

DESCRIPTION OF THREE NEW SOUTH AFRICAN PLANTS.

By E. P. PHILLIPS, M.A., D.Sc., F.L.S., F.R.S.(S. Afr.).

Pseudosclopia, Phillips gen. nov. (*Flacourtiaceae*) Flores hermaphroditi. *Segmenta calyci* 4, valvata, persistentia. *Petala* 4, cum sepalis sub-similes, imbricata, persistentes. *Stamina* ∞ ; filamenta libra; antherae erectae. *Ovarium* librum, 1-loculare; placentae 2, parietales; ovulum 1 in quaque placenta; stylus teres, apice bilobatus. *Capsula* 2-valvata, ovidea, acuminata, apice stylis coronata. *Semina* ellipsoidea, pilis stellatis vestita; embryo rectus, cotyledones frondeae; albumen sparsum.

Arbor parva; folia opposita; stipulae 0; flores axillares, in cymis parvis; cymae foliis breviores.

P. Fraseri, Phillips sp. nov. *Folia* 3-6 cm. longa, 1.3-3.5 cm. lata, serrata, apice rotundata vel sub-acuminata, obtusa vel sub-acuta, glabra; petiolus 5-8 mm. longus. *Sepala* 5.5 mm. longa, 1.5 mm. lata, oblonga, apice obtusa, hubescentia. *Petala* 5.5 mm. longa, 1.5 mm. lata, oblanceolata, apice obtusa, tomentosa. *Filamenta* 2 mm. longa, filiformia, glabra; antherae 0.5 mm. longae, oblongae. *Ovarium* ovoideum, pilosum; stylus 3 mm. longus, apice bifidus. *Capsula* 1 cm. longus; valvus acuminatus. *Semina* 4.5 mm. longa.

PONDOLAND: Ntsubane Forest, *Fraser in National Herbarium* 1417 and in *Herb. Forest Department* 3133.

Forester Fraser states, "So far, I have only seen this species within 100 yards of the edge and on the edge of the Ntsubane Forest. I have not seen it in any other forest. It appears that its habitat is on the edge and not in the denser forest. The largest tree observed measured about 15 ft. high and 3 ft. 10 in. in circumference, and this was about thirty yards within the forest and on a steep slope. The bark is rough and flakey, and the timber does not appear to be put to any particular use." In a later letter Forester Fraser states, "I have now come across several small individuals growing well in the forest among taller timber trees."

Keetia, Phillips, gen. nov. (*Rubiaceae*). *Calyx* supra discum tubis latis producta; dentes 5, parva, tubis breviores. *Tubus corollae* campanulatus, intus pilis reflexis obtectus; lobi 5, ovati, reflexi, tubis longiores. *Discus* in fauce calycis submergus. *Stamina* in fauce corollae affixa; antherae filamentis longiores. *Ovarium* 2-loculare; ovulum 1 in quaque locula; stylus exsertus; stigma ellipticum, distinctis 3-sulcatum, basi truncatum. *Fructus* drupaceous, sub-didymus, interdum 1-locularis; embryo rectus, fuscis duris albuminis circumvestus.

Frutex, scandens; folia opposita, integra; stipulae ovatae, longo-acuminatae; flores in cymis axillaris.

(Named in honour of Mr. J. D. Keet, Conservator of Forests, Transvaal.)

K. transvaalensis, Phillips sp. nov. *Ramuli* fulvo-tomentosi. *Folia* 4–13 cm. longa, 2·8–5 cm. lata, ovata, oblonga, ovato-oblonga, oblongo-lanceolata, vel elliptica, apice acuminata, acuta vel obtusa, glabra vel pilis sparsis vestita, subtus nervis prominentibus; petiolus 0·5–1·3 cm. longus, glaber vel tomentosus. *Stipulae* ovatae, longo-acuminatae, deciduae. *Inflorescentia* densa, axillaria, foliis brevioria. *Pediculus* 4 mm. longus, pilosus. *Tubus calyci* brevior, dentatus, pilosus, *Tubus corollae* 4–5 mm. longus, cylindricus, extus glaber; intus fauce infra pilosus; lobi 1–5 mm. longi, oblongi, apice obtusi. *Filamenta* tubis calyci aequalia; antherae exsertae. *Ovarium* pilosum; stylus 0·9–1 cm. longus; stigma 2 mm. longum, oblongum, apice leviter divisum, 3-sulcatum. *Fructus* 0·9 cm. longus, 1·2 cm. latus, plerumque didymus.

TRANSVAAL: On edge of high forest De Hoek, Pietersburg District. Common on bushes along edge of forest *Keet* 1181; Woodbush Forest *Botha* in *Herb. Forest Dept.* 2949; Ivy Range, Moodies, Barberton District. A climber, found in bush, *Thorncroft* 372; Woodbush Forest *Doidge* in *National Herb.* No. 6070; Woody Ravines, Barberton—Climbing up the highest forest trees; flowers creamy white, *Galpin* 519; Natal, edge of wood near Pinetown, 1100 ft. *Wood* 5477 (or 5377 ?); Barotseland, Sesheke, *Borle* 293; Portuguese East Africa, 25-miles station (near Beira), *Schlechter* 12290.

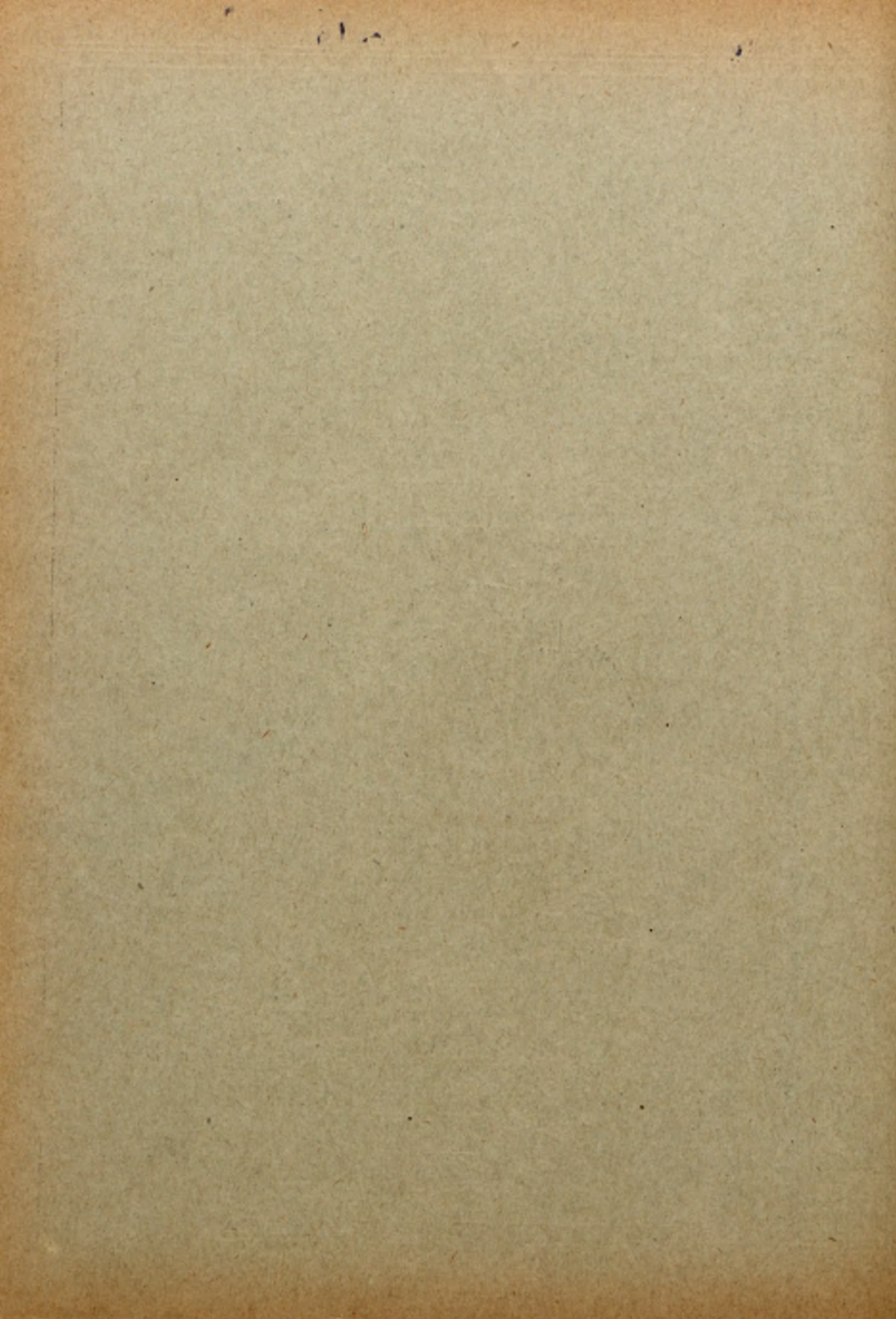
Theilera, Phillips, gen. nov. (*Campanulaceae*). *Calyx* 5-partitus; lobi auguste sub-foliacei. *Tubus corollae* cylindricus; limbus patens. *Stamina* 5, tubo corollae libera; filamenta basi tenuia. *Ovarium* inferior, obovoideum, 3-loculare, ovulis paucis in quaque loculo; stylus exsertus, filiformis, glaber; stigma ellipsoideum, 3-fidum; lobi oblongi.

Suffrutex laxis; rami tenues, longi; folia alternata, fascicula; flores sessiles, solitaires, axillares vel terminales.

(Named in honour of Sir Arnold Theiler, K.C.M.G.)

T. Guthriei, Phillips, comb. nov. = *Wahlenbergia Guthriei*, L. Bolus in *Ann. Bolus Herb. vol. i, p. 193*.

To the collectors given by Mrs. Bolus, add “Knysna, Plat Bos, Farleigh Forest Reserve, and also in virgin veld (common), *Keet* 969; Buffels Mtn. Plantation, *Keet* 482; Mossel Bay, slopes of Goliath’s Berg, *Muir* 2052; George, mountains above George, *Theiler* in *Herb. Theiler*.



Bothalia

A RECORD OF
CONTRIBUTIONS
FROM THE
NATIONAL HERBARIUM
UNION OF SOUTH AFRICA
PRETORIA



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A REVISION

OF THE

CROTALARIAS OF SOUTH AND SOUTH-EAST-TROPICAL AFRICA.

BY I. C. VERDOORN.

The Division of Veterinary Services at Pretoria having pointed out the need of a critical account of the genus *Crotalaria* for South Africa, I was requested by the Chief of the Division of Botany, Horticulture, and Entomology, to undertake the task. The urgency for this had been emphasised on account of some species being injurious to stock whilst others were regarded as potential fodder crops. As the whole of the African species had been recently revised by Mr. E. G. Baker* it seemed at first only necessary to take up the South African species, but it was soon realised that as so many of the tropical African species seemed to be making their way south, it would be advisable to extend the boundary. The region covered is shown in the accompanying map and it includes the whole of the Union of South Africa, Rhodesia, Nyassaland, and Portuguese East Africa.

In tropical and South Africa, over 300 species were enumerated by Mr. Baker. In the present account which covers approximately one quarter of that area there are 124 species.

A considerable number of the tropical African species have a very great range over widely differing climatic conditions, and their satisfactory delimitation into species is often a matter of difficulty. Many of these range into South Africa and there they appear to be still somewhat in a state of flux, apparently breaking up in their new habitat into segregate forms many of which seem to be worthy of specific rank.

Some of these had been previously treated as subspecies or varieties, but I have found it preferable to regard them as separate units, for most of them are distinguished by as good characters as any others.

I am particularly indebted to the Director of the Royal Botanic Gardens, Kew, and to the Keeper of the Herbarium, for full facilities for carrying out this work during my stay in England. They very kindly procured on loan from other herbaria, all the necessary type specimens that were not represented at Kew, especially from Berlin, Zurich, and Upsala. In addition, numerous visits were paid to the herbarium at the Natural History Museum, South Kensington, and I am very grateful to Dr. A. B. Rendle and Mr. E. G. Baker for their unfailing courtesy and help. Besides these Archdeacon F. A. Rogers has generously supplied a large amount of material for inclusion. A short visit was paid to the herbarium at Brussels where, with the kind permission of Dr. de Wildeman, I was able to examine the rich material from the Congo. I am also deeply indebted to Mr. J. Hutchinson for assistance on critical points and general supervision.

* E. G. Baker: The African Species of *Crotalaria*, *Journ. Linn. Soc. Bot.* 42: 241-425 (1914).

VALUE OF CHARACTERS.

If we assume that the more primitive of the *Papilionaceae* have pinnate leaves, it seems reasonable that other things being equal, the digitate, trifoliolate, and unifoliolate types have been evolved in the order named, the unifoliolate form being the most advanced. This view is strengthened in reference to the species of *Crotalaria* by a higher type of inflorescence, namely sub-capitate or densely spiciform, and the petiole is mostly pulvinate at the top. I have therefore used the number of leaflets as the primary character in the key. Another important development seems to have been due to climatic influence, namely the production of spines, usually by the hardening of the short lateral branchlets. It is interesting to note that these all occur in the trifoliolate group, and are not accompanied by the reduction in the number of leaflets. A third valuable character is found in the foliaceous stipules of a number of species which, although an apparently advanced character, I have placed early in the key for practical purposes. These represent most of the general morphological characters of any stability which are available for use. Further sub-divisions in the key are based mainly on rather artificial grounds, such as the shape of the keel, the character of the inflorescence, the shape and size of the pods, and other minor features.

IMPERFECTLY KNOWN SPECIES.

- | | |
|--------------------------------|-----------------------------------------------------------------------------------------------|
| <i>C. aspalathoides</i> Lam. | A poor specimen, possibly not a <i>Crotalaria</i> . |
| <i>C. angustissima</i> E. Mey. | A poor specimen, possibly not a <i>Crotalaria</i> . |
| <i>C. Schultzei</i> Harms | Name only. |
| <i>C. Rangei</i> Harms | Fruiting specimen only, does not appear to be a <i>Crotalaria</i> , but affinities uncertain. |

EXCLUDED SPECIES.

- | | |
|-------------------------------|---------------------------------------|
| <i>C. Ecklonis</i> Harms. | Better referred to <i>Lotononis</i> . |
| <i>C. sparsiflora</i> E. Mey. | Better referred to <i>Lotononis</i> . |

The following abbreviation has been used throughout:—

Bak. f.—E. G. Baker, in Journ. Linn. Soc. Bot., Vol. 42 (1914).

For the limitations of the genus I have followed Mr. Baker. See Journ. Linn. Soc. Bot. 42: 241–245 (1914), page 251.

DESCRIPTION OF GENUS.

