

The Genus *Psoralea* Linn.

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The South African species of the genus *Psoralea* were last monographed by Harvey in Harvey and Sonder's "Flora Capensis" (Vol. II) and since then much fresh material has accumulated in the South African Herbaria. As the genus is a fairly typical representative of the family, especially in the South-Western portion of the Cape Province, it was suggested to the writer that the local material be brought up to date. The Curators of the Bolus Herbarium, the National Herbarium, and the herbaria of the Albany and South African Museums very kindly placed their respective collections at the disposal of the writer. Archdeacon F. A. Rogers also allowed use to be made of his private collection. The writer is also indebted to Dr. I. B. Pole Evans, C.M.G., for granting facilities to undertake the work, and to Dr. E. P. Phillips for assistance and criticism.

The genus *Psoralea* comprises a large group of shrubs and herbs belonging to the sub-order *Papilionaceae* of the family *Leguminosae*. The species, numbering about 124, are found throughout the tropical and sub-tropical parts of the world, and of these, 49 occur in South Africa. Most of the species occur in the south-western districts of the Cape Province, but extend through the south-eastern districts into the Transkei and Natal. The majority of the Transvaal species are found in the northern spurs of the Drakensbergen, a few in the western districts. With one or two exceptions, the genus is not represented in the Karoo proper, nor in the north-western districts of the Cape Province, and but few species have been recorded from Namaqualand and South West Africa.

The habit of the species varies considerably; some attain a height of 15 feet, while others are low shrubs or diffuse herbs, while at least one species forms a dense cushion-like growth. A characteristic feature of the genus is the presence of resinous glands on practically every part of the plant. With the exception of *P. biovulata*, all the species are uni-ovulate. The flowers are blue, purple, or rarely yellow, and the majority of the species have sweetly-scented flowers.

PSORALEA (Linn.).

From "*The Genera of South African Flowering Plants*," by E. P. Phillips.

Calyx gland-dotted, sub-equally lobed, or the lowest segment the largest; the upper segments often connate. *Standard* ovate or orbicular, clawed, with inflexed sides; wings oblong, sub-falcate; keel incurved, obtuse, shorter than the standard. *Stamens* diadelphous; the vexillary stamen free or more or less connate with the others; anthers uniform or the alternate fixed higher. *Ovary* sessile or shortly stalked, 1-ovuled, in 1 species 2-ovuled; style filiform or dilated at the base, incurved above; stigma terminal. *Pod* ovate, indehiscent, concealed in the calyx. *Seed* without an appendage; funicle very short.

Herbs, shrubs or undershrubs; leaves gland-dotted, digitately 3 to many-foliate, pinnate or 1-foliate; stipules embracing the branches, scarcely adnate to the petiole; inflorescence a head, spike or raceme, axillary or terminal, or flowers fascicled or rarely solitary; bracts 2-3; bracteoles 0.

KEY TO SPECIES.

1. Leaves reduced or apparently absent, or leaflets filiform or linear to linear obovate, not much broadened from the base upwards.....	2
Leaflets obovate, oblanceolate or elliptic, broader at the apex than at the base.....	22
2. Leaves much reduced, never 5 mm. long.....	3
Leaflets long-linear, sometimes reduced to a single leaflet, but usually over 1 cm. long.....	4
3. Calyx pilose within.....	1 <i>aphylla</i> .
Calyx glabrous within; ovary 2-ovuled.....	2 <i>bioculata</i> .
4. Stipules connate, forming a tubular sheath enclosing the petiole.....	5
Stipules free or slightly connate, not forming a tubular sheath.....	6
5. Stipules with two short tooth-like points, leaflets sometimes solitary....	3 <i>restioides</i> .
Stipules with two long acuminate points, often exceeding 1 cm. in length.	4 <i>fascicularis</i> .
6. Leaflets 3, or leaves reduced to 1 leaflet.....	7
Leaflets more than 3.....	8
7. Leaves unifoliate.....	5 <i>Guenzii</i> .
Leaves trifoliate, rarely unifoliate.....	9
8. Vexillum glandular.....	6 <i>capitata</i> .
Vexillum not glandular.....	10
10. Leaflets uncinata, with a continuous row of glands round margin.....	7 <i>uncinata</i> .
Glands scattered; if in any way appearing as a marginal band, then leaves not uncinata....	11
11. Stems erect.....	12
Stems diffuse or decumbent.....	13
12. Leaflets lanceolate to linear-lanceolate.....	14
Leaflets linear to linear-oblong.....	15
14. Upper leaflets unifoliate; stems laxly leafy.....	8 <i>oligophylla</i> .
Leaflets all trifoliate; stems leafy.....	9 <i>verucosa</i> .
15. Glands immersed in leaves.....	10 <i>polyphylla</i> .
Glands not immersed.....	16
16. Leaflets pellucid-dotted.....	11 <i>Mundtiana</i> .
Leaflets nigro-punctate.....	17
17. Calyx glabrous within.....	12 <i>candicans</i> .
Calyx pilose within.....	18
18. Vexillum geniculate with two slight appendages at apex of the claw....	13 <i>axillaris</i> .
Vexillum not geniculate; no appendages.....	19
19. Leaves glabrous.....	14 <i>triantha</i> .
Leaves densely hirsute when young, never quite glabrous.....	15 <i>Bolusii</i> .
13. Leaves not exceeding 5 mm. in length.....	16 <i>oreophila</i> .
Leaves exceeding 1 cm. in length.....	20
20. Leaves on petioles up to 2 cm. in length.....	17 <i>glauca</i> .
Leaves on petioles up to 1 cm. in length.....	18 <i>tenuissima</i> .
8. Leaves with 5-7 pairs of leaflets; flowers white.....	19 <i>odoratissima</i> .
Leaves with 2-5 pairs of leaflets; flowers blue.....	21
21. Pedicels up to 2.5 cm. long, with connate bracts seldom exceeding 1 mm. in length.....	20 <i>pinnata</i> .
Pedicels up to 4 cm. long, with connate bracts up to 4 mm. long.....	21 <i>affinis</i> .
22. Stems diffuse or procumbent.....	23
Stems erect or ascending.....	24
23. Vexillum glandular.....	22 <i>repens</i> .
Vexillum not glandular.....	25
25. Leaflets mucronulate.....	26
Leaflets without a mucro.....	27
26. Leaflets glabrous.....	28
Leaflets pubescent.....	29
28. Inflorescence terminal, spicate; calyx veined.....	23 <i>bracteata</i> .
Inflorescence axillary, racemose, calyx-tube and lobes marked with purple striae.....	24 <i>Bowieana</i> .
29. Leaves nigro-punctate, pubescent.....	25 <i>decumbens</i> .
Leaves pellucid-dotted, canescent.....	26 <i>argenta</i> .
27. Peduncles with 2 sessile flowers.....	27 <i>biflora</i> .
Peduncles with 3 or more shortly pedicelled flowers.....	28 <i>obtusifolia</i> .
24. Leaves unifoliate.....	30
Leaves trifoliate.....	31
30. Leaves glabrous.....	29 <i>rotundifolia</i> .
Leaves hispid.....	30 <i>Thomii</i> .

31. Calyx glabrous.....	32
Calyx pubescent.....	33
32. Stipules persistent; leaflets with a recurved mucro.....	31 <i>aculeata</i> .
Stipules not persistent; leaflets mucronulate.....	32 <i>Keetii</i> .
33. Flowers 1-3 together, axillary.....	34
Flowers in terminal or axillary heads or spikes.....	35
34. Leaflets with a recurved mucro.....	36
Leaflets with fine mucro, or none at all.....	37
36. Leaflets nigro-punctate.....	33 <i>polysticta</i> .
Leaflets pellucid-dotted.....	34 <i>carnea</i> .
37. Leaflets elliptic-oblong; lateral leaflets unequal sided.....	35 <i>obliqua</i> .
Leaflets cuneate; with prominent wart-like glands on the lower surface.....	36 <i>macradenia</i> .
35. Inflorescence on peduncles exceeding 3 mm. long.....	38
Inflorescence sessile or on peduncles up to 3 cm. long.....	39
38. Peduncles exceeding 10 cm.....	40
Peduncles not exceeding 10 cm.....	41
40. Leaves densely canescent on the lower surface; heads globose on peduncles up to 14 cm.....	37 <i>tomentosa</i> .
Leaves glabrescent; inflorescence a compound spike on peduncles up to 16 cm.....	38 <i>Zeyheri</i> .
41. Margin of leaflets dentate-crenulate.....	39 <i>Patersoniae</i> .
Margin of leaflets entire.....	42
42. Flowers in groups of 3 on short axillary and terminal peduncles.....	43
Flowers in lax whorls of 3-5 on rigid woody axillary and terminal peduncles.....	44
43. Terminal leaflet on petiole up to 1 cm. long; apex rounded.....	40 <i>caffra</i> .
Terminal leaflet sub-sessile, obtuse.....	41 <i>venusta</i> .
44. Leaves and stems silky canescent.....	42 <i>hirta</i> .
Leaves and stems roughly hirsute.....	43 <i>stachydis</i> .
39. Ovary glabrous.....	45
Ovary pilose.....	46
45. Leaves densely nigro-punctate on both surfaces.....	44 <i>spicata</i> .
Leaves sparsely glandular; glands near margins.....	45 <i>racemosa</i> .
46. Spikes sessile.....	47
Spikes on peduncles up to 2.5 cm.....	48
47. Leaves obovate, hooked at the apex.....	46 <i>hamata</i> .
Leaves oblanceolate, flat.....	47 <i>Wilmsii</i> .
48. Leaves, etc., canescent; mucro recurved.....	48 <i>striata</i> .
Pubescence yellowish; leaves mucronulate.....	49 <i>Royffei</i> .

1. *P. aphylla* Linn.

A tall erect virgate shrub up to 30 metres with drooping branches. *Stems* glabrescent, glandular, canescent when young. *Leaves* unifoliate, 5-17 mm. long, linear, acute; present only on very young stems, their place on older stems being taken by ovate acute bracts up to 5 mm. long. *Stipules* adnate to the base of the petiole, up to 3 mm. long, filiform, acute. *Flowers* axillary, 1-3 subtended by a bract. *Pedicels* bracteolate about the middle, with scattered black hairs on upper portion. *Bracts* up to 5 mm. long, connate, bi-lobed, acute, glandular, pilose. *Calyx-tube* 2.5-6 mm. long, 6-10 mm. in diameter, 10 nerved, glandular, glabrous to nigro-hirsute; lobes linear-lanceolate to lanceolate-ovate, acute, glandular, ciliate, glabrous or laxly nigro-hirsute; shortly pilose on the inner surface; upper and lateral lobes 2-6 mm. long, 1-2 mm. broad; slightly sub-falcate; lowest lobe 4-12 mm. long, 1.5-8 mm. broad. *Vexillum* 7-14 mm. long, 6-15 mm. broad, obovate or sub-orbicular, geniculate, shading from white to deep blue; claw 1-4 mm. long, with two small appendages at the apex; alae pure white, 7-12 mm. long, 2-8 mm. broad, with a linear claw 2-5 mm. long; carina with a deep blue blotch at the apex, 5-9 mm. long, 3-6 mm. broad, with a linear claw 2-7 mm. long. *Ovary* glabrous; style 6-9 mm. long, glabrous.

Flowers: June-January.

CAPE.—Clanwilliam district: Klavoer, *Wolley Dod* 298; Piquetberg district: Piquetberg, *Edwards* 248; Worcester district: Mitchell's Pass, *Bolus* 2607; Tulbagh district: Waterfall, *Ecklon* and *Zeyher*; *Rogers* 17395; Cape district: Table Mountain, *MacOwan* 924; *Bolus*; *Ecklon* and *Zeyher* 1530; *Galpin* 3695, *Ecklon* and *Zeyher*, *Forbes*

140; Wynberg, *Wolley Dod* 21; Wynberg and Kalk Bay, *Bolus* 2607; Camps Bay, *Rogers* 3022 without precise locality, *Wolley Dod* 2257; Caledon district: Steenbras, *Moss and Rogers* 1540; *Rogers* 10510; Zwart Berg, *Galpin* 3694; Mossel River, *Potts* 1586; Riversdale District: Riversdale, *Schlechter* 1881.

2. *P. biovulata* Bolus.

A small slender shrub. *Stems* .3–.6 mm. long, slender, thinly canescent when young, becoming glabrescent. *Leaves* up to 6 mm. long, resembling scales, adpressed, exstipulate, rigid, few, linear-acuminate or subulate, glabrescent, ciliate, with incurved margins. *Flowers* terminal, 1–3 together on short pedicels or subsessile. *Pedicels* bracteate. *Calyx-tube* up to 1.5 mm. long, 3 mm. in diameter, pilose with short silky white hairs, 10-nerved; lobes unequal, lanceolate, acuminate, ciliate, minutely glandular, glabrous on the inner surface; 2 lobes 1–1.5 mm. long, about 5 mm. broad; 3 lobes 2–3 mm. long, 0.5–1 mm. broad. *Vexillum* 4 mm. long, 5–6 mm. broad, broadly obovate, with a short claw 1 mm. long; alae 4–5 mm. long, 2 mm. broad, with a linear claw 1.5 mm. long; carina 3–3.5 mm. long, 2 mm. broad, with a linear claw 1.5 mm. long. *Ovary* pilose, 2 ovuled; style 3 mm. long, pilose.

