or less united. Corolla very small, the lobes united at the base in pairs (without appendages?). Capsule linear, 8 to 9 lines long.—DC. Prod. vii. 337; F. Muell Fragm. [15] Muell. Fragm. i. 151.

N. Australia. Victoria river towards Stokes Range (starved, with narrow leaves) and Wickham river, Gulf of Carpentaria, F. Mueller.

Queensland. Endeavour river, Banks and Solander, A. Cunningham; Lizard Island, M'Gillivray; Rockingham Bay, Dallachy.

S. mitrasacmoides, F. Muell. Fragm. i. 150, from Palm Island, Victoria river, Flood, seems to be a small, starved specimen of S. alsinoides; the bracts, as in the typical form, were weeth corporate. are mostly opposite.

STYLIDIACEAE

Stylidium claytonoides W.V. Fitzg

Stylidium cordifolium W.V

52. **S. fissilobum**, F. Muell. Fragm. i. 154. A weak, filiform annual of $\frac{1}{2}$ to $1\frac{1}{2}$ ft., paniculately branched at the top, glabrous or with a few small glandular hairs on the inflorescence. Leaves very small and scattered, the lower ones more approximate but not rosulate, 1 to $1\frac{1}{2}$ lines long, all linear-subulate. Panicle loose and somewhat corymbose. Flowers sessile. Calyxtube long and filiform, the lobes linear-lanceolate, often partially united in 2 lips. Corolla twice as long as the calyx-lobes, the larger lobes bifid, with appendages both to the throat and labellum (F. Mueller). Capsule narrow-linear, $\frac{3}{4}$ to 1 in. long, very slender and beak-like at the end.

N. Australia. Grassy, inundated places on the Victoria river, between Main Camp and Steep Head, F. Mueller.

20. S. Floodii, F. Muell. Fragm. i. 149. A slender annual, some-

times shortly proliferous at the base. Leaves all radical or in a second tuft at the end of the short stem, very narrow-linear, almost filiform, obtuse or acute, $\frac{1}{2}$ to 1 in. long, glabrous or sprinkled with a few hairs. Scapes or peduncles usually several, leafless, slender, 3 to 6 in. high, usually sprinkled with a few hairs at the base, the inflorescence glandular-pubescent. Flowers very small, in loose, more or less corymbose panicles, all pedicellate. Calyx a little more than 1 line long, the lobes short and obtuse, free or the 2 lower ones united. Corolla "pink," the tube longer than the calyx-lobes, the lobes unequal, the throat with or without small appendages, the labellum without any. Capsule ovoid, 1 to $1\frac{1}{2}$ lines long.

N. Australia. Gravelly banks of the Upper Victoria and Roper rivers, F. Mueller. Queensland. Sources of Cape river, Bowman.

Stylidium flummense E. 91

STYLIDIACEAE Stylidium irrigum W.V. Fr

27. S. leptorhizum, F. Muell. Fragm. i. 148. Apparently annual, but the slender stem sometimes 1 to 3 in. long, bearing a few leaves below the terminal tuft or rosette, quite glabrous as well as the leaves, or sprinkled with a few short glandular hairs. Leaves rosulate, from oblanceolate to obovate or spathulate, obtuse or mucronate-acute, thin and membranous, often almost glaucous, $\frac{1}{2}$ to 1 or rarely 2 in. long, including the petiole. Scape slender, leafless, except the minute bracts, from 2 or 3 in. to $1\frac{1}{2}$ ft. long, glabrous or glandular hairy. Flowers small, in a slender, very loosely-branched panicle or raceme along its branches, with or without one in the fork, all on rather long slender pedicels without bracteoles. Calyx-lobes free, narrow and small. Corolla-lobes unequal (the 2 uppermost more united f), the labellum with 2 appendages, but none to the throat, or, according to F. Mueller, the appendages to the throat and not to the labellum. Capsule oblong-clavate, 2 lines long.—S. semipartitum, F. Muell. Fragm. i. 147.

N. Australia. Greville's Island, Regent river, N. Coast, A. Cunningham (in Herb. R. Br.); dry pastures on the Victoria river and between M'Adam Range and Providence Hill, P. Mueller; Port Essington, Armstrong. The glandular hairs on the staminal column mentioned by F. Mueller appear to be very inconstant, sometimes rather copious,

sometimes very few or none.

Var. pilosum. Leaves, scapes and inflorescence glandular-hairy.—Van Diemen's Gulf, N.W. Coast, A. Cunningham.