Herbs or shrubs, erect or sometimes trailing, leaves 1–5-foliolate, usually 3-foliolate. Calyx with lobes usually bilabiate, the upper lip bifid, the lower trifid, rarely the 4 upper lobes approaching in pairs. Standard orbicular, obovate, or ovate, mostly cordate and bicallosed at the base within and usually clawed. Wings shorter than the keel. Keels bent near the base or about midway (i.e., somewhat L-shaped or U-shaped in outline) and ending in a beak. Stamens monodelphous; the alternate anthers smaller and on longer filaments. Ovary sessile or stipitate, 2 to many ovuled; style knee-bent, often laterally pubescent. Pods sessile or stipitate, inflated.

KEY TO THE SPECIES.

Leaves 3–5-foliolate rarely the upper leaves reduced to a single leaflet (*C. erythrophleba*).

Plants not spinous.

Stipules leaf-like, obovate, large ovate-cordate, or at least some on each branch ovate, lanceolate-, or linear-falcate.

Stipules obovate and shortly petioled, 5–20 mm. long; flowers about 2.5 cm. long; calyx softly pubescent. 1. *C. capensis*.

Stipules ovate, cordate at the base, 7–18 mm. long, broader than the leaflets; flowers 1–1.3 cm. long; calyx thinly strigose. 2. *C. xanthoclada* var. *Stolzii*.

Stipules linear-lanceolate-, or ovate-falcate, rarely some on the same branch, small, subulate.

Flowers large 1.5–2.5 cm. long, with the calyx densely tomentose; pods densely tomentose.

3. *C. lachnocarpa*.

Flowers up to 1.5 cm. long, calyx never densely tomentose ; pods villose, pubescent or glabrous.

Pods long-villose ; calyx about as long as the corolla ; keels abruptly narrowed into a small sharp slightly hooked beak, upper margin shallowly lobed near the apex, glabrous.

4. *C. Goetzei*.

Pods shortly or appressedly pubescent to glabrous ; calyx shorter than the corolla ; keels gradually narrowed into the beak, upper margins not lobed, bearded.

Ovary pubescent at least along the upper suture ; pod glabrescent ; a prostrate plant with long, slender terete branches radially spreading.

5. *C. Rhodesiae*.

Ovary and pod quite glabrous.

Racemes terminal ; calyx glabrescent with wide sinuses between the short teeth.

6. *C. natalitia*.

Racemes leaf-opposed ; calyx pubescent, sometimes thinly pilose with acute sinuses between the long lobes.

Stipules each of 1 leaf-like ovate-falcate lobe, broadest at the base, one side rounded, very shortly petioled, hirsute, with appressed or patent hairs ; pods 2-3 cm. long ; pedicels 3-6 mm. long.

7. *C. podocarpa*.

Stipules each 2-4-lobed ; one lobe large, lanceolate to ovate-falcate, cuneate at the base into the petiolule and spurred by 1 or 3 similar but smaller lobes ; pubescence always appressed ; pods 1.8-2.8 cm. long ; pedicels 2-3 mm. long.

8. *C. damarensis*.

Stipules each of 1-2 oblanceolate-falcate lobes, broadest near the apex and long cuneate into a distinct petiolule ; plant thinly patently pilose ; pods up to 2 cm. long ; pedicels 2-3 mm. long.

9. *C. Marlothii*.

Stipules each of 1 linear slightly flaccate lobe, cuneate at the base ; plant densely hirsute ; pods about 2.5 cm. long ; pedicels 3-5 mm. long.

10. *C. hirsutissima*.

Ovary densely pubescent ; pods shortly pubescent.

Pods cylindric, sessile or shortly stipitate ; erect branching shrubs ; branches striate.

Pods 12-17 mm. long ; flowers up to 10 mm. long.

11. *C. goreensis*.

Pods 25-30 mm. long ; flowers 1-1.5 cm. long.

12. *C. cylindrocarpa*.

Pods oblong, distinctly stipitate ; stems many from the rhizome, unbranched, short, terete.

13. *C. pseudopodocarpa*.

Stipules absent or if present subulate, ovate, lanceolate, linear or long setaceous, not leaf-like or falcate.

Calyx 4-lobed almost to the base ; lobes broad and foliaceous, entirely enveloping the corolla, drying black.

14. *C. nigricans*.

Calyx 5-lobed (rarely 3-lobed by fusion in *C. agatiflora*).

Flowers in distinct dense terminal globose heads overtopped by the basal leaves.

Leaflets oblanceolate, becoming much longer towards the apices of the branches, pilose on both surfaces.

15. *C. cephalotes*.

Leaflets oblong-elliptic or oblong-lanceolate, glabrous on the upper surface ; calyx lobes linear setaceous, exceeding the corolla.

16. *C. ononoides*.

Flowers usually in racemes, if in terminal heads then not overtopped by the basal-leaves.

Keels rounded somewhere about the middle, boat-shaped or broadly U-shaped, ending in a long or short beak.

Pods small and sub-spherical like a pea seed, about 4 mm. in diameter ; flowers small, about 5 mm. long, numerous in long leaf-opposed racemes.

17. *C. nubica*.

Pods various, never small and spherical like a pea seed.

Plants obviously procumbent ; branches many from the base and trailing.

Leaves sessile ; flowers small, red, solitary.

18. *C. leptoclada*.

Leaves distinctly petioled ; flowers various.

Standard densely hirsute on the back ; leaflets silky appressedly pubescent beneath.

19. *C. sericifolia* var. *gweloensis*.

Standard glabrous or pubescent on the mid-rib only ; leaflets not silky pubescent.

Pods not twice as long as broad.

Plant patently hispid with bulbous-based hairs ; pedicels short, 1-2 mm. long.

20. *C. hispida*.

Plant thinly appressedly pilose ; pedicels long and slender up to 6 mm. long.

21. *C. Preladoi*.

Pods twice or more than twice as long as broad, plants variously hairy.

Racemes laxly many-flowered almost from the base of the peduncle ; bracts small, cordate, reflexed, persistent.

22. *C. Schinzii*.

Flowers in the upper half of the peduncles only ; bracts usually linear or subulate.

Whole plant villose canescent with whitish hairs ; pods about twice as long as broad.

23. *C. mollis*.

Plants patently hairy or appressedly pubescent ; pods more than twice as long as broad.

- Plants usually patently hairy; stipules 3–10 mm. long; bracteoles at the base of the calyx conspicuous, 2–5 mm. long.
- Flowers 10–15 mm. long, broader than long; keel very much rounded and the beak almost completing a circle; stipules up to 10 mm. long; pods over 1 cm. broad. 24. *C. obscura*.
- Flowers 7–10 mm. long, not broader than long; keel broadly U-shaped or boat-shaped; stipules up to 5 mm. long; pods less than 1 cm. broad. 25. *C. lotoides*.
- Plants strigose or closely appressedly pubescent; stipules 1–2.5 mm. long; bracteoles near apex of pedicels or in lower half, small, about 1 mm. long.
- Branches long; bracteoles in lower half of the pedicels. 26. *C. gazensis*.
- Branches short; bracteoles at base of calyx.
- Peduncles, 1–2-flowered; branches very slender, less than 1 mm. in diameter near the base; flowers 8–12 mm. long. 27. *C. excisa*.
- Peduncles—to several flowered; branches a little more than 1 mm. in diameter near the base; flowers 10–15 mm. long. 28. *C. effusa*.
- Plants erect or apparently erect.
- Flowers 2–3 in the axils of the leaves on slender pedicels. 29. *C. axillaris*.
- Flowers in racemes or at the ends of branches, not axillary.
- Petioles larger than the leaflets or at least the upper ones, if not obviously so then petioles much longer than the leaflets.
- Flowers 4–5 cm. long. 30. *C. agatiflora*.
- Flowers up to 3 cm. long.
- Whole plant or at least the ovary glabrous.
- Racemes several- or many-flowered; bracts and calyx-lobes not hardening into a sharp apex.
- Pods including stipe 8–10 cm. long, the pod 6–8 times as long as broad; petioles herbaceous, numerous, sub-erect; leaflets usually retuse at the apex. 31. *C. australis*.
- Pods including stipe 5–7 cm. long, the pod 2–3 times as long as broad; petioles somewhat herbaceous, mostly spreading; leaflets broadly acuminate, rarely retuse at the apex. 32. *C. laburnifolia*.
- Racemes up to 6-flowered; bracts and calyx-lobes hardening into a sharp apex; peduncles often zig-zag. 33. *C. longidens*.
- Plant appressedly pubescent; ovary shortly tomentose.
- Petioles clustered on abbreviated lateral shoots, more than twice as long as the leaflets and the internodes. 34. *C. athroophylla*.
- Petioles not on abbreviated shoots, slightly longer than the leaflets and internodes.
- Flowers up to 22 mm. long, in lateral few-flowered racemes.
- Leaflets rather sparse 1.5–4 mm. broad; branches slender and glabrescent. 35. *C. rigidula*.
- Leaflets not sparse, 3–12 mm. broad; branches softly pubescent.
- Leaflets 6–12 mm. long, 3–9 mm. broad. 36. *C. Monteroi*.
- Leaflets 10–30 mm. long, 3–12 mm. broad. *C. Monteiroi* var. *Galpinii*.
- Flowers up to 12 mm. long, in long terminal laxly many-flowered racemes. 37. *C. Pearsonii*.
- Plant patently pilose; ovary pilose. 24. *C. obscura*.
- Flowers not obviously larger than the leaflets; petioles rarely longer than the leaflets but then flowers smaller.
- Leaves sessile or minutely petioled; leaflets very small, oblanceolate, 5–15 mm. long, 1.5–4 mm. broad. 38. *C. harmsiana*.
- Leaves petioled, sometimes shortly so but then leaflets not very small.
- Pods broadly oblong with a long stipe; stipe $\frac{1}{3}$ to more than $\frac{1}{2}$ the length of the pod, 6–10 cm. long.
- Standard on the back and keels near lower margin sericeous pubescent. 39. *C. Doidgeae*.
- Standard and keels glabrous.
- Flowers large, 2–2.5 cm. long. 40. *C. Ceciliae*.
- Flowers up to 1.7 cm. long.
- Flowers purple; calyx intruse at the base; leaves obovate or oblong-cuneate. 41. *C. purpurea*.
- Flowers yellow; calyx not intruse at base; leaves lanceolate-oblong. 42. *C. Barnabassii*.
- Pods sessile or shortly stipitate, if stipe $\frac{1}{3}$ the length of pod then only 3–4 mm. long.

Shortly appressedly pubescent plants with a glabrescent somewhat glaucous calyx; pedicels usually pubescent at least up to the bracteoles.
Racemes with a few large flowers; flowers about 2.5 cm. long.

40. *C. Ceciliae*.

Racemes elongated, many-flowered.

Leaflets broadly obovate, elliptic, or oblong cuneate, about twice as long as broad.

43. *C. recta*.

Leaflets lanceolate or narrowly oblong, several times as long as broad.

Flowers 6-11 mm. long; pods very narrowly cylindric, less than 5 mm. broad.

44. *C. lanceolata*.

Flowers 1.5-2.5 cm. long; keels narrow, boat-shaped, gradually narrowing into a long beak.

45. *C. intermedia*.

Flowers 1.5-1.8 cm. long; keels broad, U-shaped, abruptly narrowed into a short beak.

46. *C. simplex*.

Plants variously pubescent with the calyx and pedicels equally hairy or lobes pilose-ciliate; calyx not glabrescent glaucous.

Petioles short, 2-10 mm. long and $\frac{1}{2}$ or much less the length of the terminal leaflet.

Keels gradually narrowing into the beak.

Petioles about 2 mm. long; flowers numerous in a dense terminal raceme; pods densely brown pilose.

47. *C. vasculosa*.

Petioles up to 10 mm. long; flowers few in short leaf-opposed racemes.

48. *C. Schlechteri*.

Keels abruptly narrowed into a beak.

Whole plant densely and shaggily pubescent; flowers up to 1.5 cm. long; racemes often elongated and many-flowered; pods densely ferruginous pilose.

49. *C. lachnocarpoides*.

Pubescence more or less appressed and not long and shaggy; flowers less than 1.5 cm. long; racemes short, lateral or terminal, few-flowered.

Leaflets oblong-elliptic, shortly cuneate at the base; standard densely hairy to silky, tomentose on the back.

Petioles up to 3 mm. long; flowers about 12 mm. long; branches stout and woody.

50. *C. amoena*.

Petioles 10 mm. or more long; flowers 8-9 mm. long; branches rather slender woody.

19. *C. sericifolia* var. *queloensis*.

Leaflets oblanceolate or narrowly oblong, long cuneate at the base; standard glabrous or thinly hispid on the mid-rib and apex.

Plant strigose; pod sub-globose, 5-9 mm. long, 5-8 mm. broad, drying black, appressedly pubescent.

51. *C. dura*.

Plant puberulous to appressedly villose pubescent; pods oblong, 1.5-2.2 cm. long, villose or pilose.

Leaflets small, 5-20 mm. long; flowers 6-9 mm. long.

26. *C. gazensis*.

Leaflets 1-5 cm. long; flowers 10-12 mm. long.

52. *C. rotundicarinata*.

Petioles exceeding 10 mm. or if about that then about as long or not much shorter than the leaflets.

Racemes lateral or terminal, 1-12-flowered, not much elongating.

Stipules none; stems white, smoothly puberulous.

53. *C. argyrea*.

Stipules present.

Pubescence silvery or silky; pods tomentose.

Standard densely hirsute all over the back; pods 1-1.5 cm. long.

C. sericifolia var. *queloensis*.

Standard with a line of hairs along the mid-rib, otherwise glabrous; pods 2-3 cm. long.

Whole plant silvery sericeous hirsute; racemes rather densely few- to many-flowered.

54. *C. erecta*.

Whole plant appressedly silky pubescent; racemes rather laxly few-flowered.

55. *C. colorata*.

Pubescence never silvery; pods patently villose or pilose.

Flowers 1 to several in the upper half of long peduncles.

Flowers 1.5-2 cm. long with the beak not hooked; leaflets lanceolate to narrowly oblong; stipules 1-1.5 cm. long.

56. *C. burkeana*.

Flowers 10-15 mm. long and broader than long with beak distinctly hooked; leaflets variable lanceolate or obovate; stipules up to 10 mm. long; pods over 1 cm. broad.

24. *C. obscura*.