Flowered: October.

CAPE.—Bredasdorp district: Mount Elim, *Bolus* 6902.

3. *P. restioides* E. and Z.

A slender trailing suffruticose. *Stems* up to .6 m. long, glabrous, glandular, striate. *Leaves* unifoliate, rarely trifoliate, petiolate, stipulate; petioles up to 1.5 cm. long; leaflets 0.5–3 cm. long, scarcely 1 mm. broad, subsessile, filiform, mucronulate, glabrous, glandular. *Stipules* adnate to the base of the petiole; up to 1.1 cm. long, stem-clasping, glandular. *Flowers* solitary, axillary, pedicellate. *Pedicels* up to 1 cm. long, bracteolate about the middle. *Bracts* membranous, tri-lobed, glandular, ciliate; 1 lobe short; 2 lobes up to 6 mm. long, acute, filiform, sub-falcate. *Calyx-tube* 2–4 mm. long, 4–7 mm. in diameter, glabrous, glandular; lobes unequal, lanceolate, ciliate, glandular, glabrous, shortly nigro-hirsute on the inner surface; upper and lateral lobes 1–4 mm. long, 0.4–1.5 mm. broad; lowest lobe 4–6 mm. long, 1–2 mm. broad, subulate. *Vexillum* 5–7 mm. long, 5–8 mm. broad, obovate, with a linear claw 1.5–3 mm. long; alae 5–6.5 mm. long, 1.5–2.5 mm. broad, with a linear claw 2–3 mm. long; carina 3–4 mm. long, 1–2 mm. broad, with a linear claw 2.5–4 mm. long. *Ovary* glabrous; style 3–4 mm. long, glabrous.

Flowered: August–December. Flowers: Violet-blue.

CAPE.—Clanwilliam district: Vogelgat, *Schlechter* 9529; Cape district: Muizenberg, *Bolus* 4271, *Wolley Dod* 2566; Table Mountain, *Bolus* 4504, *Wolley Dod* 795; Caledon district: Klein River, *Ecklon and Zeyher*, Hermanus, *Burt-Davy*, *Bolus* 9841; Bredasdorp district: Elim, *Bolus* 6901, *Bodkin*; Riversdale district: Riversdale, *Rogers* 4394, *Muir* 794, Langeberg, *Schlechter* 2153; Mossel Bay district: Mossel Bay, *Potts*.

4. *P. fascicularis* D.C.

Plants suffruticose. *Stems* up to 6 metres, slender, diffuse or ascending, glabrous. *Leaves* trifoliate, sometimes unifoliate; leaflets 1–3 cm. long, linear-lanceolate, apex very acute; petioles up to 2.5 cm. long. *Stipules* adnate to the petiole, stem-clasping, up to 3 cm. long; points of stipules 1–3 cm. long, subulate, acute. *Flowers* axillary, solitary, or several together. *Pedicels* up to 6 mm. long, axillary, solitary or several together. *Calyx-tube* 2 mm. long, 5 mm. in diameter, glandular, glabrous; lobes linear-lanceolate, acute, glabrous, ciliate, nigro-hirsute on the inner surface; upper and lateral lobes 2–3 mm. long, up to 1 mm. broad; lowest lobe 5 mm. long, 1 mm. broad. *Vexillum* 5–6 mm. long, 4–5 mm. broad, obovate with a linear claw 2 mm. long; carina 3–3.5 mm. long, 1.5 mm. broad, with a claw 2 mm. long; alae 5 mm. long, 1.5–2 mm. broad, with a claw 2 mm. long. *Ovary* glabrous; style 3–4 mm. long, glabrous.

Flowers: November–January.

CAPE.—Stellenbosch district: Hottentots Holland near Somerset West, *Ecklon and Zeyher*; Cape district: Newlands, *Forbes* 89, Orange Kloof Farm, *Wolley Dod* 3166.

5. *P. Gueinzii* Harv.

Plant suffruticose. *Stems* 3-6 metres, diffuse, villous, becoming glabrescent. *Leaves* unifoliolate, 1-2.5 cm. long, up to 4 mm. broad, lanceolate, very acute, sub-sessile. *Stipules* ovate, acute, striate, persistent. *Flowers* axillary, pedicellate. *Pedicels* short, about 3 mm. long, bi-bracteolate. *Bracts* about 3 mm. long, ovate, acute, ciliate. *Calyx-tube* 2 mm. long 6 mm. in diameter, sparsely glandular and villous; lobes lanceolate, acute, ciliate, glands small, pilose on the inner surface; upper and lateral lobes 3-3.5 mm. long, about 1 mm. broad, lowest lobe 5 mm. long. *Vexillum* obovate, 1 cm. long, 8 mm. broad, with a narrow channelled claw 2 mm. long; alae 7 mm. long, 2 mm. broad, with a linear claw 2 mm. long; carina 5 mm. long, 3 mm. broad, with a linear claw 3 mm. long. *Ovary* glabrous; style 6 mm. long, glabrous.

CAPE.—Stellenbosch district: Hottentots Holland, *Ecklon* and *Zeyher*.

6. *P. capitata* L.f.

Plant shrubby. *Stems* slender, up to 12 metres long, sparsely leafy, striate, glandular, glabrescent. *Leaves* uni or trifoliolate; upper leaves usually unifoliolate; petioles variable, up to 2.5 cm. long; leaflets 1-8 cm. long, up to 4 mm. broad, linear to linear-lanceolate, acute, nigro-punctate, glabrescent. *Stipules* adnate to the base of the petiole, up to 7 mm. long, subulate, acute. *Inflorescence* spicate or compressed into an aggregated terminal head subtended by one or more unifoliolate leaflets with simple acute glandular pilose adnate stipules up to 1 cm. long, or stipules simple or connate. *Flowers* pedicellate. *Pedicels* about 2 mm. long, bracteate. *Calyx-tube* 1.5-2 mm. long, 3-5 mm. in diameter, glandular, glabrous to villosa-hirsute; lobes lanceolate, acute, ciliate, glandular, glabrous to villosa-hirsute without, pilose to nigro-hirsute within; upper and lateral lobes 1-3 mm. long, 0.5-1 mm. broad; lowest lobe 2.5-5 mm. long, 0.5-1 mm. broad. *Vexillum* 5-7.5 mm. long, 4-6 mm. broad, obovate, glandular, with a claw 0.5-2 mm. long; alae 4.5-7 mm. long, 1.5-2 mm. broad, with a linear claw 1-2 mm. long, carina 4-6 mm. long, 1.5-2 mm. broad, with a linear claw 1-3 mm. long. *Ovary* glabrous; style 3-7 mm. long, glabrous.

Flowers: November-April.

CAPE.—Caledon district: Twenty-four Rivers, *Zeyher*; Tulbagh district: Waterfall, *Zeyher*; Cape district: Kenilworth, *Bolus* 3285; Knysna district: Knysna, *Zeyher*, Plettenberg Bay, *Leipoldt*; Uitenhage district: Witte Klip, *Bolus*, Zwartkops River, *Zeyher* 2386; Albany district: Grahamstown, *Glass*, *Southey*; Komgha district: Cape Morgan, *Flanagan* 2370.

LOCALITIES UNKNOWN.—*Zeyher* 4945, *Tyson* 3049, *MacOwan* 2068.

7. *P. uncinata* E. and Z.

Plant small, 3-6 metres high; branching chiefly from the root. *Stems* erect, canescent, becoming glabrous, striate; glands becoming conspicuous when the stems are glabrous. *Leaves* trifoliolate, at equidistant nodes 3 cm. apart, shortly petiolate, stipulate; petioles up to 5 mm. long; leaflets up to 3.2 cm. long and 4 mm. broad, linear-oblong, a few lower ones cuneate-oblong, acuminate, uncinata, with scattered hairs and glands, the glands forming a continuous band round the margins. *Stipules* adnate to the base of the petiole, striate, canescent, glabrescent, with two lanceolate acute points up to 7 mm. *Inflorescence* terminal and axillary, in dense sub-globose heads. *Peduncles* very short, up to 6 mm. long. *Flowers* sessile or sub-sessile. *Calyx-tube* 3-4 mm. long, 6-8 mm. in diameter, canescent, distinctly 10-nerved, sparsely glandular; lobes linear-lanceolate, acute, glandular, canescent, ciliate, with the inner surface glabrous or shortly and thinly pilose; upper and lateral lobes 4-6 mm. long, 1-2.5 mm. broad; lowest lobe 6 mm. long, 2-3 mm. broad. *Vexillum* 6-8 mm. long, 4-6 broad, obovate with a linear claw 1-3 mm. long; alae 5-7 mm. long, 1-2 mm. broad, with a claw 3-4 mm. long; carina 3-4 mm. long, 1.5-2 mm. broad, with a claw 3-4 mm. long. *Ovary* pilose; style glabrous.

Flowers: November-January.

CAPE.—Piquetberg district: Pentonville, *Edwards* 249; Tulbagh district: near Tulbagh, *Zeyher* 1554, *Rogers* 17341, Wintershoekberg, *Zeyher*; Cape district: Capetown, *Guthrie*; Caledon district: Vier-en-Twintig Rivier, *Zeyher*; Beaufort West district: Nieuwe Kloof, *Schlechter* 9038.

8. *P. oligophylla* E. and Z.

A tall slender virgate shrub. *Stems* glabrous, glandular, striate, sparsely leafy. *Leaves* uni- or trifoliolate, petiolate, stipulate; petioles up to 1 cm. long; leaflets up to 4.5 cm. and 4 mm. broad, linear to linear-lanceolate, acute, glabrous, glandular. *Stipules* minute, subulate. *Flowers* axillary 1-3 together. *Pedicels* up to 3 cm. long, bibracteolate near the apex. *Bracts* 2-4 mm. long, with acute glabrous ciliate glandular lobes. *Calyx-tube* 2-4 mm. long, 6-9 mm. in diameter, glandular, glabrous, 10-nerved; lobes 1-5 mm. long, 1-2 mm. broad, slightly unequal, lanceolate-ovate, acute, slightly sub-falcate, glabrous, glandular, ciliate, shortly pilose on the inner surface. *Vexillum* 6-11 mm. long, 7-12 mm. broad, sub-orbicular, geniculate; claw 1-4 mm. long, with two slight appendages at the apex; alae 0.6-1 cm. long, 2.5-5 mm. broad, with a linear claw 2-5 cm. long; carina 4-7.5 mm. long, 2.5-5.5 mm. broad, with a linear claw 3-6 mm. long. *Ovary* glabrous; style 3-8 mm. long, glabrous. *Pod*, when fully developed, about 6 mm. long and 3 mm. broad; seed about 4.5 mm. long, 2 mm. broad, brown.

A tall shrub 5-6 feet high, growing usually in moist places.

Flowers: Blue.

CAPE.—Van Rhynsdorp district: Giftberg, *Phillips* 3236, 7488; Ceres district: Onderbokkeveld, *Ecklon* and *Zeyher*, Koude Bokkeveld, *Schlechter*, Matroosberg, *Phillips* 1944; Worcester district: Hex River Valley, *Tyson* 1908, *Rehmann* 1533, 1534; Riversdale district: Riversdale, *Muir* 81; George district: Outeniqua Mountains, *Hops* 52, George, *Schlechter* 2227; Humansdorp district: near Humansdorp, *Schonland* 3086, Witte Els Bosch, *Fourcade* 827; Port Elizabeth district: Hankey, *Sim* 173, *Forest Dept. Herb.* 3957; Bathurst district: Bathurst, *Rogers* 3516; Albany district: Grahamstown, Featherstone's Kloof, *Bolus* 1935, Atherstone, *Rogers* 3316, Howison's Poort, *Galpin* 141, *Glass*, *Barber*, *Galpin* 336, *Zeyher* 2383, *Ecklon* and *Zeyher*, *MacOwan* 448, Asylum, *Daly* and *Sole* 137, Hofman's Bosch, *Britten* 1327, near Sanatorium, Zuurberg, *Schonland* 3185, Cold Spring, *Rogers* 5635, 27312, 27514; Queenstown district: Queenstown, *Galpin* 8107, Cathcart Shiloh, *Baur* 862; Kingwilliamstown district: Kingwilliamstown, *Sim* 2301; Komgha district: Komgha, *Flanagan* 556, 3410; Tembuland, Xalanga, *Bolus* 8858.

Gt. Bushmanland, Vogelklip, *Pearson* and *Pillans* 5932, Leliefontein, *Pearson* 6344.

LOCALITIES UNKNOWN.—*Rogers* 17584, *Schlechter* 10186, *Britten* 140.

9. *P. verucosa* Willd.

Plant shrubby. *Stems* erect, glandular striate, tomentulose. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 1.5 cm. long; leaflets up to 4 cm. long and 4 mm. broad, linear-lanceolate, acute, glabrous, nigro-punctate. *Stipules* up to 3 mm. long, subulate, acute. *Flowers* axillary, 1-3 together. *Pedicels* up to 2.2 cm. long, bracteolate. *Bracts* about 1 mm. long. *Calyx-tube* 3 mm. long, 5-9 mm. in diameter, 10-nerved, glandular, glabrous; lobes ovate, acuminate, glabrous, glandular, ciliate, shortly pilose on the inner surface. *Vexillum* 0.5-1 cm. long, 0.5-1.2 cm. broad, sub-orbicular, geniculate; claw 0.5-2 mm. long, with two slight appendages at the apex; alae 5-9 mm. long, 2-5 mm. broad, with a linear claw 3-5 mm. long; carina 3-5 mm. long, 2-4 mm. broad, with a linear claw 1-6 mm. long. *Ovary* glabrous; style 2-8 mm. long, glabrous.