59. **S. lobuliflorum,** F. Muell. Fragm. 1. 153. A stender, erect annual, with the habit of S. schizanthum, but rather more rigid and minutely glandular-pubescent from the base of the scape. Leaves petiolate, rosulate, broadly obovate or orbicular, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, glabrous, rather firmer than in S. schizanthum. Scapes about 6 in. high, branching in the upper part into a loose, almost corymbose panicle. Flowers nearly sessile in the forks or terminating the branches. Calyx-lobes linear, much shorter than the slender tube, the 2 upper ones more or less united, the others free. Corolla with the 2 larger lobes bifid. Capsule linear, $\frac{1}{2}$ in. long or rather more.

tube, the 2 upper ones more or less united, the others free. Corolla with the 2 larger lobes bifid. Capsule linear, \(\frac{1}{2}\) in. long or rather more.

N. Australia. Moist sandy pastures on the Victoria river, near Steep Head, F. Mueller. This seems to me to be a more glandular variety of S. schizanthum. I do not quite understand the differences described in the form of the corolla. As far as I can ascertain from the dried specimens, it seems to me to be the same in both.

Stylidium multiscapum O. Sch

70. S. muscicola, F. Muell. Fragm. i. 153. Stems simple, erect, herbaceous but rather rigid, 1 to 4 in. high, with a few scattered leaves, and crowned by a spreading cluster of orbicular, membranous leaves on rather long petioles, the lamina ½ to above 1 in. diameter, usually glabrous. Peduncles several from amongst the terminal leaves and exceeding them, but flowering from near the base. Flowers sessile, in the axils of minute bracts, forming interrupted, more or less glandular spikes. Calyx-tube very slender, lobes small, narrow, the 2 lower ones more or less united. Corolla very small, the 2 larger lobes emarginate, the throat without appendages. Capsule very narrow-linear, 8 to 10 lines long.

R. Australia. In tufts of moss near springs and cataracts on the Upper Victoria river, F. Mueller, also from King's voyage in herb. R. Brown. This species has nearly the inflorescence of S. uliginosum, with a very peculiar habit and foliage.

59. S. pachyrhizum, F. Muell. Fragm. i. 152. Glabrous. Stem or stock thick, erect, 1 to 2 in. high, branching at the top. Leaves few, scattered, more crowded under the scapes, petiolate, oblanceolate or spathulate, rather thick. Peduncles or scapes several, 3 to 6 in. long, branching from near the base into a loose, spreading, corymbose panicle. Flowers sessile in the forks or terminating the branches. Calvx-lobes linear, free or the lower ones more or less united, much shorter than the slender tube. Corolla

small, the lobes nearly equal, the throat with small appendages, but none to the oblong labellum. Capsule linear, 4 to 6 lines long.

M. Australia. Pastures between Providence Hill and M'Adam Range, F. Mueller. The specimens not in good foliage.

57. S. rotundifolium, R. Br. Proc. 511. Giabrous, except a new glandular hairs on the inflorescence. Leaves radical, rosulate, obovate or orbicular, shortly petiolate, 2 to 3 lines long. Scapes filiform, 6 to 8 in. high, with a few, minute, scattered, narrow leaves, loosely corymbose at the top. Flowers small, shortly pedicellate or nearly sessile. Calyx-lobes united in 2 short, broad, entire lips. Corolla-lobes nearly equal, entire or emarginate, without appendages to the throat. Capsule linear, 5 to 8 lines long.—DC. Prod. vii. 335; F. Muell. Fragm. i. 151.

N. Australia. Plains at the foot of M'Adam Range, F. Mueller; Hunter's River, York Sound, A. Cunningham.

Queensland. Endeavour river, Banks and Solander; Shoalwater Bay, R. Brown.

The species is very near S. uliginosum, but the flowers are not so closely sessile, and the capsule much longer.

Stylidium rubriscapum W.V. Fitzg.

rosulate, radical leaves, closely resembling S. rotundifolium in foliage, inflorescence, and in the slender, linear capsules, but the calyx-lobes are linear and free, at least the 3 upper ones, and the corolla-lobes are larger and more deeply bifid, the 2 larger ones more divided, and united at the base into a kind of lower lip. Capsule above \(\frac{1}{2}\) in long.

N. Australia. Moist pastures on the Victoria river, F. Mueller. This species has the calyx and corolla nearly of S. uliginosum with the capsule of S. rotundifolium.