- Flowers 7-10 mm. long, not broader than long, stipules up to 5 mm. long; pods less than 1 cm. broad. 25. *C. lotoides*.
 Flowers about 2 in short racemes on the leafy lateral branchlets. 52. *C. rotundicarinata*.
- Racemes elongated, many-flowered.
 Leaflets small, 6-12 mm. long, 3-6 mm. broad. 37. *C. Pearsonii*.
 Leaflets much exceeding 12 mm. long.
 Leaflets broadly obovate, long stipulate.
 Pubescence silvery and silky.
 Plant sericeous hirsute; racemes densely many-flowered. 43. *C. erecta*.
- Plant appressedly sericeous pubescent; racemes laxly few-flowered. 55. *C. colorata*.
 Pubescence not silvery and silky. 57. *C. incana*.
- Leaflets of various shapes, if somewhat obovate then stipules absent; stipules none or deciduous.
 Flowers 6-11 mm. long; leaflets usually long and narrowly lanceolate; calyx with 5 short teeth. 44. *C. lanceolata*.
 Flowers 9-20 mm. long; leaflets various rarely lanceolate; calyx lobes as long as or longer than the tube.
 Stems white silky puberulous; pods obovate, up to 15 mm. long, stipitate. 53. *C. argyrea*.
 Stems not white or silky; if grey sericeous then pods cylindric up to 2.5 cm. long.
 Bracts at the base of the pedicels evident, persistent.
 Leaves 3-5-foliolate; stems softly and densely pubescent; bracteoles not exceeding the calyx. 58. *C. cleomifolia*.
 Leaves 3-foliolate; stems thinly strigose; bracteoles long, exceeding the calyx. 59. *C. chirindae*.
- Bracts at the base of the pedicels deciduous.
 Keels pure wine-coloured. 60. *C. Rogersii*.
 Keels yellow or striped with purple.
 Keels yellow, 2 cm. long and up to 1 cm. broad. 61. *C. tabularis*.
 Keels striped with purple, narrow, up to 5 mm. broad.
 Leaflets broadly elliptic to oblong-cuneate, 3-5 cm. long, 1.5-5 cm. broad. 62. *C. striata*.
 Leaflets all elliptic or ovate-cuneate, 2.5-5 cm. long, 1-2 cm. broad. 63. *C. Nicholsonii*.
- Keels bent in the lower half, ending in a long straight beak, somewhat L-shaped; pods oblong, obovate, or small and spherical like a pea seed.
 Pods erect, up to 2 cm. long; branches 4-angled; leaflets 1.5-4.5 cm. long, 4-18 mm. broad. 64. *C. flavica inata*.
 Pods erect on straight erect pedicels, mostly spherical, small, 3-8 mm. long; leaves small, erect or sub-erect.
 Flowers more or less hidden in the sub-erect leaves; terminal racemes scarcely showing above the leaves. 65. *C. Buchananii*.
- Flowers obvious in clusters or in long terminal racemes.
 Terminal racemes with few and distant flowers, which are from 8-15 mm. apart.
 Leaves few, soon falling off; leaflets small, 4-10 mm. long. 66. *C. sparsifolia*.
 Leaves not soon falling off, erect; leaflets 10-18 mm. long. 67. *C. filicaulis*.
- Terminal racemes many-flowered, or the flowers close together.
 Pods oblong-globose, 6-8 mm. long, 4-5 mm. broad; racemes terminal, with the upper flowers sub-umbellate; flowers 7-10 mm. long. 68. *C. argyrolobioides*.
 Pods oblong, very small, 5-7 mm. long, 2-3 mm. broad; flowers 5-7 mm. long, in racemes or aggregated in small heads. 69. *C. microcarpa*.
 Pods spherical, up to 4 mm. in diameter; flowers in racemes, sometimes very crowded, and in the axils of the leaves.
 Flowers crowded in large oblong terminal racemes which are 1.5-2 cm. in diameter. 70. *C. nyikensis*.
- Flowers in elongated racemes, not densely crowded, often one or more in the axils of the stem leaves.
 Terminal racemes branched; flowers usually 2, rarely 3, in the axils of the stem leaves. 71. *C. phyllostachys*.
 Terminal racemes simple; flowers several, in the axils of the stem leaves. 72. *C. Mumbwae*.
- Flowers in terminal racemes only, or sometimes solitary in the axils of the upper leaves.

- Flowers 8-9 mm. long; standard sparingly hairy near the apex; upper leaves reduced to 1 leaflet. 73. *C. erythrophleba*.
- Flowers 3-6 mm. long; standard appressedly pilose on the back; all leaves trifoliate.
- Flowers 3-5 mm. long; bracts shorter than the pedicels. 74. *C. hyssopifolia*.
- Flowers 6 mm. long; bracts as long or longer than the pedicels; pubescence loosely appressedly pilose. 75. *C. Johnstonii*.
- Pods pendulous; pedicels at length nodding or patent; leaves various.
- Plants obviously prostrate, with long trailing branches.
- Calyx about 1 cm. long, glabrous, with the lobes thinly hispid on the margins, conspicuously bi-bracteolate at the base; bracteoles ovate-lanceolate, 4-6 mm. long; whole plant thinly patently hispid. 76. *C. geminiflora*.
- Calyx if 1 cm. long not glabrous or conspicuously bi-bracteolate at the base.
- Flowers small, clustered at the apices of leaf-opposed peduncles, which are about as long as the leaves.
- Pods like pea seeds, tomentose; leaflets pilose beneath.
- Inflorescence shorter than the subtending leaf; petioles 6-20 mm. long.
- Leaflets sub-orbicular or broadly obovate, 11-25 mm. long, 6-15 mm. broad. 77. *C. pisicarpa*.
- Leaflets oblong-cuneate or elliptic, broad and narrow on the same plant, 20-50 mm. long, 5-14 mm. broad. 78. *C. pilulicarpa* var. *Schinzii*.
- Inflorescence slightly longer than the subtending leaf; petioles 20-28 mm. long. 79. *C. reptans*.
- Pods oviform; leaflets silky pubescent beneath. 19. *C. sericifolia* var. *gweloensis*.
- Flowers in racemes.
- The whole plant patently hispid, with bulbous-based hairs; flowers small, up to 7 mm. long. 20. *C. hispida*.
- Plants softly pubescent; flowers mostly more than 8 mm. long.
- Plant conspicuously white villose pubescent; standard pubescent on the mid-rib only. 23. *C. mollis*.
- Plants shortly pubescent; standard pubescent all over the back.
- Calyx-lobes broad, abruptly acuminate into an oblique acute apex; leaflets obovate, strongly cuneate. 80. *C. Dinteri*.
- Calyx-lobes deltoid or deltoid acuminate; leaflets narrowly oblong to oblanceolate.
- Racemes laxly few-flowered (about 12); bracts 1-2 mm. long; calyx-lobes deltoid. 81. *C. Friesii*.
- Racemes many-flowered; bracts 3-4 mm. long; calyx-lobes acuminate. 82. *C. shamvaensis*.
- Erect or slightly decumbent plants, not with long obviously trailing branches.
- Pods large, long-stipitate, about 4 cm. long including the stipe, 1.7 cm. broad; flowers about 1.5 cm. long; stipules small, subulate; leaflet obovate, 1-3 cm. long, 6-15 mm. broad. 83. *C. macrocarpa*.
- Pods large, oblong, 3-5 cm. long, 1.5-2.5 cm. broad, cuneate at the base, pilose with patent hairs; stipules 10-15 mm. long, linear-setaceous.
- Branches patently pilose; leaves 3-5-foliolate; leaflets linear-lanceolate or narrowly oblong, up to 3.5 cm. long, 7 mm. broad. 56. *C. burkeana*.
- Branches with appressed, sometimes woolly, pubescence; leaves 3-foliolate; leaflets ovate-lanceolate, 3-8 cm. long, 1-2.5 cm. broad. 84. *C. Stewartii*.
- Pods small, globose or oblong, but then less than 3 cm. long.
- Calyx-lobes widest at the apex, distinctly apiculate; pods up to 1 cm. long. 85. *C. platysepala*.
- Calyx-lobes broad, abruptly acuminate into a rather oblique acute apex; pods 1-2 cm. long.
- Flowers about 7 mm. long; pods 1.7-2 cm. long. 86. *C. junodiana*.
- Flowers 1-1.5 cm. long; pods 1-1.5 cm. long. 87. *C. mixillaris*.
- Calyx-lobes triangular to deltoid acuminate.
- Pods numerous and very small, sub-spherical, up to 6 mm. long and 5 mm. broad. 17. *C. rubica*.
- Pods more than 6 mm. long and 5 mm. broad.
- Pods oblong, 2 cm. long or longer including stipe, distinctly stipitate or clavate.
- Calyx glabrescent; young pod clavate, cuneate at the base into a short stipe. 88. *C. deserticola*.
- Calyx pubescent; pods distinctly long-stipitate.
- A low tufted plant, with many short simple branches from the rhizome. 13. *C. pseudopodocarpa*.
- Plants erect and branching.
- Racemes elongated, laxly several-flowered; pods narrowly oblong; leaflets linear. 89. *C. Mundyi*.

- Racemes short, few-flowered; pods oblong; leaflets obovate or oblong-elliptic. 90. *C. natalensis*.
- Pods globose, sub-globose, ovoid or oblong-obovate, rarely up to 2 cm. long, sub-sessile or shortly stipitate.
- Whole plant obviously softly and densely pilose with pale yellow hairs; leaflets slightly acuminate at the apex, and apiculate; bracts linear, about 7 mm. long. 91. *C. oocarpa*.
- Plants not softly and densely pilose with pale yellow hairs; leaves mostly rounded at the apex; bracts subulate.
- Flowers along the branches axillary, or terminal on axillary shoots, rarely with a few leaf-opposed racemes; peduncles and lateral shoots becoming rigid or spike-like.
- Flowers 1-3, at the ends of short rigid axillary shoots; pubescence of golden hairs; persistent style-base lateral on the pod. 92. *C. pauciflora*.
- Flowers on axillary peduncles or in racemes; pubescence of pale yellow or whitish hairs; persistent style-base oblique but terminal on the pod.
- Calyx-lobes as long or shorter than the tube; bracteoles 2 at the base of the calyx. 93. *C. distans*.
- Calyx-lobes distinctly longer than the tube; bracteoles 2 on the pedicel.
- Keels with beaks up to 7 mm. long; flowers mostly 1-3 on thread-like peduncles. 94. *C. grantiana*.
- Keels with beaks 1 cm. or more long; peduncles sometimes slender but not thread-like.
- Branches whitish tomentose, the lateral ones mostly short; leaves fascicled and crowded. 95. *C. longistyla*.
- Branches softly pubescent, virgate; leaves not crowded, sometimes 2-3 at a node. 96. *C. virgulata*.
- Flowers usually at the top of the plant in lax leaf-opposed or terminal racemes with only a few along the branches; plants rather rigid.
- Standard glabrous or very obscurely pubescent on the back; pods sub-globose, 7-8 mm. in diameter, lemon coloured. 97. *C. leubnitziana*.
- Standard pubescent on the back.
- Bracts at the base of the pedicels about 1 mm. long, cuculate, not subulate. 98. *C. Kurtii*.
- Bracts at the base of the pedicels subulate, 1-4 mm. long.
- Calyx-lobes deltoid, long acuminate, much longer than the tube.
- Plant softly white pubescent, prostrate. 82. *S. shamaensis*.
- Plant strigose, erect; pods marked transversely. 99. *C. Heidmannii*.
- Calyx-lobes deltoid, not long acuminate, shorter or only slightly longer than the tube.
- Pods sub-globose, 1.2 cm. in diameter, shortly stipitate, lemon-coloured. 100. *C. aurea*.
- Pods oblong or obovoid, 1-2 cm. long, 5-12 mm. broad, sub-sessile, greenish-yellow.
- Racemes long, many-flowered; flowers 1.2-2.5 cm. long; mature pods obovoid. 101. *C. Macaulayae*.
- Racemes 2-12-flowered; flowers 0.7-1.4 cm. long; mature pods oblong. 93. *C. distans*.
- Flowers crowning the plant in terminal fairly dense racemes, none along the branches; plants not rigid or spiky.
- Petioles short, 1-5 mm. long.
- Plant grey sericeous, more than 25 cm. high. 102. *C. cinerasc.*
- Plant thinly strigose, tufted, up to 25 cm. high. 103. *C. caespitosa*.
- Petioles 5-17 mm. long.
- Racemes numerous, sessile, few-flowered, often appearing as a leafy panicle. 104. *C. florida*.
- Racemes many-flowered, not sessile or appearing panicle.
- Standard quite glabrous; pods depressed globose, broader than long. 105. *C. brachycarpa*.
- Standard pubescent on the back; pods sub-globose longer than broad. 106. *C. globifera*.
- Plants with distinct straight spines.
- Pods obovoid to oblong, 1.3-3 cm. long; flowers 1.3-2 cm. long; standard pubescent all over the back. 107. *C. aculeata*.

Pods globose or ovoid, up to 7 mm. long; flowers 6–12 mm. long; standard glabrous or pubescent only towards the tip.

Dichotomously branched plant, with the branchlets ending in a sharp spine. 108. *C. griquensis*.

Virgately branched, with numerous slender patent spines all along the branches. 109. *C. eremicola*.

Leaves unifoliate.—

Flowers in dense terminal racemes or in terminal heads.

Flowers in heads.

110. *C. anthyllopsis*.

Flowers in dense terminal racemes.

Standard pilose; flowers erect.

111. *C. kipandensis*.

Standard glabrous; flowers cernuous.

112. *C. cylindrostachys*.

Flowers in lax few-flowered racemes, or solitary.

Calyx large, enclosing the corolla, shaggy-, and densely-pilose.

113. *C. calycina*.

Calyx not enclosing the corolla and not densely pilose.

Flowers 1 cm. long or less; keels bent somewhere about the middle; leaves usually more than 5 mm. broad, if less then flowers less than 1.2 cm. long.

Whole plant glaucous; branches slender, rod-like; stipules absent. 114. *C. glauca*.

Whole plant not glaucous; branches more or less fistular and angled or striate; stipules present.

Small erect slender annual up to 18 cm. high.

115. *C. hongensis* var. *shirensis*.

Plants more than 18 cm. high.

Leaves petiolate.

Flowers yellow; beak not horned.

116. *C. incompta*.

Standard blue on inner face; beak horned.

117. *C. Hislopii*.

Leaves sub-sessile.

Leaves linear-lanceolate to lanceolate, long-attenuated towards the apex; calyx less than half the length of the corolla.

118. *C. spartea*.

Leaves oblong-lanceolate, mucronate but not long-attenuated towards the apex; calyx more than half the corolla.

119. *C. Adamsonii*.

Flowers 1.4–2 cm. long; keels usually bent below the middle; leaves often sparse, very narrow, mostly less than 4 mm. broad.

Leaves linear or linear-lanceolate, 2–4 mm. broad, petiolate.

Calyx 7–9 mm. long, appressedly pubescent; petiole 2–6 mm. long; bracts 3–4 mm. long

120. *C. virgatalis*.

Calyx 5–6 mm. long, glabrescent; petiole 6–17 mm. long; bracts short, 1–2 mm. long.

121. *C. Allenii*.

Leaves very sparse, linear-acicular, 0.5–1.5 mm. broad, sub-sessile or the petiole the same as the leaf-blade.

Branches strigose; calyx appressedly hairy; pedicels bi-bracteolate at the apex; petioles about 1 mm. long.

122. *C. spartioides*.

Branches and calyx glabrescent; pedicels usually bi-bracteolate about midway; petiole 3–10 mm. long.

123. *C. orientalis*.

1. *C. capensis* Jacq. Hort. Vindob. 3: 36 t 64 (1776–7), Bak. f. 405 (which see for synonymy).