CAPE.—Worcester district: Worcester, *Ecklon* and *Zeyher* 1520; Knysna district: Wittedrift, Plettenberg Bay, *Zeyher*; Humansdorp district: Humansdorp, Storms River, *Schlechter* 5971; Uitenhage district: Zwartkops River, *MacOwan* 725, *Ecklon* and *Zeyher* 1521, *Zeyher* 2379; Port Elizabeth district: Walmer, *Paterson* 829, Braakens River, *Burchell* 4218.

10. *P. polyphylla* E. and Z.

Plant shrubby, pubescent, glabrous when older. *Stems* erect, leafy, branched. *Leaves* trifoliolate, sub-sessile, stipulate; leaflets 1.1–1.5 cm. long, 2–4 mm. broad, linear to linear-oblong, mucronate, glands immersed; lateral leaflets unequal sided. *Stipules* small, ovate, acuminate, not persistent. *Flowers* axillary, 2–3 together. *Pedicels* very short. *Calyx-tube* nigro-villous and veined; upper and lateral lobes subulate, the lowest ovate-lanceolate, longer than the rest.

Flowered: July.

CAPE.—Uitenhage district: Krakakamma, *Ecklon* and *Zeyher* 1536. Description taken partly from "Flora Capensis," as there were no complete flowers on the material seen.

11. *P. Mundtiana* E. and Z.

Plant shrubby, up to .6 m. high. *Stems* erect, pubescent, leafy. *Leaves* trifoliolate, petiolate, stipulate; petioles about 5 mm. long, glabrescent; leaflets 1.5–2.5 cm. long, 4–6 mm. broad, broadly linear to linear-oblong, tapering at the base, recurved mucronate, pellucid dotted. *Stipules* about 5 mm. long and 1.5 mm. broad, ovate, acute, pubescent, scarious, striate. *Flowers* axillary, 2–3 together. *Pedicels* short. *Calyx-tube* 3 mm. long, 8 mm. in diameter, glandular, villous; lobes lanceolate, acute, villous, glandular, ciliate, pilose on the inner surface; upper and lateral lobes 5–7 mm. long, 1–1.5 mm. broad; lowest lobe 8 mm. long, 2 mm. broad. *Vexillum* 6 mm. long, 5 mm. broad, obovate, with a narrow channelled claw 1.5 mm. long; alae 6 mm. long, 1.5 mm. broad, with a linear claw 2 mm. long; carina 3 mm. long, 2 mm. broad, with a linear claw 2 mm. long. *Ovary* and style missing in the specimen examined.

Flowered: December.

CAPE.—Swellendam district: Swellendam, *Ecklon* and *Zeyher* 1537.

12. *P. candicans* E. and Z.

Plant shrubby, virgate, densely or thinly canescent, glabrescent. *Stems* erect, laxly leafy. *Leaves* trifoliolate, shortly petiolate, stipulate; petioles about 2 mm. long; leaflets 1.5 cm. long, 0.65 cm. broad, linear to linear-oblong, obtuse, recurved mucronate, nigropunctate; a few of the lower leaflets cuneate. *Stipules* small, up to 3 mm. long, adnate to the base of the petiole, subulate, acute, glandular. *Inflorescence* axillary, 1–3 flowers on common peduncle. *Peduncles* up to 1.7 cm. long; pedicels about 4 mm. long. *Calyx-tube* 1.5–3 mm. long, 4–6 mm. in diameter, canescent, distinctly 10-nerved, with small often inconspicuous glands; lobes linear-lanceolate, acute, pilose, glandular, glabrous on the inner surface; upper and lateral lobes 2–4 mm. long, about 1 mm. broad, slightly sub-falcate; lowest lobe 4–6 mm. long, about 1 mm. broad. *Vexillum* 3–5 mm. long, 3–5 mm. broad, obovate, with a linear claw 1–2 mm. broad; alae 3–5 mm. long, 1–2 mm. broad, with a claw 1.5–2 mm. long; carina 2–3 mm. long, 1–2 mm. broad, with a claw 2 mm. long. *Ovary* pilose; style 2–3 mm. long, glabrous.

Flowered: September–May.

CAPE.—Worcester district: Hex River, *Bolus* 8005; Caledon Division: *Zeyher*, Elandskop, *Schlechter* 9757, Ruggens near Zuurborg, *Galpin* 3960, near Genadendal, *Galpin* 3959, *Bolus* 7381; Swellendam district: Swellendam, Grootvaders Bosch, *Zeyher* 1539; Uitenhage district: Zwartkop River, *Zeyher* 2731; Albany district: Redhouse, Grahams-town, *Paterson* 238; Somerset East district: Bruntzeshoogte, *MacOwan*.

WITHOUT LOCALITY: *Zeyher* 2373.

13. *P. axillaris* L.

Plant shrubby. *Stems* erect, glabrous, glandular, striate. *Leaves* trifoliate, stipulate, petiolate; leaflets 1-2.8 cm. long, 3-8 mm. broad, linear to linear-oblong, tapering at the base, obtuse, mucronulate, nigro-punctate, glabrous. *Stipules* about 3 mm. long, subulate. *Flowers* axillary, usually solitary. *Pedicels* up to 2 cm. long, bracteolate near the apex. *Calyx-tube* 2-4 mm. long, 0.6-1 cm. in diameter, thickly nigro-punctate, glabrous; lobes 1-3 mm. long, 1-2 mm. broad, slightly unequal, ovate, obtuse, nigro-punctate, glabrous shortly ciliate, pilose on the inner surface. *Vexillum* 0.8-1 cm. long, 0.8-1.1 cm. broad, sub-orbicular, geniculate; claw channelled, 1.5-2 mm. long, with two slight appendages above; alae 0.7-1 cm. long, 3-5 mm. broad, with a claw 3-5 mm. long; carina 5-6 mm. long, 4-5 mm. broad, with a linear claw 5-6 mm. long. *Ovary* glabrous; style 6-9 mm. long, glabrous.

CAPE.—Tulbagh district: Tulbagh, *Burchell* 1033; Knysna district: Knysna, *Duthie* 767, Plettenberg Bay, *Zeyher*; Uitenhage district: Witteklip, *MacOwan* 1044; Port Elizabeth district: Port Elizabeth, *Kemsley* 247, *Paterson* 829, Van Stadens River, *Bolus*.

14. *P. triantha* E. Mey.

A slender shrub up to 4 ft. *Stems* erect, tomentulose. *Leaves* trifoliate, petiolate, stipulate; petioles about 6 mm. long; leaflets 0.5-2.5 cm. long, up to 6 mm. broad, linear, spathulate, recurved mucronate, thick, glabrous, nigro-punctate. *Stipules* about 2.5 mm. long, acuminate. *Flowers* axillary, crowded. *Pedicels* 0.5-1 cm. long. *Calyx-tube* 2 mm. long, 4-6 mm. in diameter, pubescent, glandular; lobes lanceolate, pubescent, pilose on the inner surface; upper and lateral lobes 1-2 mm. long, 0.5-1 mm. broad. *Vexillum* 4-8 mm. long, 4-6.5 mm. broad, obovate, with a linear claw 1.5-2 cm. long; alae 4-6 mm. long, 1.5-2.5 mm. broad, with a linear claw 2-3 mm. long; carina 2.5-3 mm. long, 1.5-2 mm. broad, with a linear claw 2.5-3 mm. long. *Ovary* glabrous or thinly pilose; style 3-4 mm. long, filiform.

Flowers: November-February.

CAPE.—Clanwilliam district: Clanwilliam, *Leipoldt* 632; Tulbagh district: Witsenberg, *Zeyher* 446; Cape district: Blaauwberg, *Drege*; Paarl district French Hoek, *Schlechter* 10268, Paarl, *Schlechter* 202; Uitenhage district: Zwartkop River, *Zeyher* 263.

15. *P. Bolusii* Forbes n. sp.

Plant shrubby, small. *Stems* erect, leafy, glandular, striate; young stems densely albotomentose becoming glabrescent. *Leaves* trifoliate, petiolate, stipulate; petioles about 7 mm. long; leaflets 1-2.5 cm. long, about 4 mm. broad, linear to linear-oblong, nigro-punctate, densely albo-hirsute becoming almost glabrous, recurved mucronate. *Stipules* adnate to the base of the petiole, up to 5 mm. long, subulate, acute. *Flowers* axillary, in groups of 3, sub-sessile. *Calyx-tube* 3 mm. long, 5 mm. in diameter, glandular, hirsute; lobes unequal, hirsute, long-ciliate, glandular, pilose on the inner surface; two upper lobes 2 mm. long, about 0.25 mm. broad, linear, acute; lateral lobes 3.5-4 mm. long, about 0.5 mm. broad, linear, acute; lowest lobe 6 mm. long, 1.5 mm. broad, lanceolate, acute. *Vexillum* 5.5 mm. long, 5.5 mm. broad, obovate, with a channelled claw 3 mm. long; alae 5.5 mm. long, 2.5 mm. broad, with a linear claw 2.5 mm. long; carina 3 mm. long, 1.5 mm. broad, with a linear claw 3 mm. long; *Ovary* thinly pilose; style 3 mm. long, filiform.

Flowered: October.

CAPE.—Piquetberg district: Piquetberg, *Bolus*.

16. *P. oreophila* Schltr.

A very small slender herb, branching from the root. *Stems* decumbent, up to 3 metres long, filiform, subterete, with scattered leaves. *Leaves* trifoliate, petiolate, stipulate; petioles slender; leaflets linear, acute, narrowing at the base. *Stipules* 4-5 mm. long, equalling or about half the length of the petiole, connate, linear-lanceolate, acute, glabrous.

Flowers axillary, solitary. *Pedicels* nearly equalling the leaves, bracteolate near the middle. *Bracts* up to 5 mm. long. *Calyx-tube* 2 mm. long, 4.5–5 mm. in diameter, glabrous, glandular; lobes linear-lanceolate, acute, glabrous, glandular, very shortly ciliate, glabrous on the inner surface; upper and lateral lobes 3–5 mm. long, 1–1.25 mm. broad; lowest lobe 5.5–6 mm. long, 1.5 mm. broad. *Vexillum* 5.5–6 mm. long, 6–8 mm. broad, sub-orbicular with a channelled claw 1.5–2 cm. long; alae 4.5–5 mm. long, 2 mm. broad, with a linear claw 2–2.5 mm. long; carina 3 mm. long, 2 mm. broad, with a linear claw 2–2.5 mm. long. *Ovary* glabrous; style 3.5 mm. long, glabrous.

Flowered: January. Flowers: Deep blue.

CAPE.—Caledon district: Sir Lowry's Pass, *Schlechter* 7233.

17. *P. glaucina* Harv.

Plant suffruticose, diffuse. *Stems* slender, glabrous. *Leaves* trifoliolate, petiolate, stipulate; petioles 0.7–2 cm. long; leaflets 0.9–2 cm. long, up to 2 mm. broad, linear-lanceolate, acute, tapering at the base, glabrous, glandular. *Flowers* axillary, 1–3 together. *Pedicels* 1–1.5 cm. long, bracteolate near the middle. *Bracts* 2–2.5 mm. long, tri-lobed, ciliate, acute. *Calyx-tube* 2 mm. long, 5 mm. in diameter, glandular, glabrous, 10-nerved; lobes lanceolate, acute, glandular, glabrous, with almost reticulate veining, shortly ciliate, very shortly pilose on the inner surface; upper and lateral lobes 1.5–2 mm. long, up to 1 mm. broad; lowest lobe 3 mm. long, 1 mm. broad. *Vexillum* 4 mm. long, 4 mm. broad, obovate, with a channelled claw 1 mm. long; alae 3 mm. long, 1.5 mm. broad, with a linear claw 2 mm. long; carina 2 mm. long, 1 mm. broad, with a linear claw 3 mm. long. *Ovary* glabrous; style 3 mm. long, glabrous.

CAPE.—Doornhoogte, *Ecklon* and *Zeyher*.

18. *P. tenuissima* E. Mey.

Plant slender, trailing. *Stems* up to 6 metres long, glabrous. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 9 mm. long; leaflets up to 2.5 cm. long, 1.5 mm. broad, narrow, linear, acute, nigro-punctate, glabrous, sub-sessile. *Stipules* up to 2 mm. long, subulate, acute, glandular. *Flowers* axillary, solitary. *Pedicels* up to 3 cm. long, bracteolate, near the apex. *Calyx-tube* 2 mm. long, 5–6 mm. in diameter, glandular, glabrous; lobes acute, lanceolate, glabrous, ciliate, glandular, pilose on the inner surface; upper and lateral 2–3 mm. long, 1–1.3 mm. broad; lowest lobe 3–4 mm. long, up to 1.5 mm. broad. *Vexillum* 6–8 mm. long, 6–8 mm. broad, obovate, geniculate, with a channelled claw 1–2 mm. long; alae 6–8 mm. long, 2–3 mm. broad, with a linear claw 1.5–2 mm. long; carina 5 mm. long, 2 mm. broad, with a linear claw 2–3 mm. long. *Ovary* glabrous; style 9 mm. long, glabrous.

CAPE.—Tulbagh district: Tulbagh, *Schlechter* 7476; Swellendam district: Wageboom's River, *Schlechter* 10701.

19. *P. odoratissima* Jacq.

Plant shrubby, at least 18 metres high. *Stems* striate, glandular, sparsely pilose. *Leaves* imparipinnate, petiolate, stipulate; petioles 5–8 mm. long; leaflets 5–7 pairs, 0.7–2.2 cm. long, about 1.5 mm. broad, linear-lanceolate, acute, glandular; young leaves laxly clothed with fairly long white hairs. *Stipules* about 4 mm. long and 2 mm. broad, lanceolate-ovate, acute, ciliate. *Flowers* axillary, 1–3 or more together. *Pedicels* up to 1.5 cm. long. *Calyx-tube* 3–5 mm. long, 7–5 mm. in diameter, sparsely pilose with long white hairs, glandular; lobes, lanceolate, acute, slightly sub-falcate, ciliate, shortly pilose on the inner surface; upper and lateral lobes 4 mm. long, 2 mm. broad; lowest lobe 1 cm. long, 2.5 mm. broad. *Vexillum* 1 cm. long, 1.1 cm. broad, sub-orbicular, geniculate, with a channelled claw 3 mm. long; alae 1 cm. long, 5 mm. broad, with a linear claw 5 mm. long; carina 6 mm. long, 4 mm. broad, with a linear claw 5.5 mm. long. *Ovary* glabrous; style 6 mm. long, glabrous.

Flowers: Pure white, very fragrant.

Flowered at Kirstenbosch, October–November, 1923, 1924. Original locality unknown.

20. *P. pinnata* Linn.

Plant a tall much branched woody shrub up to 30 metres high. *Stems* striate, virgate, glandular, glabrous or pubescent. *Leaves* impar-pinnate, petiolate, stipulate; leaflets up to 5 cm. long and 3 mm. broad, linear to linear-lanceolate, acute, glandular, sometimes recurved at the apex. *Stipules* free, about 5 mm. long, lanceolate to ovate-lanceolate, acute, pubescent. *Flowers* axillary, 1-3 or several together. *Pedicels* sub-sessile or up to 2.5 cm. long, bracteolate near the apex. *Bracts* 1-3 mm. long, connate, pilose, with acute ciliate lobes. *Calyx-tube* 2-6 mm. long, 0.4-1.3 cm. in diameter, villous or glabrous, glandular; lobes lanceolate, ovate, acute, glabrous or villous, glandular, ciliate, pilose on the inner surface; upper and lateral lobes 2-7 mm. long, 0.5-3 mm. broad; lowest lobe 0.4-1 cm. long, 2-4 mm. broad. *Vexillum* 0.4-1.4 cm. long, 0.4-1.5 cm. broad, sub-orbicular or broadly obovate, geniculate; claw channelled 1-4 mm. long, with or without the two small appendages at the apex of the claw; alae 0.4-1.2 cm. long, 1.5-6 mm. broad, with a linear claw 1-5 mm. long; carina 2.5-8 mm. long, 1.5-7 mm. broad, with a linear claw 2-7 mm. long. *Ovary* glabrous; style 0.3-1 cm. long. *Seed* 4 mm. long, 2 mm. broad, reddishbrown.

Flowers: Pale to deep blue. This species has a wider distribution than any other native species and is in bloom almost the whole year.

CAPE.—Clanwilliam district: Clanwilliam, *Rogers* 16798, Olifants River, *Leipoldt*; Tulbagh district: *Scott* and *Elliot*, Winterhoek, *Phillips* 1729; Cape district: Devils Peak, *Ecklon* and *Zeyher* 1519, Table Mountain, *Forbes* 139, Newlands, *Forbes* 91, Wynberg Mountain, *Wolley Dod* 22; Stellenbosch district: Stellenbosch, *Ecklon* and *Zeyher* 1515; Paarl district: French Hoek, *Schlechter* 9263, 10268, *Phillips* 1089; Caledon district: Caledon *Zeyher*, *Bolus*; Swellendam district: Swellendam, *Ecklon* and *Zeyher* 1518; Riversdale district: Riversdale, *Muir* 79, Aasvogelberg, *Muir* 1850, Ladismith, Seven Weeks Poort, *Phillips* 1432; Mossel Bay district: Mossel Bay, *Rogers* 4165, *Potts*; George district: *Mitchell* (*Bolus Herb.* 16090), *Rogers* 4281, near Langekloof, *Zeyher* 1517, Robertson Pass, Outeniqua Mountains, *Hops* 53, Garcia's Pass, *Phillips*; Knysna district: Knysna, Main Forest, *Schonland* 3600, Plettenberg Bay, *Smart* (*Rogers* 15457); Kingwilliamstown district: Zitzikamma Mountains, *Britten* 1079; Humansdorp district: Humansdorp, *Schonland* 3018, Witte Els Bosch, *Fourcade* 892, 923, 924, *Muir* 1250, Assegai Bosch, *Rogers* 2834, Slang River, *Phillips* 3441; Uitenhage district: Uitenhage, *Ecklon* and *Zeyher* 305, *Schonland* 3730, *Britten* 3027, Van Staadens, *Paterson* 734; Albany district: Grahamstown, *Zeyher* 903, 2380, *Rogers*, *Schonland*, Signal Hill, *Dale* and *Cherry* 883, Coldspring, *Gower*; Queenstown district: Katberg, *Schonland* 4298; Fort Beaufort district: Hogsback, *Ratray* 83, *Stayner* 11, Hoffman's Bosch, *Britten* 1185, near Kat River, *Ecklon* and *Zeyher* 1514; Cathcart district: Cathcart, *Cotterrell* 164, *Galpin* 7360; Komgha district: near Kei Mouth, *Flanagan* 178; Kentani district: Kentani, *Pegler* 255; Umtata district: Umtata, *Schlechter* 6337; Beaufort West district: Murraysburg, *Bolus* 220.

TRANSVAAL.—Lydenburg district: Pilgrims Rest, *Rogers* 23110, Lydenburg, *Wilmer*; Zoutpansberg district: Zoutpansberg, Rietfontein, *Leendertz* 808; Woodbush, *Jenkins* 7194; Barberton district: Barberton, *Galpin* 401, Elandshoek, *Rogers* 448.

SWAZILAND.—*Stewart* 3687.

NATAL.—Drakensberg, Polela, *Evans* 714; Karkloof, *Dimmock-Brown* 333; Maritzburg, *Moss* 3344; Richmond, *Wood* 84, 9852; Estcourt, *Wood* 10261, *Wylie* (*Wood* 10006); Field's Hill, *Wood* 12830; *Evans* 146; Illovo, *Wood* 6411.

ZULULAND.—Inyiza, *Edwards* 315; Ngoya, *Wood* 9314; Nkandhla, *Wylie* (*Wood* 8817).

21. *P. affinis* E. and Z.

A tall virgate shrub up to 18 metres. *Stems* woody, striate, glandular, slightly pilose when young. *Leaves* imparipinnate with 2-4 pairs of leaflets, stipulate, petiolate; petioles 0.7-2.3 cm. long; leaflets up to 5 cm. long, 6 mm. broad, linear-lanceolate to ovate-lanceolate, obtuse, glandular, mucronulate. *Stipules* small, deltoid. *Flowers* axillary, 1-3 or

more together. *Pedicels* up to 4.5 cm. long, bracteolate near the apex. *Bracts* bi-lobed, up to 5 mm. long, pilose, glandular, veined. *Calyx-tube* 4 mm. long, 1 cm. in diameter, thickly nigro-punctate, sparsely to densely nigro-hirsute, veined; lobes lanceolate-ovate to ovate, acute, hirsute, nigro-punctate, hirsute on the inner surface; upper and lateral lobes 3.5-4 mm. long, 2 mm. broad; lowest lobe 5 mm. long, 3-4 mm. broad. *Vexillum* 0.9-1.2 cm. long, 1.2-1.7 cm. broad, obovate, geniculate, with a linear claw 3-4 mm. long; alae 0.8-1.1 cm. long, 5 mm. broad, with a linear claw 5-6 mm. long; carina 6-7.5 mm. long, 4-4.5 mm. broad, with a linear claw 6-8 mm. long. *Style* 0.8-1 cm. long.

Flowers: Deep blue or purple.

CAPE.—Riversdale district: Riversdale, near Albertinia, *Muir* 1851; George district: George, *Rogers* 4291; Port Elizabeth district: Port Elizabeth, Van Staadensberg, *Zeyher* 2378; Albany district: Grahamstown, *Rogers* 27423; Stutterheim district: Stutterheim, *Ecklon* and *Zeyher*, Rooi Vaal, *Flanagan* 178.

TRANSVAAL.—Barberton district: Barberton, *Pole Evans*, *Rogers* 14015; Middelburg district: Waterval Boven, *Rogers* 2743; Lydenburg district: Lydenburg, *Rogers* 14564, 23110.

SWAZILAND.—Mbabane, *Rogers* 11457.

BASUTOLAND.—MacaMac, Drakensberg, *MacLea* 3017.

LOCALITIES UNKNOWN.—*Burchell* 6038, *Rogers* 17382.

22. *P. repens* L.

Plant suffruticose. *Stems* procumbent or prostrate, sparsely pilose, glandular. *Leaves* trifoliate, petiolate, stipulate; petioles up to 3 cm. long, glandular, sparsely pilose; young petioles more thickly pilose; leaflets thick, 0.5-1.5 cm. long, 2-6 mm. broad, obovate to obovate-oblong, cuneate, retuse or obtuse, nigro-punctate, sparsely pilose. *Stipules* up to 2 mm. long, ovate, acute. *Flowers* axillary, 1 or more together. *Pedicels* equalling the leaves, glandular, pilose, bracteolate near the middle. *Bracts* about 2.5 mm. long, bi-lobed, ovate, acuminate, pilose, glandular. *Calyx-tube* 2-4 mm. long, 5-7 mm. in diameter, glabrous or laxly hairy, thickly nigro-punctate; lobes ovate, obtuse, glabrous or villous, ciliate, nigro-punctate, shortly pilose on the inner surface; upper and lateral lobes 1.5-3 mm. long 1-2.5 mm. broad, lowest lobe 1.3-4 mm. long, 1-2.5 mm. broad. *Vexillum* 6-8 mm. long, 6.5-9 mm. broad, obovate, glandular, with a narrow claw 1.2 mm. long; carina 5-6 mm. long, 2-3 mm. broad, with a linear claw 3-4 mm. long; alae 6-7.5 mm. long, 1.5-3 mm. broad, with a linear claw 2-3 mm. long. *Ovary* glabrous, sometimes glandular; style 5-7 mm. long, filiform.

Flowers: October-April.

CAPE.—Cape district: Near Retreat, *Bolus* 3076, Kalk Bay, *Bolus* 3076, *Moss* 3340, *Wolley Dod* 2216, Wynberg, and Tigerberg, *Zeyher* 1525, Kuils River, *Zeyher* 2384; Humansdorp district: Humansdorp, Slang River, *Phillips*; Port Elizabeth district: Port Elizabeth, *Kemsley* 221, *Potts* 303, *Christie* 56, Redhouse, *Paterson* 587; Uitenhage district: Zwartkops River, *Zeyher* 2377, Algoa Bay, *Zeyher* 1526, *Zeyher* 668, New Brighton, *Southey*.

23. *P. bracteata* Linn.

A low suffruticose. *Stems* diffuse or erect, virgate, leafy, pubescent when young, becoming glabrous. *Leaves* trifoliate, shortly petiolate, stipulate; petioles up to 3 mm. long; leaflets up to 2.6 cm. long and 1.5 cm. broad, broadly obovate or cordate, glabrescent, pellucid-dotted, recurved mucronate. *Stipules* adnate to the base of the petiole, up to 8 mm. long, lanceolate, ovate, acute, striate. *Inflorescence* terminal, spicate, having the appearance of a capitulum, sessile. *Flowers* subtended by bracts variable in size and shape. *Calyx-tube* 2.5-5 mm. long, 4.5-8 mm. in diameter, laxly hirsute or villous, pellucid-dotted,

distinctly 10-nerved; lobes pellucid-dotted, long ciliate, laxly hirsute or villous, glabrous or sparsely pilose on the inner surface; upper and lateral lobes 1.5–8 mm. long, 0.5–1.5 mm. broad, lanceolate, acute, slightly sub-falcate; lowest lobe 0.4–1 cm. long, 1.5–5 mm. broad, broadly ovate, cuspidate, reticulately veined. *Vexillum* 0.4–1.1 cm. long, 4–7 mm. broad, obovate-oblong or sub-orbicular, slightly geniculate with a channelled claw 1.5–3.5 mm. long; alae 0.4–1 cm. long, 1–3 mm. broad, with a linear claw 2.5–4 mm. long; carina 2.5–4.5 mm. long, 1–2 mm. broad, with a linear claw 3–5 mm. long. *Ovary* glabrous or slightly pilose; style 3–5 mm. long, glabrous. *Pod* turgid 5.5 mm. 3 mm. broad, glabrous; seed small, purplish-brown.