Shrub; branches terete, appressedly silky to roughly hairy. Leaves trifoliate; stipules foliaceous, sometimes obsolete, obovate, very shortly petiolate, mucronate, usually 0.5–2 cm. long; petioles 1–5 cm. long, strigose; leaflets obovate, very shortly petioluled, rounded at the apex, with a small mucro, the intermediate larger than the lateral, 1–5 cm. long, 0.7–2.5 cm. broad, strigose, sometimes the upper surface glabrous. Racemes terminal and lateral opposite the leaves. Flowers large, 2–2.5 cm. long; pedicels 1–1.5 cm. long, roughly hairy, bracteate at the base and about midway; bracts linear, 2–5 mm. long. Calyx 1–1.5 cm. long, softly pubescent; lobes about as long or longer than the tube, lanceolate acuminate; tube widely campanulate, narrowing abruptly at the base. Standard somewhat strigose on the back. Keels rounded about the middle, more or less boat-shaped, ending in a blunt beak glabrous on the surface. Pods cylindric, appressedly pubescent becoming glabrous, long stipitate, about 5 cm. long without the stipe; stipe 0.7–1.5 cm. long.

CAPE PROVINCE.—Near Capetown, *Ecklon* 224; Table Mountain, *MacGillivray* 506; Knysna, *Kapp* 14; Uitenhage, *Cooper* 1576, *Bolus* 2285, *Ecklon* 1258; Albany, *Grahams-town*, *MacOwan* 284, *Tuck* 518, *Atherstone* no number; Keiskama, *Hutton* no number, *Dr ge* 1836; Knysna, *Rogers* 15443 and 26768; Komgha, *Schlechter* 6164, *Flanagan* 503; Willowvale, *Hilner* 501; Clydesdale, *Tyson* 2074.

NATAL.—*Krauss* 122, *Kuntze* no number, *Cooper* 2216, *Wood* 535, *Mogg* 6947 and 3556, *Wood* 12569.

SWAZILAND.—*Burt-Davy* 2749.

PORTUGUESE EAST AFRICA.—*Lourenco Marques*, *Borle* 425.

TRANSVAAL.—*Lydenburg*, *Burt-Davy* 1531 ; *Barberton*, *Burt-Davy* 290, *Galpin* 661, *Rogers* 24113 ; *Zoutpansberg*, *Junod* 4371.

2. *C. xanthoclada* *Bojer* var. *Stolzii*, *Bak. f.* in *Journ. Linn. Soc. Bot.* 42 : 412.

Branches erect, glabrous. Leaves trifoliolate ; stipules leaf-like, broader than the leaflets of the subtending leaf, ovate, cordate, very unequal-based, 7–18 mm. long, 5–10 mm. broad, mucronate, shortly petioled, more or less glabrous ; petioles 5–10 mm. long, grooved, glabrous or hirsute at the apex ; leaflets oblanceolate to obovate, 1–2.3 cm. long, 3–8 mm. broad, glabrescent, minutely mucronate, very shortly petioluled. Racemes terminal, about 12–20-flowered. Flowers 1–1.3 cm. long ; pedicels strigose, slender, 2–4 mm. long ; bracts and bracteoles deciduous. Calyx up to 8 mm. long ; lobes acuminate, rather longer than the tube, thinly strigose. Standard glabrous. Keel evenly rounded about the middle, more or less boat-shaped, ending in a broad beak ; the upper margin with a short white fringe. Pod cylindric, about 1.5 cm. long and 5 cm. broad, glabrous.

RHODESIA.—*Hislop* 2, *Teague* 102.

NYASALAND.—*Johnson* and *Waller* no number.

This variety differs from the type in having the leaves much broader.

3. *C. lachnocarpa* *Hochst.* ex *Bak.* in *Oliver Fl. Trop. Africa* 2 : 33 (1871) ; *Bak. f.* 404.

Branches stout, striate, densely rufo-tomentose. Leaves trifoliolate ; stipules leaf-like, ovate-falcate, acuminate or acute, 0.7–3.5 cm. long ; petioles tomentose, 0.5–4.5 cm. long ; leaflets oblong-cuneate or obovate, 1.5–8 cm. long, 0.6–3 cm. broad, cuneate at the base into a very short petiolule, rounded at the apex, with a very small mucro, silky rufus pubescent on both sides or the upper glabrous. Racemes terminal and lateral. Flowers 1.5–2.5 cm. long ; pedicels densely tomentose, 0.5–1.3 cm. long, bracteate at base and near the apex ; bracts deciduous ; the basal ovate, abruptly acuminate ; the upper linear or lanceolate. Calyx 1.3–1.7 cm. long, densely ferruginous tomentose, 5-lobed ; lobes longer than the tube ; the lower slightly longer and narrower than the 4 upper, which approach in pairs on each side of the flower. Standard glabrous on the back. Keel deeply rounded about the middle, ending in a short beak, the upper margins and portion of the surface long bearded. Pod sessile, oblong, about 3 cm. long, densely ferruginous tomentose.

RHODESIA.—*Salisbury*, *Eyles* 665 ; *Odanzi River*, *Umtali*, *Teague* 56 ; *Broken Hill*, *Allen* 487 ; *Chirinda*, *Swynnerton* 373.

SOUTH-WEST AFRICA.—*Minnesera*, *Baum* 646.

NYASALAND.—*Stolz* 220, *Johnson* 387, *Whyte* 94.

4. *C. Goetzei* *Harms* in *Engl. Jahrb.* 28 : 399 (1900) ; *Bak. f.* 411.

Branches erect, villose pubescent. Leaves trifoliolate ; stipules leaf-like, variable, either linear, or lanceolate-falcate, or elliptic-ovate, from 3–15 mm. long and 1–3 mm. broad, or 10 mm. long and 6 mm. broad, usually mucronate and very shortly petioled, villous beneath ; petiole 0.5–2.5 cm. long, grooved above, villose, with the apex and short petiolules long villose ; leaflets oblong-cuneate or elliptic, 1–5 cm. long, 4–20 mm. wide, villose beneath, mucronate and very shortly petioluled. Racemes axillary and terminal, 2–5-flowered. Flowers 12–14 mm. long ; pedicels 0.5–1.5 cm. long, villose ; bracts linear, about 5–7 mm. long ; bracteoles smaller, midway or on upper half of pedicel. Calyx almost as long as the corolla ; lobes acuminate, longer than the tube, villose. Standard sparingly villous on the back, especially on the mid-rib. Keel evenly rounded about the middle (boat-shaped), ending abruptly in a short beak with the upper margin shallowly lobed near the apex, ciliate. Pod cylindric, 2–3 cm. long, villose, shortly stipitate.

NYASALAND.—*Mlanji*, *Purves* 35, *Adamson* 358 ; *Kondowe* to *Karonga*, *White* 94.

5. *C. Rhodesiae* Bak. f. in Journ. Linn. Soc. Bot. 42 : 401. *C. natalitia* Meissn. var. *procumbens* Bak. f. The Leg. of Trop. Africa 1 : 58.

Branches many from the root, long, slender, radially spreading, faintly grooved or angled, strigose-pubescent. Leaves trifoliolate; stipules linear and linear-falcate, varying in size on the same plant, 3–10 mm. long, 1–2 mm. broad; petioles 5–15 mm. long; leaflets obovate to oblong-cuneate, 7–30 mm. long, 3–13 mm. broad, rounded at the apex, minutely mucronate, cuneate at the base, glabrous above, strigose beneath. Racemes lateral and terminal, leaf-opposed and about as long as the leaves, 2 to several flowered. Flowers 12–15 mm. long; pedicels 3–5 mm. long; bracts linear, deciduous, about 1–2 mm. long; bracteoles 2, about midway on the pedicel, deciduous, linear, 1–2 mm. long. Calyx 7–10 mm. long, appressedly pubescent, with the lobes narrowly deltoid and as long or longer than the tube. Standard glabrous or with a few pilose hairs on the back. Keels rounded about the middle, ending in a short blunt beak, surface pilose to densely bearded with white woolly hairs in the upper half. Pods oblong, 1.5–2.5 cm. long, 7–12 mm. broad, glabrescent, sub-sessile.

RHODESIA.—Hislop 46; Kalomo, Rogers 8214 and 26018; Salisbury, Eyles 2161; Umtali, Teague 61.

6. *C. natalitia* Meissn. in Hook. Lond. Journ. Bot. 2 : 67 (1843); Fl. Cap. 2 : 46; Bak. f. 410.

Branches angled and grooved, appressedly pubescent. Leaves trifoliolate; stipules leaf-like falcate-lanceolate, 0.5–1.5 cm. long; petioles varying in length from 0.5–3 cm., long pubescent; leaflets unequal, with the terminal larger than the lateral, obovate-oblongate to linear-oblongate, shortly petioluled, rounded at the apex, usually with a small mucro, very variable in size, 0.5–5 cm. long, 0.3–1.5 cm. broad, glabrous above, strigose beneath. Racemes terminal, few-flowered. Flowers 1–1.5 cm. long; pedicels 0.4–1.3 cm. long, bibracteate at the base and again somewhere below the middle, usually pubescent in the lower half only. Calyx 5–8 mm. long, mostly quite glabrous, rarely strigose, broadly cup-shaped; lobes 5 (2 usually sub-falcate), deltoid, acute, as long as or shorter than the tube, with a more or less U-shaped sinus between each. Standard glabrous on the back. Keel evenly rounded about the middle (boat-shaped), ending in a short blunt beak, with the upper margin and some of the surface densely white woolly-pubescent. Pod oblong, cylindric, stipitate, glabrous, 3.5 cm. long.

NATAL.—Krauss 339, Sutherland no number, Gerrard 1724; Inanda, Wood 1257; Illovo, Wood 6431; Ngoze, Wood 10866.

TRANSVAAL.—Zoutpansberg, Rogers 21145.

RHODESIA.—Salisbury, Eyles 3320; Victoria Falls, Rogers 1779 and 4024; Umtali, Eyles 3627, Teague 22.

PORTUGUESE EAST AFRICA.—Vila Pery, Esselen no number.

NYASALAND.—East Coast of Lake, Riddelsdell 145; Fort Hill, Whyte no number, Whyte 64; Shire Highlands, Adamson 94.

7. *C. podocarpa* DC. Prod. 2 : 133; Bak. f. 407. Subsp. *C. flexuosa* and *C. Belchii* Bak. f. 407. *C. mutabilis* Schinz in Bull. Herb. Boiss. II. 3 : 820 (1903).

Branches terete, appressedly or patently hirsute. Leaves trifoliolate; stipules of 1 ovate- or lanceolate-falcate lobe, from less than 1–3 cm. long, broadest at the base, with one side rounded, very shortly petioluled, thinly pilose; petioles variable, 1–5 cm. long, appressedly or patently hirsute; leaflets variable in size, oblongate, obovate, or narrowly oblong-cuneate to broadly elliptic, 1–7 cm. long, 2–25 mm. broad, rounded mostly mucronate at the apex, thinly pilose on the lower surface, glabrous on the upper. Racemes leaf-opposed, 1 to many flowered, lax. Flowers 1–2 cm. long; pedicels 3–6 mm. long; bracts long, linear, deciduous. Calyx 7–12 mm. long, thinly pilose or hirsute; lobes narrowly deltoid acuminate, much longer than the tube. Standard glabrous on the back. Keels abruptly

bent near the base and ending in a long straight beak, white woolly on the upper margins, glabrous on the surface. Pods oblong, 2-3 cm. long, 7-14 mm. broad, glabrous, stipitate; stipe 3-5 mm. long.

TRANSVAAL.—Waterberg, Warmbaths, *Leendertz* 2045; Pietersburg, *Schlechter* 4360.

BECHUANALAND.—Kwebe, Ngamiland, *Lugard* 133 and 179; Kuruman, *Lanham in Cape Govt. Herb.* 6478.

SOUTH-WEST AFRICA.—Okahandja, *Dinter* 6.

RHODESIA.—Livingston, *Rogers* 7065; Umsweswe, *Borle* 175; Mazabuka, *Rogers* 26367.

PORTUGUESE EAST AFRICA.—Tete, *Kirk* 4, *Kirk* no number.

This species may be grouped into geographical forms, the extremes of which are more or less easily distinguishable but are linked up by intermediate forms. The specimens from the western districts have larger leaves and denser racemes than those from the east.

8. *C. damarensis*, Engl. Bot. Jahrb. 10: 27 (1888); Bak. f. 409.

C. Fleckii Schinz in Mem. Herb. Boiss. 1: 128 (1900). *C. Lindneri* Schinz in Viertelj. Nat. Ges. Zurich 52: 422 (1907).

Branches terete, fairly densely appressedly greyish hirsute. Leaves trifoliolate, varying in size on the same plant and often 2 or more at a node; stipules leaf-like, 2-4-lobed; one lobe large, lanceolate- to ovate-falcate, 5-15 mm. long, cuneate at the base into a petiolule and spurred by 1 or 3 similar but smaller lobes, pubescent; petioles 1-5 cm. long; leaflets narrowly oblong-lanceolate or oblong-obovate, 1-6 cm. long, 3-12 mm. broad, rounded at the apex and minutely mucronate, shortly cuneate at the base, appressedly pubescent on the lower surface, glabrous above. Racemes leaf-opposed, with 2-15 flowers on the upper half of the peduncle. Flowers 12-15 mm. long; pedicels short, 2-3 mm. long, pubescent; bracts long, linear, deciduous. Calyx 6-10 mm. long, appressedly pubescent, becoming somewhat glabrescent; lobes deltoid, acuminate, much longer than the tube. Standard glabrous. Keels bent near the base and ending in a long straight beak, white woolly on the upper margin, glabrous on the surface. Pods oblong, 1.8-2.8 cm. long, 7-12 mm. wide, glabrous, stipitate; stipe about 3 mm. long.

TRANSVAAL.—Waterberg, *Smuts* no number; Barberton, *Rogers* 524, 20352 and 20276; Messina, *Rogers* 20716; Silwane, *Breyer* no number.

RHODESIA.—*Borle* 406; Khami River, *Eyles* 4.

SOUTH-WEST AFRICA.—Rehoboth, *Fleck* 447, 937, 167 and 453; Usakos, *Marloth* 1310.

9. *C. Marlothii*, Engl. in Jahrb. 10: 27 (1888); Bak. f. 409.

A small plant about 2-3 dm. high, branching in the upper half; branches thinly patently pilose. Leaves trifoliolate; stipules leaf-like of 1 or 2 oblanceolate-falcate lobes, 5-14 mm. long, broadest near the apex and long cuneate into a distinct petiolule of 1-3 mm. long; petioles 1.5-2 cm. long, thinly patently pilose; leaflets oblong-lanceolate, 2-4 cm. long, 5-10 mm. broad, cuneate at the base, broad and acute at the apex, thinly pilose beneath. Racemes terminal and leaf-opposed, few to many flowered and dense towards the apex. Flowers about 1.5 cm. long; bracts long, linear, deciduous; pedicels short, 2-3 mm. long. Calyx 6-7 mm. long, very thinly pilose, narrowly deltoid, acuminate, about as long as the tube. Standard glabrous on the back. Keels abruptly bent near the base and ending in a long straight beak, glabrous on the surface, white woolly on the upper margins. Pods small, oblong, about 17 mm. long and 8 mm. broad, glabrous, stipitate; stipe 3-4 mm. long.