Flowered: June–January. Flowers: White to blue.

CAPE.—Paarl district: Wellington, *Tyson* 917, Du Toit's Kloof, *Bolus* 5158; Cape district: Capetown, *Paterson* 50, *Rogers* 27003, Green Point, *Zeyher*, Table Mountain, *Rogers* 17809, *Bolus* 1085, Newlands, *Forbes* 90, Rondebosch and Wynberg, *Ecklon* and *Zeyher* 1543, Wynberg, *Wolley Dod* 19, Muizenberg, *Pillans* 3427, Fish Hoek, *Wolley Dod* 712, *Rogers* 16087, Cape Point, *Forbes* 182, Hout Bay, *Galpin* 3967, Lakeside, *Moss* and *Rogers* 1633; Caledon district: Houw Hoek, *Schlechter* 9435; George district: George, *Schlechter* 2349, 5863, Georgetown, *Hops*; Knysna district: Knysna, *Keel* 247, between Knysna and Grahamstown, *Bolus* 1085; Humansdorp district: Humansdorp, Witte Els Bosch, *Fourcade* 937, near Zitzikamma, *Forest Dept.* 71; Uitenhage district: Uitenhage, *Zeyher* 393, Zwartkops River, *Ecklon* and *Zeyher* 1544, 1549, *Zeyher* 2372; Port Elizabeth district: Port Elizabeth, *Kemsley* 131, *West* 245, Staadens Mountains, *Zeyher*, Van Staadens River, *Zeyher* 2376; Albany district: Grahamstown, *MacOwan* 314; Kingwilliamstown district: Kingwilliamstown, *Tyson*, Rattel River, *Schlechter* 9723; De Aar district: Philipstown, *Ecklon* and *Zeyher* 1548.

24. *P. Bowieana* Harv.

Plant suffruticose. *Stems* slender, 6 or more metres long, diffuse, branching, puberulous, *Leaves* trifoliolate, shortly petiolate, stipulate; petioles 2 mm. long, leaflets 2–2.5 cm. long, 6–7.5 mm. broad, cuneate-obovate, recurved-mucronate, pellucid-dotted, ciliate, laxly hispid when young, becoming glabrous. *Peduncles* axillary, longer than the leaves, racemose. *Pedicels* 2–3 together, equalling the calyx. *Bracts* lanceolate. *Calyx-tube* pale, sub-glabrous; lobes narrow-lanceolate; lowest lobe longest; calyx segments each marked with three purple striae.

CAPE.—Cape, *Bowie*.

Description taken from "Flora Capensis." No specimen seen.

25. *P. decumbens* Ait.

Plants suffruticose or decumbent. *Stems* slender, striate, decumbent, young parts densely clothed with cano- or rufo-pubescence, becoming glabrous. *Leaves* trifoliolate, stipulate, petiolate; petioles up to 5 mm. long; leaflets 0.8–1.6 cm. long, 4–6 mm. broad, cuneate or cordate, recurved-mucronate, nigro-punctate, pubescent. *Stipules* up to 6 mm. long, adnate to the base of the petiole, hyaline, ovate, very acute. *Flowers* axillary, 1–3 together, often crowded at the ends of the branches. *Pedicels* up to 2 mm. long. *Calyx-tube* 2–3 mm. long, 3.5–5 mm. in diameter, villous or sparsely hirsute; lobes lanceolate, acute, long ciliate, villous or sparsely hirsute, shortly pilose on the inner surface; upper and lateral lobes 1–4 mm. long, 0.5–1 mm. broad; lowest lobe 3–6.5 mm. long, 1–2 mm. broad; glands present on tube and lobes, especially on the lowest lobe. *Vexillum* 4.5–7 mm. long, 4–6 mm. broad, obovate, with a channelled claw 1.5–3 mm. long; alae 4.5–7 mm. long, 1.5–2.5 mm. broad, with a linear claw 2–3 mm. long; carina 2.5–4 mm. long, 1–1.5 mm. broad, with a linear claw 2.5–3 mm. long. *Ovary* glabrous; style 3–4 mm. long, glabrous.

CAPE.—Piquetberg district: Piquetberg, *Bolus*; Malmesbury district: Moorreesburg, *Bolus* 9957; Tulbagh district: Tulbagh, *Rogers* 17436, *Zeyher*; Ceres district: Mitchell's Pass, *Schlechter* 9971; Cape district: Table Mountain, *Bolus* 2770, 2771, 4272, *Ecklon* and *Zeyher* 1538, *MacOwan* 73, *Moss* 2610, Rosebank, *Pillans* 3474, Rondebosch, *Hutton*, *Forbes* 179, Rondebosch and Newlands, *Wolley Dod* 1901, Kirstenbosch, *Verdoorn*, *Forbes* 87; Stellenbosch district: Somerset Strand, *Rogers* 17674; Paarl district: French Hoek, *Phillips* 1090; Caledon district: Sir Lowry's Pass, *Galpin* 369, Houw Hoek, *Schlechter* 5440; Riversdale district: Riversdale, *Muir* 5085; Swellendam district: Swellendam, *Kennedy*; Robertson district: Barrydale, *Galpin* 3963; Humansdorp district: Humansdorp, *Bolus* 2294; Uitenhage district: Zwartkop River, *Ecklon* and *Zeyher* 1033, *Zeyher* 445; Port Elizabeth district: Redhouse, *Paterson* 206, Humewood, *Paterson* 2613, *West* 246; Albany district: Grahamstown, *MacOwan* 818, 1083, *Rogers* 1567, Signal Hill, *Dale* and *Cherry* 1025, *Balcock*, Kaffraria, Mount Coke, *Sim* 1507, Bethelsdorp, *Zeyher*.

26. **P. argentea** Thunb.

Plant a slender shrub. *Stems* diffuse or sub-erect, leafy, clothed with adpressed whitish pubescence. *Leaves* trifoliolate, petiolate, stipulate; petioles 2–4 mm. long; leaflets 6–8 mm. long, 4–5 mm. broad, obovate, recurved-mucronate, minutely pellucid-dotted, thinly canescent on both surfaces. *Flowers* in threes, axillary or in an interrupted terminal pedunculate raceme. *Bracts* minute. *Calyx-tube* silky canescent; lobes lanceolate, two uppermost semi-connate.

Description from "Flora Capensis." No specimen seen.

27. **P. biflora** Harv.

Plant low-growing, forming a thick carpet, much branched, pubescent when young, becoming glabrous. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 4 mm. long; leaflets thickish 2–3 mm. long, 2–2.5 mm. broad, obovate, nigro-punctate, pubescent when young, glabrous or with a few scattered hairs when older, with distinct veining on the lower surface. *Stipules* minute, ovate, withering. *Flowers* axillary; two sessile flowers on peduncle. *Peduncle* bracteolate at apex. *Bracts* very small. *Calyx-tube* 3 mm. long, 4.5 mm. in diameter, hispid, glandular, distinctly 10-nerved; lobes oblong, obtuse, hispid, ciliate, glandular, pilose on the inner surface; upper and lateral lobes 1.5–2 mm. long, 0.5 mm. broad; lowest lobe broadest, 2 mm. long, 1 mm. broad. *Vexillum* 3.5 mm. long, 4 mm. broad, obovate, geniculate, claw 1 mm. long, with a slight appendage at the apex; alae 3.5 mm. long, 2 mm. broad, with a linear claw 2.5 mm. long; carina 2 mm. long, 1.5 mm. broad, with a linear claw 2.5 mm. long. *Ovary* pilose; style 1.5 mm. long, glabrous or very sparsely pilose.

Flowers: Blue with a white vexillum.

SOUTH WEST AFRICA.—Keetmanshoop to Windhoek, *Pearson*, in *Percy Sladen Memorial Expedition*.

28. **P. obtusifolia** D.C.

A small diffuse plant. *Stems* up to 9 metres, slender, spreading, villosa-canescens, becoming glabrous when older; very pale. *Leaves* trifoliolate, petiolate stipulate; petioles usually fairly long, 0.5–7 cm. long; leaflets 0.3–2.1 cm. long, 0.2–1.5 cm. broad, obovate or elliptic obtuse, thinly canescent, glandular, plicate, with margins slightly dentate. *Stipules* up to 3 mm. long, ovate, acute, ciliate, canescent. *Inflorescence* axillary, spicate. *Peduncles* with 3–8 flowers. *Flowers* sub-sessile. *Calyx-tube* 1.5–4 mm. long, 3–5 mm. in diameter, densely albo-villous; lobes lanceolate-ovate, ciliate, villous, pilose on the inner surface; upper and lateral lobes 1–2 mm. long, 0.5–1 mm. broad; lowest lobe 2–4.5 mm. long, 1–1.5 mm. broad. *Vexillum* 3–5 mm. long, 3–4 mm. broad, obovate, with a channelled claw 1–1.5 mm. long; alae 3–4.5 mm. long, 1–2 mm. broad, with a linear claw 1.5–4 mm. long; carina 2–3 mm. long, 1–1.5 mm. broad, with a linear claw 2–2.5 mm. broad. *Ovary* villous; style 1–3 mm. long, glabrous or sparsely pilose.

CAPE.—Cape district: Newlands, *Wilman*; Swellendam district: Gauritz River, *Zeyher* 450; Calvinia district: Near Twee River, *Burt-Davy* 17562; Graaff-Reinet district: Graaff-Reinet, *Bolus* 127; Beaufort West district: Murraysburg, *Bolus* 35; Kimberley district: Barkly West, *W.G.B.* 637, *Bolus* 6814, near Vaal River, *Bolus* 6803; Vryburg district: Vryburg, *Sharpe*; Kuruman district: Kuruman, *Burt-Davy*, Langberg, *Lanham* 4032.

SOUTH WEST AFRICA.—Great Namaqualand, Ramansdrift, *Schlechter* 11459; Holoog, *Pearson* 9808; Kiubis, *Pearson* 8012, 8026; Tsubgaus, *Pearson* 9204; Great Fish River, *Pearson* 9210, 9805, 9274; Tsondat, *Pearson* 9189; Kalahari, Ireland 16134; Krai Kluff Ravine, *Pearson* 8280; Walvis Bay, *Marloth* 1481.

NAMAQUALAND MINOR.—Near Henkies, *Phillips* 1587.

TRANSVAAL.—Pretoria district: Pienaar's River, *Schlechter* 4211; Bloemhof district: Christiana, *Burt-Davy*; Zeerust district: Zeerust, *Potts* 4257, *Burt-Davy*.

ORANGE FREE STATE.—Boshof District: *Burt-Davy*; Bloemfontein district: Bloemfontein, *Burt-Davy*; Heilbron district, Heilbron, *Flanagan* 1459.

LOCALITY UNKNOWN.—*Dinter* 125.

29. *P. rotundifolia* Linn.

A suffruticose about 3 metres high. Stems ascending, leafy, densely hispid, becoming glabrous when older. Leaves unifoliate, petiolate, stipulate, 0.9–2.7 cm. broad, 0.9–4 cm. long, ovate to ovate-elliptic, obtuse or acute, mucronulate, sparsely glandular, with reticulate veining, glabrous; petioles up to 5 mm. long. Stipules adnate to the base of the petiole, equalling or exceeding the petiole, lanceolate, subulate veined, glabrous, glandular. Inflorescence spicate, many-flowered. Peduncles terminal and axillary, 4–6 mm. long, hairy. Flowers on short pedicels, subtended by a small bract. Calyx-tube 3 mm. long, 7 mm. in diameter, densely hirsute with long white hairs, glands translucent; lobes lanceolate-ovate, long hirsute, ciliate, thinly pilose on the inner surface; upper and lateral lobes 6–7 mm. long, up to 2 mm. broad; lowest lobe 1.1 cm. long, 3 mm. broad. Vexillum about 1 cm. long and 5 mm. broad, obovate, with a channelled claw 2 mm. long; alae 8 mm. long, 2.5 mm. broad, with a linear claw 3.5 mm. long; carina 5.5 mm. long, 2.5 mm. broad, with a linear claw 4 mm. long. Ovary hispid; style 4 mm. long. Pod membraneous, about 6 mm. long and 5 mm. broad, hispid.

Flowers: July–April.

CAPE.—Caledon district: Houw Hoek, *Bolus* 80, near Klein River; Clanwilliam district: Vogelgat, *Schlechter* 9503, 10417.

30. *P. Thomii* Harv.

A small suffruticose. Stems slender, ascending, hairy. Leaves unifoliate, petiolate, stipulate, 1–4 cm. long, 0.5–2.15 cm. broad, elliptic-lanceolate to elliptic-ovate or oblong, mucronulate, with reticulate veining, no glands present, densely hairy when young and never becoming quite glabrous; petioles up to 5 mm. long. Stipules about 7 mm. long and 2 mm. broad, ovate, acute, nerved, hispid. Inflorescence spicate. Peduncles terminal and axillary, bracteate, hairy, exceeding the leaves. Flowers sessile or sub-sessile. Calyx-tube 3–3.5 mm. long, 7 mm. in diameter, veined, thickly hirsute; lobes linear-lanceolate to ovate-lanceolate, acute, hirsute, glabrous on the inner surface; upper and lateral lobes 5–9 mm. long, 1.5–2 mm. broad; lowest lobe 0.8–1 cm. long, 2.5–3 mm. broad. Vexillum 1.15–1.4 cm. long, 8–9 mm. broad, obovate with a linear claw 1.5 mm. long; alae 0.9–1 cm. long, 3 mm. broad, with a linear claw 4 mm. long; carina 5–6 mm. long, 2.5–3 mm. broad, with a linear claw 4.5–5 mm. long. Ovary pilose; style 4–5 mm. long, pilose.

Flowers: July–October.

CAPE.—Caledon district: Hermanus, *Bolus* 6378, Pieter's Fontein, *Bodkin* (*Bolus* 6378).

31. *P. aculeata* L.

An erect virgate shrub up to 12 metres. *Stems* woody, branched, leafy, glabrous, glandular, spiny with persistent stipules. *Leaves* trifoliolate, petiolate, stipulate; petioles 1·5–4 mm. long, glandular, glabrous; leaflets thickish, 1·5–8 mm. long, up to 2 mm. broad, cuneate, nigro-punctate on both surfaces, with a sharply curved mucro. *Stipules* adnate to the base of the petiole, 2–3 mm. long, persistent, subulate. *Flowers* axillary, solitary or 1–3 together. *Pedicels* up to 1·3 cm. long, bracteolate near the apex, often crowded on the upper parts of the stem. *Bracts* about 5 mm. long, connate, ovate, acuminate, nigropunctate. *Calyx-tube* 3·5–5 mm. long, 0·8–1·1 cm. in diameter, glabrous, thickly glandular, nerved; lobes ovate, acuminate, glabrous, glandular, pilose on the inner surface, upper and lateral lobes 2·5–6 mm. long, 1·5–3·5 mm. broad; lowest lobe 0·3–1 cm. long, 2·5–5 mm. broad. *Vexillum* 0·8–1·3 cm. long, 0·8–1·5 cm. broad, obovate, geniculate, with a channelled claw 1–3 mm. long; alae 0·7–1 cm. long, 3·5–6 mm. broad, with a linear claw 2·5–5 mm. long; carina 4–8 mm. long, 3–5 mm. broad, with a linear claw 3·5 mm. long. *Ovary* 1–2 mm. long, glabrous; style 4·5–8 mm. long, glabrous.

Flowers: August–November.

CAPE.—Cape district: Table Mountain, *Ecklon* and *Zeyher* 1545, *MacOwan*, *Galpin* 3966, *Bolus* 4660, *Rogers* 17744, Orange Kloof, *Wolley Dod* 20; Stellenbosch, Hottentots Holland Mountains, near Gordon's Bay, *Bolus* 9865, 9933; Clanwilliam district: near Vogelgat, *Schlechter* 9516.

32. *P. Keetii* Schönl.

A shrub. *Stems* erect, glabrous, glandular. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 1 cm. long; leaflets 0·5–2·5 mm. long, 0·4–1·1 cm. broad, obovate, thickly nigro-punctate, glabrous, mucronulate; terminal leaflet on short petiole; lateral leaflets sub-sessile. *Stipules* not exceeding 5 mm. long, ovate, lanceolate, acute. *Flowers* axillary, solitary. *Pedicels* up to 3·5 cm. long, bracteolate at the apex. *Bracts* tri-lobed, 2–3 mm. long, ovate, acuminate, glandular, glabrous. *Calyx-tube* 3 mm. long, 8 mm. in diameter, glabrous, thickly glandular; lobes ovate, acute, glandular, glabrous, ciliate, pilose on the inner surface; upper and lateral lobes 2–4 mm. long, 1–5 mm. broad; lowest lobe slightly longer. *Vexillum* 8 mm. long, 1 cm. broad, obovate; claw channelled, 3 mm. long, with two slight appendages at the apex; alae 8 mm. long, 4 mm. broad, with a linear claw 4 mm. long; carina 6 mm. long, 4 mm. broad, with a linear claw 6 mm. long. *Ovary* glabrous; style 7 mm. long, glabrous.

Flowered: January. Flowers: Colour, light blue.

CAPE.—Knysna district: Hoogeborg, *Keet* 1055 (Type).

33. *P. polysticta* Benth.

A shrub, up to 10·5 metres. *Stems* woody, erect, striate, hairy, becoming almost glabrous when older, glandular. *Leaves* trifoliolate, sub-sessile or very shortly petioled, stipulate; petioles about 3 mm. long; leaflets 0·9–3·6 cm. long, 0·3–1·5 cm. broad, oblong, cuneate, nigro-punctate, recurved-mucronate, glabrescent. *Stipules* small, deltoid. *Flowers* axillary in clusters. *Peduncles* 2–4 mm. long with 3 or more short pedicels to each peduncle. *Calyx-tube* 2–3·5 mm. long, 5–7 mm. in diameter, veined, tomentulose, glandular; lobes lanceolate, acute, tomentulose, glandular, pilose on the inner surface; upper and lateral lobes 1–3·5 mm. long, about 1 mm. broad; lowest lobe 4–5 mm. long, 1–1·5 mm. broad. *Vexillum* 6–8 mm. long, 5–6 mm. broad, obovate, with a short claw 0·5–2 mm. long; alae 5–7 mm. long, 1·5–2 mm. broad, with a linear claw 2·5–3 mm. long; carina 3–4 mm. long, 1·5–2 mm. broad, with a linear claw 3–4 mm. long. *Ovary* glabrous; style 3·5 mm. long.

Flowers: August–April.

The following note is attached to Mrs. Dieterlen's specimen No. 372 in the S.A. Museum :—

“Sesuto—Mohlonecha.—He who makes respectable. A chief who wishes to have prestige in the sight of his subjects must bathe the whole of his body with a decoction of this plant. The burnt root is smoked as a cure for cold in the head.”

CAPE.—Uitenhage district: Uitenhage, *Drege*; Oudtshoorn district: Oudtshoorn, *Taylor* 323; Albany district: Zuurborg, *Paterson* 44, Griqualand East, Mount Currie, *Tyson* 1319, Dornkop, *Zeyher*, *Tyson* 519.

TRANSVAAL.—Pietersburg district: Pietersburg, *Moss* and *Rogers* 1330; Messina district: Louis Trichardt, *Rogers* 21148; Heidelberg district: Heidelberg, *Burt-Davy* 15435.

SWAZILAND.—Hlatikulu, *Stewart* 181.

ORANGE FREE STATE.—*Cooper* 1114.

BASUTOLAND.—Leribe, *Dieterlen* 372.

NATAL.—Ladysmith, *Wood* 8010; Estcourt, *Wood* 9953; Weenen County: Blaaukrans, *Wood* 3517; Boston, *Wood* 9900.

No LOCALITY.—*Gerrard* and *McKen* 440.

34. *P. carnea* E. Mey.

A shrub 12–15 metres high. *Stems* leafy, reddish pubescent, at length becoming glabrous. *Leaves* trifoliate, stipulate, sub-sessile; leaflets up to 1.5 cm. long and 7 mm. broad, oblong to cuneate-oblong, obtuse, pellucid-dotted, recurved mucronate, glabrous. *Stipules* about 2 mm. long, deltoid. *Flowers* axillary, 2–3 together. *Pedicels* very short. *Calyx-tube* 2–3.5 mm., 5–6 mm. in diameter, veined, hirsute, glandular; lobes linear-lanceolate, lanceolate or ovate, acute, glandular, ciliate, hirsute, glabrous on the inner surface; upper and lateral lobes 2–3.5 mm. long, 0.5–1 mm. broad; lowest lobe 3–5 mm. long, 1–1.5 mm. broad. *Vexillum* 6–7 mm. long, 5–6 mm. broad, obovate, with a channelled claw 1–2 mm. long; alae 5.5–7 mm. long, 2–2.5 mm. broad, with a linear claw 2.5–3 mm. long; carina 3–4 mm. long, 1.5–2 mm. broad, with a linear claw 3–4 mm. long. *Ovary* glabrous or very slightly pilose; style 2–4 mm. long, glabrous.

Flowers: August–March.

CAPE.—Riversdale district: Riversdale, *Muir* 484, Langebergen, *Schlechter* 5691; Oudtshoorn district: Oudtshoorn, *Britten* 80; Knysna district: Knysna, *Keet* 278, 2716, *Fourcade* 1519, Plettenberg Bay, *Rogers* 15513, Clarkson, *Galpin* 3961, *Schlechter* 6012; Humansdorp district: Humansdorp, *Fourcade* 2330, Assegai Bosch, *Fourcade* 857, *Schonland* 3618, *Rogers* 2833; Albany district: Howison's Poort, *MacOwan*.

35. *P. obliqua* E. Mey.

An erect shrub up to 15 metres. *Stems* branched, villous when young, at length glabrescent, leafy. *Leaves* trifoliate, petiolate, stipulate; petioles up to 6 mm. long; leaflets up to 3.1 cm. long and 1 cm. broad, elliptic-oblong, obtuse, mucronulate, densely glandular, glabrescent, shiny; lateral leaflets unequal sided. *Stipules* membranous, about 6 mm. long and 2.5 mm. broad, ovate. *Flowers* axillary, in threes. *Pedicels* shorter than the leaves; sometimes three pedicels on short peduncle. *Calyx-tube* 2 mm. long, 7–8 mm. in diameter, nerved, glandular, villous; lobes villous, glandular, ciliate, glabrous on the inner surface; upper and lateral lobes 4–5 mm. long, 1–1.5 mm. broad, lanceolate, acute; lowest lobe up to 8 mm. long, and 3 mm. broad, ovate, very acute, almost cuspidate. *Vexillum* 9 mm. long, 7–8 mm. broad, obovate, with a channelled claw 1 mm. long; alae up to 1 cm. long, 3–4 mm. broad, with a linear claw 2–3 mm. long; carina 3–4 mm. long, 2 mm. broad, with a linear claw 2–3 mm. long. *Ovary* glabrous; style 2.5 mm. long, glabrous.

Flowers: July–November.

CAPE.—Stellenbosch district: Stellenbosch, *Duthie*; Caledon district: near Palmiet River, *Zeyher* 1525, Hottentots Holland Mountains, *Zeyher*; Paarl district: French Hoek, *Phillips* 1088.

36. *P. macradenia* Harv.

A shrub. *Stems* branched, erect, leafy, striate, glandular, silky canescent when young, becoming glabrous when older. *Leaves* trifoliolate, stipulate, sub-sessile: leaflets 1.9 cm. long, 8.5 mm. broad, obovate, cuneate, recurved mucronate, canescent when young, becoming glabrous, nigro-punctate on the upper surface with large and prominent glands on the lower surface. *Stipules* up to 2.5 mm. long, subulate, acute, canescent. *Flowers* axillary, 1-3 together. *Pedicels* short; sometimes three sub-sessile flowers on a short peduncle. *Calyx-tube* 3 mm. long, 7 mm. in diameter, veined, canescent, very sparsely glandular; lobes lanceolate-ovate, acute, sparsely glandular and canescent; upper and lateral lobes 3-4 mm. long, 1-1.5 mm. broad; lowest lobe 5.5 mm. long, 1.5 mm. broad. *Vexillum* 5 mm. broad, 6.5 mm. long, obovate, with a channelled claw 1.5 mm. long; alae 6.5 cm. long, 2 mm. broad, with a linear claw 3 mm. long; carina 4 mm. long, 2 mm. broad, with a linear claw 3 mm. long. *Ovary* glabrous; style 3.5 mm. long, glabrous.

Flowers: July-August.

CAPE.—Riversdale district: Langebergen, *Muir* 1113.

37. *P. tomentosa* Thunb.

A shrub up to 24 metres. *Stems* erect, leafy, densely cano-pubescent, at length becoming glabrous. *Leaves* trifoliolate, petiolate, stipulate: petioles up to 2.5 cm. long; leaflets 0.6-4.5 cm. long, 0.5-1.8 cm. broad, elliptic or elliptic-lanceolate, mucronulate, with the upper surface glabrous or sparsely pilose and the lower surface densely canescent. *Stipules* up to 1.3 cm. long and 3 mm. broad, lanceolate, acute or subulate, cano-pubescent or glabrescent. *Inflorescence* axillary, or terminal. *Peduncles* up to 14 cm. long. *Flowers* in dense globose heads, sub-sessile; each flower subtended by a bract. *Bracts* up to 1 cm. long, ovate or lanceolate, villous, striate with dark lines. *Calyx-tube* 3-7 mm. long, 0.7-1.3 cm. in diameter, with reticulate veining, villosa-hirsute; lobes lanceolate, acute, reticulately veined, villous, pilose on the inner surface, ciliate; upper and lateral lobes 3-7 mm. long, 1-2.5 mm. broad; lowest lobe 0.75-1 cm. long, 2-3 mm. broad. *Vexillum* 7-8 mm. long, 2-8 mm. broad, obovate, geniculate, distinctly veined, with a channelled claw 2-5 mm. long; alae 4.5-8 mm. long, 2.3-5 mm. broad, with a linear claw 3.5-6 mm. long; carina 3-5 mm. long, 2-5 mm. broad, with a linear claw 5-6.5 mm. long. *Ovary* glabrous; style 5-7 mm. long. Glands present but very minute. The whole plant has a silvery appearance owing to the silky cano-pubescent.

Flowers: August-January.