HEREROLAND.—River Swachaub. *Marloth* 1451*.

* 1851 quoted by Baker and by Engler, but specimen from Berlin numbered 1451.

10. *C. hirsutissima* Schinz in Bull. Herb. Boiss. Ser. 2. 3 : 819 (1903); Bak. f. 409.

Branches numerous, slender, terete ascending, densely leafy and hirsute with somewhat spreading hairs. Leaves trifoliolate; stipules leaf-like, linear, slightly falcate, 5–12 mm. long, cuneate at the base, thinly pilose; petioles about 10–20 mm. long, flattened, hirsute; leaflets oblanceolate or narrowly oblong-cuneate, about 10–20 mm. long, 1·5–3 mm. broad, mucronate at the apex, thinly pilose beneath, glabrous above. Flowers about 1·5 cm. long, 1–3 on slender leaf-opposed peduncles; bracts deciduous (not seen); pedicels about 3–5 mm. long. Calyx about 8 mm. long, thinly pilose; lobes narrowly deltoid, long acuminate, much longer than the tube. Standard glabrous on the back. Keels abruptly bent near the base and ending in a long straight beak, white woolly on the upper margins, glabrous on the surface. Pods oblong, about 2·5 cm. long, glabrous, stipitate; stipe 4–5 mm. long.

SOUTH-WEST AFRICA.—Hereroland, Otavi, *Dinter* 663.

11. *C. goreensis* Guill. and Perr. in Fl. Seneg. 1 : 165 (1830-3); Bak. f. 413.

Much branched shrub; branches straight, ascending, shortly and densely pubescent or puberulous, here and there woolly. Leaves trifoliolate; stipules leaf-like, lanceolate-falcate, 0·6–2·5 cm. long; petioles 1–7 cm. long, appressedly pubescent; leaflets oblong-cuneate or oblanceolate, 1·5–7 cm. long, 0·3–2 cm. broad, sub-glabrous to densely strigose beneath, mucronate, sometimes retuse at the apex. Racemes 4 to many flowered, strictly terminal and terminal on lateral branchlets. Flowers 6–10 mm. long, rather narrow. Pedicels short, up to 3 mm. long, tomentellous; bracts and bracteoles deciduous. Calyx about 4 mm. long; lobes deltoid, about as long as the tube, shortly pubescent. Standard glabrous. Keel bent abruptly in the lower half and ending in a long erect beak, with the upper margin shortly fringed with white hairs. Pods shortly cylindric, 12–17 mm. long, about 5–7 mm. broad, sessile, appressedly hairy.

NORTH RHODESIA.—Mumbwa, *Macaulay* 323A; Kafue, *Rogers* 8748.

NYASALAND.—*Whyte* no number; *Whyte* 57.

12. *C. cylindrocarpa* DC. Prod. 2 : 133 (1825); Bak. f. 414.

Branches erect, striate to stiffly pubescent. Leaves trifoliolate; stipules lanceolate to ovate-falcate, 4–10 mm. long; petiole 0·5–3 cm. long flattened, pubescent; leaflets elliptic-oblong, rather broadly cuneate into a very short densely strigose petiolule, 1–4 cm. long, 3–11 mm. broad, sericeous-strigose beneath, becoming glabrescent. Racemes terminal, many flowered. Flowers 1–1·5 cm. long; pedicels short, 2–3 mm. long, sericeous; bracts deciduous; bracteoles at base of calyx subulate. Calyx about 7 mm. long, sericeous-pubescent; lobes deltoid acuminate, slightly longer than the tube. Standard glabrous. Keels rounded at about the middle, boat-shaped, with the upper margins fringed with long white hairs. Pods cylindric, 25–30 mm. long, shortly pubescent, sub-sessile. (Pods of the Rhodesian specimen not seen).

RHODESIA.—Mumbwa, *Macaulay* 608.

13. *C. pseudopodocarpa* Fries in Wiss. Ergebn. Schwed. Rhod. Kongo Exped. 1911–1912 I. 75 (1914).

A low perennial with numerous branches from the rhizome; branches terete, simple, ascending, white-hirsute. Leaves trifoliolate; stipules foliaceous, linear to lanceolate-falcate, broadest about the middle, rarely a few setaceous on the same plant, 1·5–4 mm. long; petioles 4–8 mm. long, flattened; leaflets oblanceolate to obovate, 1–2·5 cm. long, 5–10 mm. broad, rounded at the apex with a small mucro, cuneate at the base into a petiolule, thinly appressedly pilose beneath, glabrous above. Racemes terminal and leaf opposed, Flowers 2–8, usually crowded at the apex of the peduncle, erect, about 1·5 cm. long; bracts deciduous; pedicels 1·3 mm. long, stout, erect. Calyx 6–8 mm. long, appressed hirsute;

lobes deltoid, acuminate, longer than the tube. Standard glabrous on the back. Keels bent in the lower half and ending in an erect blunt beak, white woolly on the upper margins. Pods oblong, 2-2.5 cm. long, 1-1.2 cm. broad, shortly and appressedly white hirsute, stipitate; stipe about 4 mm. long.

NORTH EAST RHODESIA.—Kawendimusi, *Fries* 801.

14. *C. nigricans* *Bak.* in *Oliv. Fl. Trop. Africa* 2: 21 (1871); *Oliver* in *Trans. Linn. Soc.* 29: 51, tab. 26A (1872); *Bak. f.* 308

Branching suffrutex; branches terete, shortly and patently grey pilose. Leaves trifoliolate; stipules small, 3-5 mm. long, ovate, acuminate; petioles 2-5 mm. long, pilose; leaflets oblanceolate to oblong-cuneate or obovate, 1-1.5 cm. long, 4-8 mm. broad, mucronate, thinly pilose. Flowers in dense heads at the ends of the stems and short branchlets; bracts 2-4 mm. long, ovate, acuminate. Calyx large, 8-12 mm. long, enveloping the corolla, 4-lobed almost to the base; lobes broad, leaf-like, pilose. Keel rounded about the middle and ending in a short blunt beak. Immature pod globose, sericeous.

NYASALAND.—Fort Hill, *Whyte*.

15. *C. cephalotes* *Steud.* ex *A. Rich. Tent. Fl. Abyss.* 1: 156 (1847); *Bak.* in *Oliv. Fl. Trop. Africa* 2: 22; *Hiern Cat. Welw. Africa Fl.* 1: 199; *Bak. f.* 276.

Stems erect, simple or branched, terete, pilose. Leaves trifoliolate, becoming larger and more numerous towards the apex, overtopping the inflorescence; stipules none; petioles pilose; the lower 5 mm. long increasing in length upwards to 20 mm. long; leaflets oblanceolate, about 1-4 cm. long and 2-5 mm. broad, pilose on both surfaces, mucronulate at the apex, cuneate at the base. Flowers pedicelled, about 5 mm. long, in dense terminal heads. Calyx about as long as the corolla; lobes lanceolate, much longer than the tube. Standard hairy on the back. Keel abruptly bent below the middle and ending in a long straight beak. Pod sericeous pilose, globose, about 5 mm. in diameter.

RHODESIA.—Salisbury, *Flanagan* 3104; Lusaka, *Veterinary Officer* No. 2; Makwiro, *Mainwaring* 2212; Unsweswe, *Borle* 180; Choma, 8005; Broken Hill, *Rogers* 8158; Odanzi River Valley, *Teague* 417, Makwi o, *Mainwaring* 2212.

NYASALAND.—*Buchanan* 130; Shire Highlands, *Buchanan* 165; Lake Nyasa, *Johnson* 374; Kondowe to Karonga, *Whyte* 6849.

16. *C. ononoides* *Benth.* in *Hook. Lond. Journ. Bot.* 2: 572 (1843); *Bak.* in *Oliv. Fl. Trop.* 2: 22; *C. involucrata* *Solander* ex *Bak. f.* 307, name only.

Herb, branching from the base. Branches terete, pilose. Leaves trifoliolate; stipules linear, about 5 mm. long, pilose; petioles 3-5 mm. long, somewhat flattened, pilose; leaflets oblong-elliptic, oblong-lanceolate, or oblong-cuneate, varying from 18-35 mm. long and 6-15 mm. broad to 45 mm. long and 6 mm. broad, usually acute, if rounded then with a small mucro, thinly pilose beneath. Flowers about 7 mm. long, pedicelled, in dense terminal heads; bracts on the calyx linear, subulate, pilose. Calyx pilose, with long linear setaceous lobes; lobes much longer than the tube and exceeding the corolla. Standard with a few stiff hairs near the apex on the back. Keels rounded about the middle, glabrous. Pods glabrous, sessile, 8-10 mm. long.

RHODESIA.—Mumbwa, *Macaulay* 740.

17. *C. nubica* *Benth.* in *Hook. Lond. Journ. Bot.* 2: 581 (1843). *C. sphaerocarpa* var. *angustifolia*, *Hochst.* in *Unio Inter nub.* No. 282; *Bak. f.* 289. *C. nutans* *Welw.* ex *Bak.* in *Fl. Trop. Africa* 2: 24 (1871); *Bak. f.* 284. *C. squarrosa* *Schinz* var. *Dinteri*, *Bak. f.* 292. *C. cernua* *Schinz* in *Mem. Herb. Boiss.* 1: 127 (1900); *Bak. f.* 297. *C. truncata* *Schinz* in *Mem. Herb. Boiss.* 1: 130 (1900); *Bak. f.* 298.

A squarrosely branched herb or suffrutex; branches terete appressedly pubescent. Leaves trifoliolate; stipules subulate to linear-lanceolate, 2-4 mm. long; petioles 1-3 cm.

long, pubescent; leaflets linear- to lanceolate-oblong or oblong-obovate, 1-5 cm. long, 2-18 mm. broad, mostly sub-truncate at the apex and cuneate at the base, appressedly pubescent on both surfaces or glabrescent above. Racemes leaf-opposed, flexuous, usually long and laxly many flowered. Flowers small, with the keel varying from 4-8 mm. long; pedicels cernuous, 2-3 mm. long; bracts small, up to 1 mm. long; bracteoles not evident. Calyx 2-3 mm. long, pubescent; lobes acute, as long or longer than the tube. Standard thinly pubescent on the back. Keels bent almost at right angles near the base and ending in a long or short straight beak, somewhat L-shaped, thinly pubescent on the surface. Pods small, sub-spherical, up to 6 mm. long and 5 mm. broad, pubescent, sub-sessile.

CAPE.—St. Claire, Douglas, Dist. Herbert, *MacOwan* 223; Kimberley, *McKenzie* in Herb. Galpin 6344, *Power* in Nat. Herb. Pretoria no number.

ORANGE FREE STATE.—*Barber* no number.

TRANSVAAL.—Bloemhof, *Burt-Davy* 14523; Ermelo, *Pilditch* in Govt. Herb. Pretoria 6431; Barberton, *Rogers* 18503; Moorddrift, *Pott* 2189; Warmbaths, *Stent* no number, *Pott* 2066; Nylstroom, *de Jongh* in *Galpin Herb.* 6474; Mosdene, Naboomspruit, *Galpin* M 73; Rustenburg, *Nation* no number; Pietersburg, *Bolus* 10872; Modimolole, *Schlechter* 4263.

BECHUANALAND.—Vryburg, *Mogg* 3668, *Burt-Davy* 13740 and 13920; Mochudi, *Harbor* in Herb. *Rogers* 6586; Mafeking, *Burt-Davy* 11076.

SOUTH-WEST AFRICA.—Olukonda, *Rautanen* 224, *Schinz* no number; Otjwavongo, *Schmid* in Nat. Herb. Pretoria no number; Okahandja, *Dinter* 40.

RHODESIA.—Barotseland, *Borle* in Nat. Herb. no number; Kalomo, *Rogers* 8218; Salisbury, *Mundy* 2808; Livingstone, *Rogers* 7197; Victoria, *Walters* 2257.

PORTUGUESE EAST AFRICA.—Lourenco Marques, *Borle* 357, *Schlechter* 11665, *Kuntze* in Kew Herb. no number.

18. *C. leptoclada* *Harms* in Baum, Kunene-Sambesi Exped. 225 (1903); Bak. f. 397.

Stems many from the root, filiform, virgate, pubescent with white hairs. Leaves trifoliolate, sessile; stipules none; leaflets linear or linear oblong, 2-8 mm. long, 1-1.5 mm. broad, acute at the apex, cuneate at the base, shortly albo-pilose on both surfaces, with the upper becoming glabrescent. Peduncles lateral at the nodes, longer than the leaves and bearing usually one flower at the apex. Flower about 4-5 mm. long, red; pedicels 1.5 mm. long; bracts linear, 1 mm. long; bracteoles 2 near the apex of the peduncle, linear, 1.5 mm. long. Calyx 4 mm. long, pilose; lobes narrow, acuminate, longer than the tube. Standard glabrous, except for a few pilose hairs on the mid-rib. Keels rounded about the middle, deeply boat-shaped, scarcely beaked. Pods sub-sessile, linear-oblong, about 9 mm. long, 3 mm. broad, shortly pilose.

According to Bak. f. in Leguminosae of Tropical Africa 55 (1926), this species occurs in North-East Rhodesia. I have not seen a specimen from that area.

19. *C. sericifolia* *Harms* var. *gweloensis*, Bak. f.; Bak. f. 398.

Suffrutex with diffuse terete grey-tomentose branches. Leaves trifoliolate; stipules broad-based, acuminate, 2-4 mm. long; petioles 5-15 mm. long; leaflets obovate to oblong-cuneate, 2-3.5 cm. long, 7-17 mm. broad, rounded at the apex, minutely mucronate, cuneate at the base into a petiolule, silky pubescent on the under surface, glabrous and shiny on the upper. Peduncles lateral, about 3-flowered at the apex, as long as or exceeding the leaves. Flowers 8-9 mm. long, violet and yellow; pedicels about 4-5 mm. long; bracts linear, 1-2 mm. long; bracteoles 2 toward the apex of the pedicel, 1-2 mm. long. Calyx 5-7 mm. long, tomentose; lobes narrowly lanceolate, acuminate, longer than the tube. Standard densely hirsute on the back. Keels rounded about the middle, deeply boat-shaped, ending in a short blunt beak, glabrous on the surface. Pods oviform, 10-15 mm. long, 4-7 mm. broad, pubescent.

RHODESIA.—*Walters* 2258.

20. *C. hispida* Schinz in Bull. Herb. Boiss. ser. 2, 3 : 820 (1903) ; Bak. f. 367.