CAPE.—George district: Outeniqua Mountains, *Hops* (Bolus 11795), *Schlechter* 5771, *Pappe*; Riversdale district: Riversdale, *Muir*; Knysna district: Knysna, *Duthie* 517, *Keet* 1025, *Williamson* 134, *Tyson* 973, *Keet* 856, *Zeyher*, Plettenberg Bay, *Rogers* 15450, 27061; Humansdorp district: Humansdorp, *Galpin* 3958, *West* 247, *Rogers* 2910, *Witte* Els Bosch, *Fourcade* 899, *Ratels* Bosch, *Fourcade* 69; Uitenhage district: Uitenhage, *Zeyher*; Albany district: Grahamstown, *MacOwan* 26, Featherstone's Kloof, *Bolus* 1939, Trapp's Valley, *Daly* 601, Howison's Poort, *Britten* 2980, *Glass* 17, Highlands, *Paterson*; Prince Albert district: Zwartberg Pass, *Bolus* 11476.

LOCALITIES UNCERTAIN: Kleinmonde, *White* 946A, Inalgaten River, *Young* 5516.

38. *P. zeyheri* Harv.

A suffruticose, about 3 metres high. *Stems* slender, ascending, pubescent. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 1.5 cm. long, striate, pubescent; leaflets 0.7-4.2 cm. long, 0.4-1.5 cm. broad, broadly obovate, mucronulate, villous, becoming glabrescent; a few of the upper leaflets linear to ovate-linear. *Stipules* adnate to the base of the petiole, up to 1.3 cm. long, subulate or lanceolate, acute, hispid, ciliate. *Inflorescence* terminal, and axillary, spicate. *Peduncles* 5.5-16 cm. long, hirsute. *Flowers* sub-sessile, each subtended by a bract. *Bracts* ovate or linear, acute. *Calyx-tube* 3-4 mm. long, 5-6 mm. in diameter, with dark and reticulate veins, densely albo-hirsute, lobes albo-hirsute, glabrous on the inner surface; upper and lateral lobes 3-8 mm. long, 0.5-1 mm. broad, linear-lanceolate; lowest lobe 5-9 mm. long, 1.5-2.5 mm. broad,

reticulately veined, ovate-lanceolate. *Vexillum* 0·6–1·2 cm. long, 5–7 mm. broad, obovate, with a channelled claw 0·5–3 mm. long; alae 6–9 mm. long, 1·5–3 mm. broad, with a linear claw 1·4–5 mm. long; carina 3–5 mm. long, 1–2 mm. broad, with a linear claw 4–5 mm. long. *Ovary* glabrous; style 6 mm. long, glabrous.

Flowers: November–January.

CAPE.—Stellenbosch district: Palmiet River Mountains, *Stokoe* 17507; Caledon district: Caledon, *Zeyher* 2375, Houw Hoek, *Bolus* 6935, near Sir Lowry's Pass, *Schlechter* 9505, near Rooi Els, *Stokoe* 17342.

39. *P. Patersoniae* Schonl.

A shrub. *Stems* erect, striate, glandular-scabrid, tomentose, at length glabrescent. *Leaves* trifoliolate, stipulate, petiolate; petioles 3–5·5 cm. long; leaflets 1·5–5·5 cm. long, up to 4 cm. broad, obovate, acute, cuneate at the base, dentate-crenulate, mucronulate, nigro-punctate, glabrescent; lateral leaflets sub-sessile; terminal leaflets on petioles 0·7–2 cm. long. *Stipules* up to 1 cm. long, lanceolate, ovate, acute, tomentulose, glandular. *Inflorescence* axillary, spicate. *Peduncles* up to 6 mm. long. *Flowers* 2–3, subtended by a bract, shortly pedicelled. *Bracts* up to 1 cm. long, ovate, lanceolate, acute, tomentulose, glandular. *Calyx-tube* 2 mm. long, 5 mm. in diameter, tomentose, glandular; lobes lanceolate, ciliate, tomentose, glandular, glabrous on the inner surface; upper and lateral lobes 2–3 mm. long, 0·7 mm. broad; lowest lobe 5 mm. long, 1·5 mm. broad. *Vexillum* 5 mm. long, 4 mm. broad, obovate, with a channelled claw 1·5 mm. long; alae 5 mm. long, 1·5 mm. broad, with a linear claw 3 mm. long; carina 3 mm. long, 2 mm. broad, with a linear claw 3 mm. long. *Ovary* glabrous; style 3·5 mm. long, glabrous.

Flowers: December.

CAPE.—Port Elizabeth district: Redhouse, *Paterson* 393 (Type).

40. *P. caffra* E. and Z.

An erect shrub up to 6 metres. *Stems* leafy, striate, with prominent glands, tomentulose, at length glabrescent. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 1·8 cm. long; leaflets 1·4–5 cm. long, 0·7–3 cm. broad, broadly elliptic or obovate, rounded at the apex, mucronulate, thickly nigro-punctate, tomentulose, at length glabrescent; terminal leaflet on a petiole up to 1·1 cm. long. *Stipules* 2–5 mm. long, deltoid, acuminate, pilose. *Inflorescence* terminal or axillary, laxly or densely spicate. *Peduncles* up to 5 cm. long. *Flowers* in whorls of three subtended by a bract. *Bracts* up to 3 mm. long, ovate, acuminate, pilose. *Pedicels* about 1 mm. long. *Calyx-tube* 2–3 mm. long, 4·5–6 mm. in diameter, nerved, tomentose, nigro-punctate; lobes lanceolate, acute, tomentose, nigro-punctate, pilose on the inner surface; upper and lateral lobes 1–2·5 mm. long, 0·5–1 cm. broad; lowest lobe 2–4 mm. long, 1–1·5 mm. broad, acuminate. *Vexillum* 5–7 mm. long, 5–7 mm. broad, obovate, with a channelled claw 0·7–2·5 mm. long; alae 5–6·5 mm. long, 1·5–2·5 mm. broad, with a linear claw 2·5–4 mm. long; carina 3–3·5 mm. long, 1·5–2 mm. broad, with a linear claw 3–4·5 mm. long. *Ovary* pilose; style 3–4 mm. long, pilose. *Pod* membranous, 5·5–7 mm. long, 3–4 mm. broad, hirsute, enclosed in calyx; seed small, hard and brown.

Whole plant has large conspicuous wart-like glands.

CAPE.—Cape district: Fort Beaufort district: Hogsback, *Rattray* 32A; Queenstown district: Katherg, *Bolus* (*Herb.* 1993), *Galpin* 2068, between Kat and Kei Rivers, *Zeyher* 1550; Cathcart district: Cathcart, *Galpin* 7361; Stutterheim district: Stutterheim, Mountains above Dohne, *Flanagan* 2294; Komgha district: Komgha, *Flanagan* 2319; Cala district: Kolbe and Pegler 1740; Griqualand East: Clydesdale, *Tyson* 1220, 1260, 2526.

NATAL.—Drakensberg, Giants Castle, *Wylie* (*Wood* 10674); Polela, *Evans* 659; Mah-waqua Mountains, *Evans* 225; Lidgetton, *Wood* 6320; Byrne and Richmond, *Wood* 1847; Maritzburg, *Hutton* 315; Umgeni, *Cooper* 1148; Umkomaas, *Wood*; Zuurberg, *Wood* 338.

TRANSVAAL.—Lydenburg district: Elandspruitberg, *Schlechter* 3889, *Pegler* 1740 is probably from Kentani.

41. *P. venusta* E. and Z.

A. suffruticose. *Stems* flexuous, appressedly pubescent. *Leaves* trifoliolate, stipulate, sub-sessile; leaflets 2.5 cm. long, 6-7 mm. broad, cuneate-oblong, obtuse, mucronulate, pellucid-dotted, appressedly puberulent. *Stipules* subulate. *Inflorescence* terminal and axillary, spicate, cylindric. *Peduncle* and spike up to 4 cm. long. *Bracts* subtending flowers half as long as the calyx. *Calyx-tube* 6 cm. long, silky canescent, lobes lanceolate, acuminate, glandular; lowest lobe longest, nearly equalling the petals.

CAPE.—Malmesbury district: Saldanha Bay, *Ecklon* and *Zeyher* 1553.

Description taken from "Flora Capensis." No specimen seen.

42. *P. hirta* Linn.

A branched shrub. *Stems* erect, rigid, canescent with appressed short hairs, sparsely leafy. *Leaves* trifoliolate, petiolate, stipulate; petioles not exceeding 5 mm. long; leaflets 0.5-1.5 cm. long, 4-9 mm. broad, cuneate, obovate, recurved-mucronate, canescent, glandular. *Stipules* adnate to the base of the petiole, small, subulate. *Inflorescence* axillary or in interrupted spikes. *Flowers* in whorls of three, sessile, bracteate. *Calyx-tube* 3-4 mm. long, 6-7 mm. in diameter, glandular, villous; lobes slightly unequal, 1-5 mm. long, 0.75-2 mm. broad, linear-lanceolate to lanceolate-ovate, acute, villous, pilose on the inner surface. *Vexillum* 5-7 cm. long, 4-5 mm. broad, obovate, with a claw 1-3 mm. long; alae 4-6.5 mm. long, 1-2.5 mm. broad, with a linear claw 3 mm. long; carina 3-4 mm. long, 1-2 mm. broad, with a linear claw 3-4 mm. long. *Ovary* glabrous or hirsute; style 3-4 mm. long, glabrous or hirsute.

Flowers: October-November.

CAPE.—Tulbagh district: Winterhoek, *Zeyher*; Cape district: Blaauwberg, *Zeyher*, near Milnerton, *Forbes* 229; without locality, *Bolus* 2993; Stellenbosch district: Stellenbosch, *Ecklon* and *Zeyher*, Somerset Strand, *Rogers* 17675; Paarl district: Paarlberg Dreege; Caledon district: Sir Lowry's Pass, *Bolus* 9195.

43. *P. stachydis* L.f.

A branched shrub. *Stems* erect, rigid, villous, with spreading rusty hairs, becoming glabrous when older. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 3 mm. long; leaflets 0.5-2.5 cm. long, 0.4-1.5 mm. broad, obovate, acute or obtuse, hirsute, recurved mucronate, glandular. *Stipules* adnate to the base of the petiole, subulate. *Inflorescence* axillary and terminal, in laxly flowered spikes. *Peduncles* up to 5 cm. long. *Flowers* in whorls of three. *Bracts* small. *Calyx-tube* 3-4 mm. long, 6 mm. in diameter, villous, glandular; lobes ovate-acuminate or sub-lanceolate, villous, glandular, glabrous or sparsely pilose on the inner surface; upper and lateral lobes 2-4 mm. long, 0.5-1.5 mm. broad; lowest lobe 3.5-5 mm. long, 1.5-2 mm. broad. *Vexillum* 7 mm. long, 5-7 mm. broad, obovate, with a linear claw 1-3 mm. long; alae 5.5-6.5 mm. long, 2-3 mm. broad, with a linear claw 3-4 mm. long; carina 3-4 mm. long, 1.5-2 mm. broad, with a linear claw 3-4 mm. long. *Ovary* thinly pilose or glabrous; style 4-5 mm. long, glabrous.

Flowered: October.

CAPE.—Piquetberg district: Piquetberg, *Bolus* 3458, 7529; Cape district: Table Mountain, *Zeyher*.

44. *P. spicata* L.

A shrub. *Stems* erect, virgate, pubescent, glabrescent, glandular, leafy. *Leaves* trifoliolate, petiolate, stipulate; petioles up to 4 mm. long; leaflets up to 3 cm. long, 9 mm. broad, obovate or obovate-oblong, obtuse, recurved mucronate, thickly nigro-punctate, slightly hirsute, especially along the mid-rib and veins. *Stipules* adnate to the base of the petiole, up to 5 mm long, subulate, acute, glandular. *Inflorescence* terminal, sessile, a

densely flowered spike. *Bracts* small. *Calyx-tube* 3-4 mm. long, 5-8 mm. in diameter, veined, pubescent, glands few; lobes lanceolate-ovate, acute, long ciliate, more thickly glandular than the tube, shortly pilose on the inner surface; upper and lateral lobes 1.5-3.5 mm. long, 1-2 mm. broad; lowest lobe 3-5 mm. long, 1-2 mm. broad. *Vexillum* 4-6 mm. long, 4.5-5 mm. broad, obovate, slightly geniculate, with a channelled claw 2 mm. long; alae 3.5-6 mm. long, 1.5-2 mm. broad, with a linear claw 2.5-3 mm. long; carina 2-3 mm. long, 1-1.5 mm. broad, with a linear claw 3-4 mm. long. *Ovary* glabrous; style 3-4 mm. long, glabrous.

Flowered: September-February. Flowers: Colour, pale blue. Plants about 2-3 feet high.

CAPE.—Cape district: Capetown, *Bolus* 1429, near "Protea," *Bolus* (*Herb.* 7101), Wynberg, *Bolus* (*Herb.* 7101B), Table Mountain, *Zeyher* (?) (*Ex. Herb. Gub.*); Paarl district: French Hoek, *Phillips* 1091; Swellendam district: Swellendam, *Zeyher* 2374; Riversdale district: Riversdale, *Muir* 83; George district: George, *Paterson*; Knysna district: Forest Hill, *Duthie* 740, Plettenberg Bay, *Ecklon* and *Zeyher* 1546; Albany district: Zuurberg, *Schlechter* 5702, Hofman's Bosch, *Britten* 1028; East London district: East London, *Rattray* 186; Komgha district: Komgha, *Flanagan* 403.

45. *P. racemosa* Thb.

A suffruticose. *Stems* flexuous, slender, pubescent, becoming more or less glabrous, glandular, leafy. *Leaves* trifoliolate, shortly petiolate, stipulate; petioles up to 2.5 mm. long; leaflets up to 1.8 cm. long, 8 mm. broad, cuneate-oblong, flat, obtuse, mucronulate, coriaceous, hispidulous, glabrescent, nigro-punctate, especially near the margins. *Stipules* up to 4 mm. long, subulate, veined. *Inflorescence* terminal, interrupted or axillary. *Flowers* sessile, 2-3 together. *Calyx-tube* 3 mm. long, 5 mm. broad, veined, glands few, translucent, hispid along veins, otherwise glabrous; lobes linear-lanceolate, acute, ciliate, hispid, glands translucent, shortly hispid on the inner surface; upper and lateral lobes 3.5-4 mm. long, up to 1 mm. broad; lowest lobe 5.5 mm. long, 1.5 mm. broad. *Vexillum* 8 mm. long, 6.5 mm. broad, obovate, with a claw 1.5 mm. long; alae 9 mm. long, 3 mm. broad, with a linear claw 2.5 mm. long; carina 3 mm. long, 2 mm. broad, with a linear claw 3.5 mm. long. *Ovary* glabrous; style 3 mm. long, glabrous.

Flowers: October.

CAPE.—Riversdale district: Garcia's Pass, *Bolus* 11264; George district: Langekloof, *Ecklon* and *Zeyher*.

46. *P. hamata* Harv.

A shrub. *Stems* erect, striate, virgate, with a few scattered glands, canescent, becoming glabrous. *Leaves* trifoliolate, sub-sessile, stipulate; leaflets up to 2 cm. long and 1 cm. broad, obovate, obtuse, recurved-mucronate, thickly glandular, canescent when young, becoming glabrous. *Stipules* up to 2.5 mm. long, subulate, acute. *Inflorescence* terminal, spicate, sessile. *Calyx-tube* 3 mm. long, 7 mm. in diameter, glandular, canescent; lobes ovate, acuminate, glandular, canescent, shortly pilose on the inner surface; upper and lateral lobes 1.5-3 mm. long, up to 1.5 mm. broad; lowest lobe 4 mm. long, 2 mm. broad. *Vexillum* 5 mm. long, 4.5 mm. broad, obovate, with a channelled claw 2.5 mm. long; alae 4.5 mm. long, 2 mm. broad, with a linear claw 3 mm. long; carina 3 mm. long, 2 mm. broad, with a linear claw 4 mm. long. *Ovary* pilose; style 4 mm. long. *Pod* membranous, pubescent, with persistent calyx; seed small, hard and brown.

Flowered: January.

CAPE.—Worcester district: Hex River, near De Doorns, *Bolus*.

NAMAQUALAND MINOR.—Without precise locality, *Scully* 1137.

47. *P. Wilmsii* Harms.

A tall shrub. *Stems* thinly pubescent, leaves 2–3 cm. equidistant. *Leaves* trifoliate, petiolate, stipulate; petioles up to 4 mm. long; leaflets up to 4.5 cm. long and 1.3 cm. broad, oblanceolate to oblanceolate-ovate, obtuse, recurved mucronate, nigro-punctate, thinly pubescent, becoming glabrous, sessile or sub-sessile. *Stipules* lanceolate, acuminate, glandular, thinly pubescent. *Inflorescence* terminal and axillary, spicate. *Peduncles* up to 2.8 mm. long. *Flowers* in threes subtended by a common bract. *Calyx-tube* 2.5 mm. long, 5.5 mm. in diameter, veined, glandular, hirsute; lobes ovate, glandular, hirsute, ciliate, hirsute on the inner surface; upper and lateral lobes 1.5–2 mm. long, up to 1 mm. broad; lowest lobe 2.5–3 mm. long, 1–1.5 mm. broad. *Vexillum* 6–6.5 mm. long, 5.5–6 mm. broad, ovate or obovate, with a linear claw 1.5–2.5 mm. long; alae 6 mm. long, 2–2.5 mm. broad, with a linear claw 2.5–3 mm. long; carina 3–4 mm. long, 1.5–2 mm. broad, with a linear claw 3–3.5 mm. long. *Ovary* pubescent; style 3.5–4 mm. long, pilose.

Flowers: July–January.

TRANSVAAL.—Zoutpansberg district: The Downs, *Rogers* 20209; Lydenburg district: Elandspruitberg, *Schlechter* 3889; Ermelo district: Mavierstad, *Pott* 5086.

SWAZILAND.—Without precise locality, *Bolus* 11794.

48. *P. striata* Thb.

A virgate shrub. *Stems* erect, striate, leafy, canescent. *Leaves* trifoliate, petiolate, stipulate; petioles not exceeding 5 mm.; leaflets 0.7–3.5 mm. long, 0.4–1.7 cm. broad, obovate to obovate-oblong, recurved mucronate, nigro-punctate, thinly canescent, becoming almost glabrous when older. *Stipules* lanceolate, acute, nigro-punctate, canescent. *Inflorescence* terminal and axillary, spicate. *Spikes* sometimes lax and interrupted. *Peduncles* up to 2.5 cm. long. *Calyx-tube* 2.5–4 mm. long, 6–7 mm. in diameter, glandular, canescent; lobes ovate to lanceolate-ovate, acute, glandular, canescent, glabrous or pilose on the inner surface; upper and lateral lobes 1–3 mm. long, 0.75–1.5 mm. broad; lowest lobe 1.5–5 mm. long. *Vexillum* 6–7 mm. long, 4–5 mm. broad, obovate, with a claw 1–3 mm. long; alae 4–5 mm. long, 1.5–2 mm. broad, with a linear claw 3–4 mm. long; carina 3–4 mm. long, 1.5–2 mm. broad, with a linear claw 3–4 mm. long. *Style* 3–4 mm. long, pilose or glandular. *Pod* membranous, 1.4 cm. long, 4 mm. broad, pubescent, with the persistent calyx; seed up to 1 cm. long, hard and brown.

CAPE.—Clanwilliam district: Olifant's River, *Zeyher* 1556; Swellendam district: Gauritz River, *Zeyher* 1551; Oudtshoorn district: Oudtshoorn, *Britten* 134.

Var. *gracilis*. Plant more slender and laxly leafy. Flowers fewer and smaller, 1–3 subtended by a common bract. Flowers on long terminal rhachi.

NAMAQUALAND.—Between Brakdam and Rietkloof, *Pillans* 5667.

49. *P. Royffei* n. sp.

Stems striate, younger parts clothed with yellowish pubescence. *Leaves* trifoliate, petiolate, stipulate; petioles up to 6 mm long; leaflets up to 2.3 cm. long and 1.3 cm. broad, elliptic-lanceolate to elliptic-obovate, mucronulate, densely nigro-punctate, pubescent on lower surface. *Stipules* up to 5 mm. long, subulate, acute, glandular, pubescent. *Inflorescence* terminal, spicate. *Peduncles* up to 1 cm. long. *Flowers* sessile or very shortly pedicelled, 2–3 together subtended by a bract. *Calyx-tube* 2.5 mm. long, 6 mm. in diameter, pubescent, glandular; lobes acute, pubescent, ciliate, glandular, pilose on the inner surface; upper and lateral lobes 2.5–3 cm. long; lowest lobe 4 mm. long, 1.5 mm. broad. *Vexillum* 7 mm. long, 6 mm. broad, obovate with a short claw 2 mm. long; alae 6.5 mm. long, 2 mm. broad, with a linear claw 3 mm. long; carina 3.5 mm. long, 2 mm. broad, with a linear claw 3.5 mm. long. *Ovary* pilose; style 3 mm. long, pilose.

Flowered: October. Flowers: Yellow.

CAPE.—Tembuland, Cala, *Royffe* 161.

A Drying Cabinet for the Preparation of Plant Specimens for the Herbarium.

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INTRODUCTION.

The Drying Cabinet, which is described in this paper, is the outcome of our attempt to meet the extreme difficulty of drying plants under the normally highly humid conditions of the Durban climate. By the ordinary plant-press method, the drying is a lengthy process and even by exercising the greatest care the specimens are of poor quality, frequently rendered valueless by the development of moulds.

The general principle of our drier evolved from a conversation several years ago with Mr. G. H. Cunningham, of New Zealand. He is understood to have a machine of similar type in operation, but no description appears to have been published. In view of the interest which many visitors have shown in our drier, it appears advisable to make a description available. We acknowledge our obligation to Mr. Cunningham for the basic idea, though we, in collaboration with the Public Works Department, are responsible for the details of this design.

DESCRIPTION OF THE DRYING CABINET.

The principle of our method of drying is as follows:—The plants to be dried are laid between sheets of drying paper in the customary manner and subjected to a suitable degree of pressure. Hot air is then drawn through the pile, the air passing through the interstices between the sheets.

The cabinet, constructed of stout, well-seasoned teak, consists of a Pressing or Drying Chamber and a cupboard divided by a shelf into two compartments, an upper oven and a lower heating chamber. These features are illustrated in the accompanying photographs and diagrams.*

The Pressing or Drying chamber is 10" × 1' 8" × 1' high and can accommodate approximately 100 plant specimens of a size suitable for the average mounting sheet. This chamber is fitted with a lid consisting of a flat base with an attached letterpress screw and screw block. The latter is maintained in a fixed position by means of a slotted arm which fits over two hold-fasts screwed to the sides of the chamber. By this means the lid can be lowered or raised at will. In addition the lid has certain features to procure as nearly as possible an air-tight joint with the sides of the chamber. Pieces of solid rubber beading of the desired length are held in movable steel holders attached by means of slotted iron clips to the upper edges of the lid. When the lid is in the desired position, the rubber bead can be made to press firmly against the walls of the chamber by means of 4 pivoted cleats. Triangular pieces of rubber are provided for the corners, the ends of the steel holders and the beadings being cut in such a way as to allow for the fitting of the corner pieces.

* Acknowledgment is made to Mr. L. H. Godfrey, District Draughtsman, Public Works Department, Natal, for the diagram drawings.

The Heating Chamber of the dimensions 10" \times 1' 8" \times 8" is asbestos lined and equipped with 3 Revo electric fire-baths, each consuming 500 watts. By means of a 3-way control switch either one, two, or three of the units can be brought into operation. An iron shelf divides the heating chamber from the oven. Access is provided to the cupboard by means of a felt-lined door equipped with a fastening catch bevelled to create pressure on closing. Air is drawn through the system by a Sturtevant $\frac{1}{4}$ H.P., 2,750 R.P.M. exhausting fan, attached to the side of the drying chamber, communication with which is provided through a narrow vent at its base. Air enters the system through a small opening in the base of the heating chamber—passes over the electric fire-baths, through an opening in the cupboard shelf and enters the drying chamber through five holes in the roof of the oven, at the end opposite to that carrying the fan. Hot air therefore enters the drying chamber at this end and is drawn by the fans horizontally through the pile of drying papers and plants, which lie compressed between the base of this chamber and the screw-down lid. Temperature is observed by means of a thermometer which passes through the wall of the cabinet into the oven at the point where the air enters the drying chamber.

PROCEDURE.

The plant specimens are arranged in the usual way between sheet of some absorbent material such as blotting paper; three sheets between each has been found generally suitable. The sheets are cut 10" wide so as to fit exactly into the drying chamber. A fairly high degree of pressure can be maintained on the specimens without seriously retarding the passage of air through the system. The fan is then set in motion and the heating switch turned to high. In this position the temperature measured by the thermometer already mentioned rises to about 150° C. after an hour. The switch should then be turned to medium which maintains the system at a temperature between 130° C. and 150° C. It is not desirable to keep the three heating units in action for long periods as this will tend to cause over-heating, the specimens becoming brittle and crumbling when handled. A drying temperature of about 130° C. to 140° C. seems to be the most satisfactory. The switch may be turned to low after four or five hours.

The average plant specimen of a woody nature and not of an unduly high degree of succulency requires about an 8-hour treatment. Delicate herbs can be dried in under four hours, while excessively succulent plants of the Aloe type require up to 16 hours.

For seaweeds a low temperature is recommended and we have found it advisable to keep the switch at low, as high temperatures tend to remove the colouring matter.

The oven was included to make provision for the drying of such botanical specimens as fleshy fungi. An excellent result was obtained with a species of Polyporus and complete drying was effected in eight hours at a temperature of 70° C. We have no doubt that many uses will be found for this additional drying chamber.

DISCUSSION.

Our method not only provides for the very rapid drying and preparation of herbarium specimens, but yields results of an excellent quality.

The finished specimens do not possess the brittleness which so frequently is associated with certain plants prepared by the usual slow method of drying. Moreover, colours are retained very much better and there is less vegetative distortion. We have little doubt it will overcome many of the difficulties encountered with some natural families of which the preparation of dried specimens gives normally much trouble.

We commend this piece of apparatus to those in charge of Herbaria situated in the Tropics and other regions of high humidity.