A procumbent annual; branches hispid with stiff bulbous-based hairs. Leaves trifoliate; stipules linear, acuminate, 2-7 mm. long, hispid; petioles 4-14 mm. long, grooved above, hispid with bulbous-based hairs; leaflets elliptic-oblancoate to oblong-cuneate, narrowing slightly at the apex into a small mucro, cuneate at the base into a petiolule, 1-4 cm. long, 3-15 mm. broad, glabrous on the upper surface, thinly hispid on the lower. Racemes leaf-opposed, about 3-12-flowered. Flowers small, 4-7 mm. long; pedicels 1-2 mm. long, hispid; bracts linear-subulate, about as long as the pedicels; bracteoles 2 at the base of the calyx, appressed, linear, up to 1 mm. long. Calyx 3-4 mm. long, thinly hispid or pubescent; lobes deltoid, about as long as the tube. Standard glabrous on the back. Keel rounded about the middle broadly U-shaped, with a short beak, or sometimes bent abruptly near the base, glabrous on the surface. Pod globose-oviform, sessile, up to 11 mm. long and 7 mm. broad, pubescent.

TRANSVAAL.—Zoutpansberg, Messina, *Rogers* 20754A.

RHODESIA.—Victoria, *Munro* 1047; Wankie, *Rogers* 13304; Bulawayo, *Rogers* 13806.

SOUTH-WEST AFRICA.—Osona, *Dinter* 526.

21. *C. Preladoi* Bak. f. 367.

Annual; branches weak, slender, thinly appressedly pilose. Leaves trifoliate; stipules lanceolate, acute, 2-5 mm. long; petioles slender, grooved, 1-2 cm. long, thinly appressedly pilose; leaflets variable in shape, narrowly oblong to linear lanceolate, 1-4 cm. long, 2-6 mm. broad, rounded and mucronate at the apex, shortly cuneate at the base, thinly appressedly pilose underneath, glabrous above. Racemes leaf-opposed, laxly many flowered. Flowers small, about 5 mm. long; pedicels slender, 6 mm. long; bracts linear, up to 2 mm. long; bracteoles 2 at the base of the calyx, 1 mm. long. Calyx about 4 mm. long; lobes deltoid-acuminate, somewhat longer than the tube, thinly appressedly pilose. Standard glabrous on the back. Keels broadly U-shaped, ending in a short beak, glabrous on the surface. Pod oviform, 9 mm. long, 6 mm. broad, sessile, pubescent.

PORTUGUESE EAST AFRICA.—Cabaceira Grande, *Prelado* 38.

22. *C. Schinzii* Bak. in Journ. Linn. Soc. Bot. 42 : 370 (1914).

Small plant branching near the base; branches slender, diffuse, hirsute, with the hairs patent or reflexed. Leaves trifoliate; stipules linear-lanceolate, 3-6 mm. long, hirsute on the back; petiole 7-15 mm. long, channelled above, hirsute; leaflets oblong-obovate, sometimes elongating, elliptic to lanceolate-elliptic, 1-4 cm. long, 5-14 mm. broad, distinctly mucronate, cuneate at the base, sub-sessile or very shortly petioluled. Racemes lateral, leaf-opposed, much exceeding the leaves, lax, many-flowered. Flowers 6-10 mm. long; pedicels 2-5 mm. long, hirsute; bracts cordate, small, up to 2 mm. long, persistent, reflexed; bracteoles 2 at the base of the calyx, lanceolate, about 1 mm. long. Calyx 3-5 mm. long, hirsute; lobes narrow, lanceolate, much longer than the tube. Standard glabrous on the back. Keels rounded about the middle, broadly U-shaped, ending in a rather short straight beak, glabrous on the surface. Pods oblong, 1-2 cm. long, 4-6 mm. broad, shortly stipitate, tomentose.

TRANSVAAL.—Sandriver, *Schlechter* 4589; Messina, *Rogers* 20062, 20754 and 21860, *Pole-Evans* in Govt. Herb., Pretoria 13103.

BECHUANALAND.—*Holub* no number.

23. *C. mollis* E. Mey. Comm. 23 (1835). Benth. in Hook. Lond. Journ. Bot. 2 : 575; Fl. Cap. 2 : 42; Bak. f. 359.

A low villose canescent plant branching at the base; branches many, weak, trailing but turning upwards at the ends, shortly and patently villose. Leaves trifoliate; stipules deciduous; petioles 5-25 mm. long; leaflets obovate, 5-20 mm. long, 4-10 mm. broad,

villose canescent beneath, becoming glabrous above, rounded and mucronulate at the apex, sharply cuneate at the base into a small petiolule. Racemes terminal or lateral, few flowered. Flowers 10–15 mm. long; pedicels 4–6 mm. long; bracts about 2 mm. long; bracteoles inconspicuous. Calyx 5–8 mm. long, villose; lobes lanceolate, longer than the tube. Standard villose along the midrib. Keels rounded about the middle, broadly U-shaped, and ending in a long sharp straight beak, glabrous on the surface. Pods oblong, somewhat inflated, 1.5–2 cm. long, about 8 mm. broad, sub-sessile, villose.

SOUTH-WEST AFRICA.—Pomona, *Dinter* 4035; Luderitzbucht, *Dinter* 3818; Gariep, *Drège* no number.

24. **C. obscura** DC. Prod. 2: 134 (1825), Fl. Cap. 2: 42; Bak. f. 360.

A diffuse plant branching at the base; branches decumbent, hispid with patent rufous hairs. Leaves trifoliolate; stipules linear, acute, 5–10 mm. long, hispid; petioles 1–3 cm. long, patently hispid; leaflets variable, broadly obovate or ovate to lanceolate, with an obtuse apex minutely mucronate, cuneate at the base into a petiolule, glabrescent on the upper surface, thinly pilose on the lower. Racemes terminal and leaf-opposed, 1 to several-flowered, with the flowers collected at the tops of the long peduncles. Flowers 1–1.5 cm. long; pedicels 5–8 mm. long, thinly pilose; bracts about 5 mm. long, reflexed; bracteoles at the base of the calyx conspicuous, broadly lanceolate, acuminate, 2–5 mm. long. Calyx as long as the corolla, thinly pilose-hispid to glabrescent; tube very short; lobes broadly lanceolate, acute. Standard hispid along the midrib or glabrous. Keels rounded about the middle, U-shaped, with the beak distinctly falcate, hispid on the upper margin, otherwise glabrous. Pods oblong, 2.5–4 cm. long, thinly hispid-pilose with bulbous based hairs, narrowing at the base into a short stipe.

CAPE.—Between Uitenhage and Omsamvubo, inland, Salad Kraal, *Burke* and *Zeyher* no number; Beaufort, *Cooper* 252; Uitenhage, *Ecklon* 1260; Albany, *Bouker* no number; Grahamstown, *Daly* 763, *MacOwan* no number; Bathurst, *Burchell* 4051, 3776 and 3791; Keiskama, *Hutton* no number; East London, *Galpin* 3294; Transkei Baziya, *Baur* 338 and 588; Pondoland, Omsamvubo, *Drège* no number; Kokstad, *Tyson* 1885.

25. **C. lotoides** Benth. in Hook. Lond. Journ. Bot. 2: 575 (1843); Bak. f. 399.

A branched prostrate or decumbent suffrutex; branches terete, softly pubescent to patently pilose with yellowish hairs. Leaves trifoliolate; stipules linear-lanceolate to setaceous, 3–5 mm. long; petioles 3–20 mm. long; leaflets broadly obovate, 6–18 mm. long, 5–17 mm. broad, retuse at the apex, cuneate at the base into a small petiolule, pilose on both surfaces or the upper sometimes glabrous. Racemes leaf-opposed, bearing 1–3 flowers at the apex of the peduncle; peduncle a little longer than the subtending leaf. Flowers about 1 cm. long; pedicels 3–5 mm. long; bracts linear-lanceolate, 2–4 mm. long; bracteoles 2 at the base of the calyx, linear-lanceolate, about 2 mm. long. Calyx 6–8 mm. long, thinly and rather shortly pilose; lobes lanceolate, more than twice as long as the tube. Standard pilose along the mid-rib. Keels somewhat boat-shaped, ending in a straight blunt beak, glabrous on the surface. Pods oblong, 2–3 cm. long, 6–9 mm. broad, sub-sessile, pilose, with the hairs somewhat bulbous based.

ORANGE FREE STATE.—Boshoff, *Burt-Davy* 12895.

TRANSVAAL.—Pretoria, Aapies River and Magliesberg, *Burke* and *Zeyher*, *Schlechter* 3684; Skinner's Court, *Burt-Davy* 7091; Pienaars River, *Pole-Evans* no number; Kleinfontein, *Rech* in Govt. Herb. Pretoria 188; Bloemhof, *Burt-Davy* 13029, 14307; Zeerust, *Pott* 4184; Piet Retief, *Leipoldt* no number; Potgieter's rust, *Leendertz* 1288; Mosdene, *Galpin* M 71; Pietersburg, *Bolus* 11025; Zoutspanberg Mara, *Rogers* 22273; Houtbosch, *Rehmann* 6256; Lydenburg, *Rogers* 14556.

GRIQUALAND.—Kimberley, *Flanagan* 1443, *Power* no number, *Levy* in *Galpin* Herb. 6337.

BECHUANALAND.—Vryburg, *Burt-Davy* 13705 and 13745, *Mogg* 8512, *Sharp* in Govt. Herb. Pretoria 7466B; Mafeking, *Greathead* in Govt. Herb. Pretoria 6387.

26. *C. gazensis* Bak. f. 396.

Shrub, with terete softly pubescent branches and short slender lateral branchlets. Leaves trifoliolate, sometimes drying almost black; stipules subulate from a broad base, 1-2 mm. long; petioles 2-6 mm. long; leaflets oblanceolate, 5-20 mm. long, 2-6 mm. broad, rounded at the apex, minutely mucronate, cuneate at the base into a petiolule, glabrous on the upper surface, thinly appressedly pubescent on the lower. Racemes short, 1-3-flowered, terminal and axillary on the lateral branchlets. Flowers 6-9 mm. long; pedicels 3-5 mm. long; bracts subulate, 1-2 mm. long; bracteoles 2, about midway on the pedicels, very small. Calyx 5-7 mm. long, appressedly pubescent; lobes narrowly deltoid, longer than the tube. Standard glabrous, glaucous. Keels U-shaped, broad, with the upper margin somewhat hyaline and 2-lobed; beak very short. Pod 20-22 mm. long, densely villose.

TRANSVAAL.—Wylies Poort, *Breyer* 19421.

GAZALAND.—Nyabodi River, *Swynnerton* 1493.

27. *C. excisa* Bak. f. in Journ. Linn. Soc. Bot. 42: 394 (1914). *C. humilis* E. and Z., *C. diffusa* E. Mey., *C. effusa* E. Mey., ex parte. *Lotononis diffusa* E. and Z. *Lotononis perplexa* E. and Z. *Ononis excisa* Thunb.

A small slender diffuse plant branching from the base; branches less than 1 mm. in diameter near the base, appressedly pubescent. Leaves trifoliolate; stipules small, subulate, recurved, 1-2 mm. long; petioles 5-12 mm. long, appressedly pubescent; leaflets obovate, narrowly oblong to almost linear, 7-15 mm. long, 2-8 mm. broad, rounded at the apex and sometimes retuse, minutely mucronate, cuneate at the base into a minute petiolule, glabrous above, appressedly pubescent beneath. Flowers 1-2 in upper half of long leaf-opposed peduncles, 8-12 mm. long; peduncles usually more than twice as long as the subtending leaf, 3-7 cm. long, appressedly pubescent; pedicels 2-6 mm. long; bracts 1.5 mm. long; bracteoles 2, very small, at the base of the calyx. Calyx 5-9 mm. long, appressedly pubescent; lobes narrow-deltoid, acute, longer than the tube. Standard glabrous on the back, sometimes with a few hairs on the mid-rib. Keels rounded about the middle, U-shaped, ending in a sharp straight beak, glabrous on the surface. Pods narrowly oblong, 10-20 mm. long, 3-5 mm. broad, sub-sessile, thinly appressedly pubescent.

CAPE.—Near Capetown, *Bolus* 2998, *Pappe* no number, *Bowie* no number, *Macowan* 1832, *Ecklon* 225; Lions Head, *Wolley Dod* 1345; Rosebank, *Pillans* 3475; Montagu Baths, *Page* 49; Hopefield, *Bolus* 12664; Karee Bergen, *Schlechter* 8226; Kamiesberg, *Pearson* 6768.

Very near *C. effusa* but has more than 2 flowers and is a much more slender plant comparatively.

28. *C. effusa* E. Mey. Comm. 25 ex parte (1835).

Ononis racemosa Thunb. Fl. Cap. 587 (1823); Bak. f. 395.

A low diffuse plant copiously branched from the base, thinly appressedly pubescent; branches terete, slender, a little over 1 mm. in diameter near the base, thinly pubescent or glabrescent. Leaves trifoliolate; stipules subulate, 1-2.5 mm. long; petioles 5-20 mm. long, glabrescent or thinly appressedly pilose; leaflets obovate to very narrowly oblong, 6-15 mm. long, 3-10 mm. broad, rounded at the apex, sometimes retuse, minutely mucronate, cuneate at the base into a small petiolule, glabrous above, thinly appressedly pubescent beneath. Racemes leaf-opposed; flowers 3 to several in the upper half of the rather weak peduncles; peduncles 5-10 cm. long, thinly appressedly pubescent to glabrescent. Flowers 10-15 mm. long; pedicels 3-6 mm. long; bracts linear, acute, 1-2 mm. long; bracteoles minute, about midway on the pedicel. Calyx 6-10 mm. long, thinly and shortly appressedly pubescent with whitish hairs; lobes narrowly deltoid, as long or longer than the tube.

Standard glabrous on the back. Keels rounded about the middle, broadly U-shaped, ending in a straight beak. Pods about 2.5 cm. long and 6 mm. broad, stipitate, appressedly pubescent.

CAPE.—*Drège*; Olifants River Valley, near Warm Bath, *Stephens* 7105; Little Namaqualand, near Klipfontein, *Bolus* 432 and 6552.

29. *C. axillaris* (*Dryand* in) *Aiton*, Hort. Kew. 3: 20 (1789).

C. Hildebrandtii *Vatke* in Oest. Bot. Zeit. 29: 220 (1879). *C. lotifolia* *Baker* in Fl. Trop. Africa 2: 42. Bak. f. 388.

Shrubby, with long straight puberulous branches. Leaves trifoliolate; stipules none; petioles 3–8 cm. long, about as long as the terminal leaflets, puberulous; leaflets oblong or elliptic, with the terminal obviously larger than the lateral, 3–9 cm. long, 1.5–3.5 cm. broad, rounded or acute, apiculate, cuneate at the base into a distinct petiolule, glabrous above, thinly puberulous beneath. Flowers axillary, usually 2 in the leaf-axil, 1.5–2 cm. long; pedicels 1.2–1.5 cm. long, puberulous, not bracteolate. Calyx 1.2–1.4 cm. long, puberulous; tube short and wide, lobes long acuminate, much longer than the tube. Standard glabrous on the back except for a few hairs on the mid-rib. Keels U-shaped ending in a long straight beak, glabrous on the surface. Pods oblong, cuneate, about 5 cm. long, stipitate, puberulous.

NYASALAND.—*Buchanan* 289; 731; Zomba, *Manning* 12; *Whyte* no number; Shire Highlands, *Buchanan* 83; *Adamson* 266.

30. *C. agatiflora* *Schweinf.* in von Hohnel und Rudolph und Stephanie. See Anhang 13 (1892); Bot. Mag. t. 8505; Bak. f. 315.

Erect shrubs; branches villose or glabrescent and glaucous. Leaflets trifoliolate; stipules none or deciduous; petioles 3–8 cm. long, villose or glabrescent, herbaceous, fistular, usually longer than the leaflets; leaflets elliptic, ovate- or obovate-elliptic, 3–9 cm. long, 1.5–3.5 cm. broad, shortly petioluled, glabrous or villose beneath. Racemes long, robust, terminal and lateral. Flowers 4–5 cm. long; bracts deciduous; pedicels about 1.5 cm. long, glabrous-glaucous or villose, bi-bracteolate near the base; bracteoles small, filiform. Calyx 2–2.5 cm. long; lobes longer than the tube, with the 4 upper connate in pairs and the lower narrow and more acuminate, glabrous-glaucous or villose. Standard glabrous on the back or villose along the mid-rib. Keels rounded, almost boat-shaped, ending in a long straight beak, glabrous on the surface. Pods 6–7 cm. long, 2–2.5 cm. broad, narrowing at the base into a long stipe, glabrous.

Common in East Trop. Africa and cultivated in South Africa and elsewhere. In Nat. Herb. Pretoria, *Le Mare* no number; *Starke and Co.* no number.

31. *C. australis* *Bak. f.* MS. *C. petiolaris* *Franch. var. australis* *Bak. f.* 319.

A much-branched shrub with virgate glabrous faintly ribbed branches. Leaves glabrous, trifoliolate; stipules none; petioles 4–8 cm. long, herbaceous, numerous, sub-erect, much exceeding the leaflets; leaflets narrowly oblong to oblong cuneate, 1.5–5 cm. long, 3–30 mm. broad, retuse and mucronulate at the apex, somewhat cuneate at the base into a short petiolule. Racemes usually many flowered, leaf-opposed, long, appearing terminal. Flowers large, about 2 cm. long; bracts subulate; pedicels slender, about 7–14 mm. long. Calyx glabrous, 9–14 mm. long; lobes acuminate, acute, longer than the tube. Standard glabrous on the back. Keel deeply rounded about the middle and ending in a straight truncate beak, glabrous on the surface. Pod long stipitate, brown, often with dark red flecks, narrowly cylindric, long cuneate at the base, about 6–8 cm. long and 10–12 mm. wide; stipe about half as long, 3–4 cm. long.

TRANSVAAL.—Pretoria, *Pole Evans* no number; Pienaars River, *Schlechter* 4210, Barberton, *Rogers* 2053 and 20257, *Galpin* 914; Waterberg, *Galpin* M 72; Pietersburg, *Bolus* 10875; Klein Letaba, *Junod* 1527; Messina, *Rogers* and *Moss* 70.

32. *C. laburnifolia* Linn. Sp. Pl. 715 (1753); Bak. f. 318.

Erect shrubs, branched; branches somewhat glaucous, glabrous. Leaves trifoliate; stipules none; petioles 2–9 cm. long, mostly much longer than the leaflets, herbaceous, glabrous; leaflets oval, elliptic or obovate-oblong, 1.5–7 cm. long, 0.5–4 cm. broad, broadly acuminate at the apex, rarely rounded or retuse, mucronate, shortly petioluled, usually glabrous. Flowers large, about 3 cm. long, in lax many flowered racemes; bracts subulate; pedicels slender, 1–2.5 cm. long. Calyx 1–1.5 cm. long, wide at the mouth, glabrous; lobes deltoid, acuminate, longer than the tube, with the lateral approaching each other, and the lower narrower and somewhat longer. Standard glabrous. Keels rounded about the middle, broadly U-shaped, ending in a truncate beak, glabrous on the surface. Pod long-stipitate, cylindric, 3.5–4.5 cm. long, 12–14 mm. broad, glabrous; stipe up to 2 cm. long.

TRANSVAAL.—Gold Fields, *Baines* 1870; Barberton, *Rogers* 20305.

RHODESIA.—Victoria Falls, *Allen* 125, *Munro* 1760; Livingstone, *Rogers* 5612.

PORTUGUESE EAST AFRICA.—Mocambique, *Johnson* 252.

NYASALAND.—Shire Highlands, *Buchanan* 981.

33. *C. longidens*, *Burt-Davy*.*

A glabrous shrub; branches terete, somewhat glaucous. Leaves trifoliate; stipules small, hardened and breaking off at the base; petioles rather swollen, about 2–4 cm. long; leaflets shorter than the petiole, obovate to narrowly oblong, cuneate, 1–3 cm. long, 3–17 mm. broad, minutely mucronate, very shortly and slenderly petioluled at the base. Racemes leaf-opposed, short, with few flowers (the peduncle more or less zigzag). Flowers about 2 cm. long; bracts about 5 mm. long, lanceolate, acuminate into a sharp point, the whole becoming hard and thickened, almost spinous; pedicels slender, about 1 cm. long. Calyx glabrous, about 1.5 cm. long, 5-lobed; lobes longer than the tube and acuminate into a hard subulate point at the apex, with the lowest lobe narrower and longer than the rest. Keels rounded about the middle, ending in a blunt beak, glabrous on the surface. Immature pod long stipitate, glabrous.

TRANSVAAL.—Houtbosch, *Rehmann* 6257; Pietersburg, *McCallum* 137.

34. *C. athroophylla* *Verdoorn* n.sp.

Shrub or small tree, with the branches, petioles and racemes appressedly grey pilose. Leaves trifoliate; stipules none; petioles much longer than the leaflets, 1.5–5.5 cm. long; leaflets linear to oval or obovate-elliptic, 1–5 cm. long, 2–8 mm. broad, rounded and very minutely mucronate at the apex, shortly petioluled. Racemes leaf-opposed towards the apex of the branches, several flowered, grey pilose. Flowers 1.5–2 cm. long; bracts subulate; pedicels 6–10 mm. long. Calyx appressedly pilose, 10–12 mm. long, 5-lobed; lobes deltoid, about as long as the tube. Pods thinly grey tomentose, about 3 cm. long, stipitate; stipe about 1 cm. long.

RHODESIA.—Salisbury, *Eyles* 1330 (type), *Eyles* 681; Marandellas, *Eyles* 3873; no locality, *Walters* 2235.

C. athroophylla, *Verdoorn* sp. nov.

Suffrutex, ramis, petiolis racemisque appresse griseo-pilosis. Folia trifoliolata, petiolata, foliolis linearibus, ovalis, vel obovato-ellipticis, 1–5 cm. longis, 2–3 mm. latis, quam petiolis brevioribus. Stipulae nullae. Pedunculi oppositifolii, pauci-vel pluri-flori. Flores 1.5–2 cm. longi. Bractae subulatae. Pedicelli 6–10 mm. longi. Calyx appresse pilosus, 10–12 mm. longus, 5-lobatus, lobis triangularibus quam tubo equilongis. Legumen grisso-tomentosum, circiter 3 cm. longum, stipitatum.

* This will be published by Dr. J. Burt-Davy in the next volume of his "Manual of the Flowering Plants of the Transvaal," which is ready for press. Wherever Burt-Davy is cited as the author of a species or variety the same applies.

35. *C. rigidula* Bak. f. in Journ. Bot. 58 : 75 (1920). *C. Breyeri*, N.E. Br. in Kew Bull. (1922), p. 27.

A slender shrub with short spiky branchlets, the young parts thinly strigose-pubescent. Leaves trifoliolate ; stipules none ; petioles 6–15 mm. long ; leaflets oblanceolate to oblong-obovate, 5–15 mm. long, 3–4 mm. broad, mucronate or retuse at the apex, cuneate at the base, strigose pubescent beneath, minutely petioluled. Racemes lateral, few-flowered. Flowers about 12–20 mm. long ; pedicels 3–7 mm. long ; bracts about 2 mm. long ; bracteoles 2 near the apex of the pedicels, about 1 mm. long. Calyx 6–7 mm. long, thinly strigose or glabrescent ; lobes deltoid, about as long as the tube. Standard glabrous on the back. Keels rounded somewhere about the middle, glabrous on the surface. Pods about 3 cm. long, including the stipe, appressedly pubescent ; stipe up to 5 mm. long.

TRANSVAAL.—Tzaneen, *Rogers* 12531 ; Pietersburg, *Breyer* in Herb. *Rogers* 23998 ; Salati, *Breyer* no number.

36. *C. Monteiroi* Taubert ex Bak. f. in Journ. Linn. Soc. Bot. 42 : 387.

Much branched shrub ; branchlets stout, woody, shortly grey tomentellous. Leaves 3-, rarely 4-foliolate ; stipules small or absent ; petioles 4–12 mm. long ; leaflets obovate, 6–12 mm. long, 2–9 mm. broad, broadly rounded or retuse at the apex, minutely mucronate, cuneate at the base into a very small petiolule, appressedly pubescent, becoming glabrous above. Racemes 1 to few-flowered, short, leaf-opposed and terminal. Flowers 1.5–2 cm. long ; pedicels 4–6 mm. long ; bracts tomentose, 1 mm. long ; bracteoles very small, 2, about midway or in lower half of the pedicel. Calyx about 7 mm. long, shortly appressedly pubescent ; tube wide at the mouth ; lobes broadly deltoid, as long or shorter than the tube. Standard glabrous on the back. Keels rounded about the middle, boat-shaped or broadly U-shaped, ending in a short rather blunt beak, glabrous on the surface. Pods oblong-cuneate, about 2.5 cm. long, 7 mm. broad, appressedly pubescent, stipitate.

PORTUGUESE EAST AFRICA.—Delagoa Bay, *Monteiro* 18, *Speke* 5, *Scott* no number, *Bolus* 7712, *Schlechter* 11541.

RHODESIA.—Kalomo, *Rogers* 7712.

var *Galpinii*, *Burt-Davy*.

Leaflets obovate to oblong cuneate, 10–30 mm. long, 3–12 mm. broad. Bracts at base of flowers 2–4 mm. long.

PORTUGUESE EAST AFRICA.—Lourenco Marques, *Rogers* 11810.

NATAL.—*Gerrard* 1091 ; Pietermaritzburg, *Wilms* 1929.

TRANSVAAL.—Barberton, *Galpin* 1068.

37. *C. Pearsonii* Bak. f. 342.

An erect perennial ; branches strigose with conspicuous white hairs. Leaves trifoliolate ; stipules none ; petioles 1–1.5 cm. long, thinly white strigose ; leaflets ovate-cuneate to obovate, 6–12 mm. long, 3–6 mm. broad, rounded at the apex, distinctly petioluled at the base, glabrous on the upper surface, strigose with conspicuous white hairs on the lower. Racemes lax, terminal. Flowers about 10–12 mm. long ; pedicels 3–5 mm. long, white strigose ; basal bract about 2 mm. long ; bracteoles smaller near the base of the calyx. Calyx 5–7 mm. long ; lobes lanceolate, rather blunt, slightly longer than the tube. Standard glabrous on the back. Keels rounded abruptly about the middle, ending in a straight beak, glabrous on the surface. Pods (immature) about 12 mm. long, thickly white pubescent, stipitate.

NAMAQUALAND.—Doornpoort Ravine, *Pearson* 6131.



38. *C. harmsiana* Taubert in Engl. Pflanzenwelt Ost. Africa C.205 (1895); Bak. f. 397.

A suffrutex with numerous lateral branchlets, hirsute to pilose. Leaves trifoliolate, sessile or sub-sessile; stipules none; petiole rarely up to 2 mm. long; leaflets oblanceolate, with the lateral oblique and rounded on one side and the terminal cuneate at the base, 5–15 mm. long, 1·5–4 mm. broad, rounded at the apex and mucronate, with the margins distinctly revolute, pilose on both surfaces, sometimes becoming glabrescent. Flowers 1 to several at the ends of the lateral branchlets, 7–9 mm. long; pedicels 2–4 mm. long; bracts linear, 2–4 mm. long; bracteoles 2 at the base of the calyx, linear, 2–4 mm. long. Calyx 5–7 mm. long, pilose; lobes narrowly deltoid, acuminate, much longer than the tube. Standard pilose on the back towards the apex. Keels U-shaped, ending in a short blunt beak, glabrous on the surface. Pods narrow oblong, about 15 mm. long, 5 mm. broad, sub-sessile, pilose.

NYASALAND.—Bandowe, *Scott* no number.

39. *C. Doidgeae* Verdoorn n. sp.

A suffrutex, with the young branches appressedly or somewhat spreading pubescent. Leaves trifoliolate; stipules none; petioles 1·5–5 cm. long, about as long as the leaflets, pubescent; leaflets elliptic to obovate-cuneate, 2–6 cm. long, 7–20 mm. broad, rounded at the apex, with a distinct pubescent mucro, cuneate at the base and distinctly petiolulate, appressedly pubescent, especially on the under surface, becoming glabrous on the upper, dark in colour. Racemes terminal or leaf-opposed, few to several-flowered. Flowers 1·5–2 cm. long; bracts long setaceous, deciduous; bracteoles 2, about midway on the pedicels, deciduous; pedicels 7–10 mm. long, pubescent. Calyx about 1·5 cm. long, sericeous pubescent; lobes attenuated into long setaceous tips, much longer than the tube. Standard sericeous pubescent on the back. Keels rounded about the middle, ending in a short beak, pubescent on the surface near the lower margins. Pod oblong, about 4 cm. long and 1·5 cm. broad, pubescent, long stipitate; stipe about 1·5 cm. long.

TRANSVAAL.—Potgietersrust, *Doidge* (type); Lydenburg, *Rogers* 14591.

C. Doidgeae Verdoorn sp. nov.

Suffrutex, ramis appresse vel patule pubescentibus. Folia trifoliolata, petiolata, foliolis ellipticis vel obovato-cuneatis, 2–6 cm. longis, 7–20 mm. latis, appresse pubescentibus. Stipulae nullae. Racemi terminales vel oppositifolii, pauciflori. Flores 1·5–2 cm. longi. Bractae longae, lineares. Pedicelli 7–10 mm. longi, pubescentes. Calyx 1·5 cm. longus, lobis longe attenuatis, quam tubis longioribus. Vexillum extus sericeo-pubescent. Carina dorso rotundata, pubescens. Legumen oblongum, 4 cm. longum, 1·5 cm., latum, pubescens, longe stipitatum.

40. *C. Ceciliae* Verdoorn n. sp.

Suffrutex with softly pubescent branches becoming quite glabrous. Leaves trifoliolate; stipules none; petioles 1–5 cm. long, pubescent or glabrous; leaflets elliptic to lanceolate or ovate-acuminate, 2–7 cm. long, 6–24 mm. broad, acuminate to the acute apex, cuneate at the base into a small petiolule, thinly appressedly pubescent, becoming glabrous. Racemes terminal or leaf-opposed, with a few large flowers. Flowers 2–2·5 cm. long; bracts about 4 mm. long, linear-subulate; bracteoles 2, on the pedicels, smaller than the bracts; pedicels 7–12 mm. long, pubescent, becoming glabrous towards the apex. Calyx about 1·5 cm. long, glabrescent; lobes deltoid, long acuminate, longer than the tube. Standard glabrous on the back or with only a very few hairs. Keels rounded about the middle, broadly U-shaped and ending in a distinct beak, glabrous on the surface. Pod not seen.

PORTUGUESE EAST AFRICA.—Between Beira and Messi Kessi, *Cecil* no number. Type! (Also Tanganyika, Kyimbila, *Stolz* 641).

C. Ceciliae Verdoorn sp. nov.

Suffrutex, ramis molliter pubescentibus tandum glabris. Folia trifoliolata, petiolata, foliolis acutis, ellipticis lanceolatis vel ovato-acuminatis 2-7 cm. longis, 6-24 mm. latis, pubescentibus vel glabris. Stipulae nullae. Racemi terminales vel oppositifolii. Flores pauci. 2-2.5 cm. longi. Bracteae lineares, 4 mm. longae. Pedicelli 7-12 mm. longi, pubescentes apicem versus glabri. Calyx 1.5 cm. longus, glabrescens, lobis triangulari-acuminatis quam tubo longioribus. Vexillum glabrum vel sparse pilosum. Carina dorso rotundata, glabra.

41. C. purpurea Vent. Jard. Malm. t. 66 (1804); Bak. f. 358.

A shrub or small tree. Branches terete, appressedly pubescent. Leaves trifoliolate; stipules small or none; petioles 5-20 mm. long, appressedly pubescent; leaflets obovate or oblong cuneate, rounded at the apex, with a minute mucro, cuneate at the base and distinctly petioluled, appressedly pubescent beneath, glabrous above. Racemes terminal on the branchlets, many flowered. Flowers 1-1.7 cm. long; bracts linear, acute, about 7 mm. long, soon falling off and leaving a scar; bracteoles near the apex of the pedicels, similar to the bracts; pedicels 4-10 mm. long. Calyx 4-7 mm. long, appressedly pubescent; tube wide, truncate at the base and intruse; lobes shorter than the tube, with the two upper truncate at the apex and the three lower deltoid acute. Corolla purple. Standard glabrous on the back. Keels more or less boat-shaped, ending in a very blunt beak, glabrous. Pods about 3 cm. long, 1.5 cm. broad, stipitate, glabrous; stipe 6-10 mm. long.

SOUTH AFRICA.—Without locality, *Burchell* 5792, *Drège* no number, *Zeyher* 229.

CAPE.—*Garcias* Pass, *Phillips* 349; *Genadendal*, *Prior*; *Georgetown*, *Prior*; *Knysna*, *Tyson* 982.

This species approaches the genus *Hypocalyptus* but differs in having the inflated pod of *Crotalaria* and should therefore remain in that genus.

42. C. Barnabassii Dinter ex Bak. f. Journ. Linn. Soc. Bot. 42: 356.

Branches many, slender, faintly striate and thinly strigose, glaucous green. Leaves trifoliolate; stipules subulate, up to 2 mm. long, deciduous; petioles 1.5-3.5 cm. long, narrowly grooved above; leaflets lanceolate-oblong, 1.5-6 cm. long, 4-10 mm. broad, rounded or sub-truncate at the apex, abruptly cuneate into a petiolule at the base. Racemes many, terminal and leaf-opposed, lax. Flowers 10-13 mm. long; pedicels 2-5 mm. long, grey strigose, bi-bracteolate near the apex; bracts subulate, 1-2 mm. long; bracteoles smaller. Calyx 5-7 mm. long, glauco-glabrescent; lobes lanceolate to deltoid, about as long as the tube. Standard glabrous on the back. Keels rounded about the middle, broadly U-shaped, with the beak short and sharp, glabrous on the surface. Pods oblique oviform, up to 2 cm. long and 1.3 cm. broad, thinly strigose to glabrous, stipitate; stipe about 1 cm. long.

RHODESIA.—*Victoria Falls*, *Rogers* 13463.

SOUTH-WEST AFRICA.—*Okahandja*, *Dinter* 490.

43. C. recta Steud. ex A. Rich. Tent. Fl. Abyss. 1: 152 (1847); Bak. f. 352.

An erect suffrutex; branches rather stout, distinctly hollow, longitudinally grooved, pubescent in the younger parts. Leaves trifoliolate; stipules linear, acuminate, 4-6 mm. long, petioles 1.5-4.5 cm. long, pubescent, grooved above; leaflets unequal with the terminal sensibly larger than the lateral, obovate or oblong, cuneate, 2.5-9 cm. long, 1-4 cm. broad, mucronate, long cuneate at the base into a petiolule, glabrous on the upper surface, appressedly pubescent on the lower. Racemes terminal, many flowered. Flowers 1.2-1.8 cm. long; pedicels 5-10 mm. long, densely pubescent, becoming glabrescent towards the apex, bi-bracteolate about mid-way; bracts linear-lanceolate, acuminate, 6-12 mm. long, reflexed; bracteoles setaceous, up to 3 mm. long. Calyx 1-1.3 cm. long, glaucous, glabrescent; the lobes deltoid, about as long as the tube. Standard glabrous on the back.

Keels rounded about the middle, almost U-shaped, broad with a very short beak, fringed on the margins, otherwise glabrous. Pods oblong, about 3–5 cm. long, and up to 2 cm. broad, shortly stipitate, somewhat glaucous

TRANSVAAL.—Lydenburg, *Rogers* 18662, 14675 and 23745; Waterval Boven, *Mason* 41; *Rogers* 14459; Barberton, *Galpin* 845; Pietersburg, *McCallum* 137; Shilouvane, *Junod* 2316; Zoutpansberg, *Malta Junod* 4456.

RHODESIA.—Umtali, *Teague* 208; Chirinda, *Swynnerton* 365.

NYASALAND.—Zomba, *Sharp* 115; Massiku Plateau, *Whyte* no number.

44. **C. lanceolata** *E. Mey.* Comm. 24 (1835), Benth. in Hook. Lond. Journ. Bot. 2: 585; Fl. Cap. 2: 43; *C. mossambicensis Klotsch* in Peters' Mosamb., Bot. 61, t. 10; Bak. f. 343; *C. cleomoides Klotsch* in Peters' Mosamb., Bot. 1: 59 (1862); Bak. f. 247.

Stems erect branching; branches virgate, somewhat grooved towards the apex, shortly pubescent to glabrescent. Leaves trifoliate; stipules none; petioles 1.5–5 cm. long, shortly appressedly pubescent; leaflets lanceolate, linear-lanceolate or oblong, 2–12 cm. long, 4–17 mm. broad, mucronulate at the apex, very shortly petioluled at the base, glabrous on the upper surface, thinly strigose on the under. Racemes terminal, long, many flowered. Flowers 6–11 mm. long; pedicels 4–9 mm. long, strigose pubescent; basal bracts acute, about 1 mm. long. Calyx-tube 3–5 mm. long, strigose pubescent to glabrescent, 5-toothed; teeth acute, shorter than the tube. Standard glabrous on the back. Keels more or less boat-shaped, shortly and bluntly beaked, glabrous on the surface, ciliate near the base. Pods cylindric, 3–4 cm. long, appressedly pubescent, sub-sessile.

CAPE.—Port St. Johns, *Flanagan* 2599.

EAST GRIQUALAND.—near Clydesdale, *Tyson* 2757

ZULULAND.—Egoa, *Curson* 255.

NATAL.—Port Shepstone, *Mogg* no number; between Omsamculo and Omcomas River, *Drège* 1836; Umcomanzi, *Schlechter* 6697; Clairmont, *Kuntze*; Port Natal, *Krauss* 469; Inanda, *Wood* 99; Dist. Alexandra, *Rudatis* 209; Durban, *Wood* 249.

TRANSVAAL.—Carolina, *Rogers* 18390; Barberton, *Potts* 5336, *Rogers* 25522, 20782 and 20072; Pietersburg, *Rogers* 12475

RHODESIA.—Salisbury, *Eyles in Herbarium S. Rhodesia* No. 3317; Umtali, *Teague* 223.

PORTUGUESE EAST AFRICA.—Mozambique, *Peters* no number; *Peters* no number; Sena, *Kirk* no number; Tette, *Kirk* no number; Siluvu Hills, *Honey* 805; Lourenço Marques, *Borle* 280; Vila Pery, *Esselen* no number.

NYASALAND.—Shire Highlands, *Buchanan* 356; *Adamson* 327.

45. **C. intermedia Kotschy** in Sitzungsab. Akad. Wien. (1864) 362, t. 3; Bak. f. 327.

Erect sparingly branched suffrutex; branches virgate, striate, pubescent. Leaves trifoliate; stipules 0; petioles 1–4 cm. long; leaflets narrowly oblong, variable, 2.5–10 cm. long, 4–10 mm. wide, minutely mucronate at the apex, shortly petioluled at the base, glabrous on the upper surface, thinly hairy on the lower. Racemes terminal, sometimes much elongated. Flowers 1.5–2.5 cm. long; pedicels 3–5 mm. long, pubescent; bracts not half as long as the pedicels; bracteoles at the base of the calyx, small. Calyx about 7 mm. long, glabrous; lobes deltoid, very acute, shorter than the tube. Standard glabrous on the back. Keel rounded about the middle, boat-shaped, glabrous. Pod oblong-cylindric, about 3–5 cm. long, 1.3–1.6 cm. broad, pubescent, becoming glabrescent.

RHODESIA.—Victoria Falls, *Rogers* 13126; Salisbury, *Eyles* 2118; *Munday* no number; Broken Hill, *Rogers* 8062; Kafue River Bridge, *Rogers* 8751.

46. **C. simplex** *A. Rich.* Tent. Fl. Abyss. 1 : 153 (1847) Bak. f. 353, pro. subsp. *C. recta*.

An erect suffrutex with rather stout distinctly hollow branches, shortly pubescent. Leaves trifoliolate ; stipules linear-acuminate, about 10 mm. long, reflexed ; petioles 4–6 cm. long, grooved above ; leaflets lanceolate or linear-lanceolate acuminate, 9–24 cm. long, 7–17 mm. broad, acuminate, mucronate, cuneate at the base into a short petiolule, glabrous on the upper surface, appressedly pubescent on the lower. Racemes terminal, many flowered. Flowers 1.5–1.8 cm. long ; pedicels 7–10 mm. long, pubescent with stiff yellow hairs in the lower half, becoming glabrous towards the apex, bi-bracteolate about mid-way ; bracts linear-lanceolate, acuminate, 5–12 mm. long, reflexed. Calyx 10–12 mm. long, glabrescent ; lobes deltoid, as long as or shorter than the tube. Standard glabrous on the back. Keels rounded about the middle, almost U-shaped, with a short beak, ciliate on the margins, otherwise glabrous. Pods about 5 cm. long, shortly stipitate, glabrous.

NYASALAND.—Shire Highlands, *Buchanan* 433 and 144.

47. **C. vasculosa** *Wallich* Cat. No. 5427, ex Benth. in Hook Lond. Journ. Bot. 2 : 584 (1843) ; Bak. f. 279.

Stems herbaceous, erect ; branches virgate, densely pilose. Leaves trifoliolate ; stipules setaceous, about 3–5 mm. long, pilose ; petioles consistently short, about 3–6 mm. long, grooved above, pilose ; leaflets variable in shape, mostly oblong-elliptic to elliptic, about 2.5–9 cm. long, 0.5–2.5 cm. broad, pilose on both sides, mucronate, cuneate at the base. Racemes terminal, elongate, cylindric ; sometimes overtopped by the upper leaves. Flowers crowded, about 7 mm. long. Pedicels short, about 2 mm. long, cernuous ; bracts and bracteoles setaceous. Calyx shorter than the corolla, more or less glabrous, with lanceolate long pilose lobes ; lobes as long as or longer than the tube. Standard glabrous. Keel evenly rounded about the middle and ending in a sharp straight beak, margins shortly fringed in parts. Pod oblong or more or less globose when young, 6–18 mm. long, densely brown pilose.

NYASALAND.—*Buchanan* 1190 ; *Nyika*, *Wakefield* 931 ; *Likoma*, *Riddelsdell* 25.

This species was founded upon a cultivated specimen collected by Wallich, No. 5427, in Mauritius.

48. **C. Schlechteri** *Bak. f.* in Journ. Linn. Soc. Bot. 42 : 365 (1914).

An erect shrub ; branches terete, softly appressedly pubescent. Leaves trifoliolate ; stipules linear, acute, 4–6 mm. long, deciduous ; petioles 5–10 mm. long, pubescent ; leaflets obovate, 2–4 cm. long, 1–2 cm. broad, mucronate, cuneate at the base into a small petiolule, densely appressedly pubescent beneath, glabrescent above. Racemes short, leaf-opposed. Flowers 7–10 mm. long ; bracts subulate, up to 2 mm. long ; bracteoles ovate, at base of the calyx, deciduous ; pedicels 2–4 mm. long. Calyx 3–5 mm. long, pubescent ; tube wide at the mouth ; lobes deltoid, acuminate, rather shorter than the tube. Standard glabrous or shortly and thinly pubescent on the back. Keels rounded about the middle, broadly U-shaped, narrowing gradually to a short blunt beak, glabrous on the surface. Pods oblong, 2.5 mm. long, sub-sessile (from description).

PORTUGUESE EAST AFRICA.—Incanhiri, *Schlechter* 12037.

49. **C. lachnocarpoides** *Engl. var. valida* *Verdoorn*. *C. valida* *Bak.* *C. lachnocarpoides* *Engl.*, subsp. *valida* *Bak. f.* 323.

An erect shrub ; branches densely pubescent. Leaves trifoliolate ; stipules setaceous, up to 5 mm. long, deciduous ; petioles erect, 3–10 mm. long, densely pubescent ; leaflets lanceolate to oblong-cuneate, 3–6 cm. long, 6–17 mm. broad, acute and apiculate at the apex, cuneate at the base into an obscure petiolule, densely hairy on both surfaces. Racemes terminal or leaf-opposed, few flowered. Flowers about 1.5 cm. long ; pedicels 5–8 mm. long ; basal bract almost the same length ; bracteoles 2. Calyx about as long as the flower, densely ferruginous pubescent, deeply 5-lobed ; lobes lanceolate. Standard

thinly to densely hairy on the back. Keels bent about the middle, boat-shaped, sometimes covered with long golden hairs, with the short beak glabrous. Pod about 2 cm. long, densely and shaggily ferrugineous pilose.

NYASALAND.—Between Kondowe and Karonga, *Whyte* 373; Kyimbila, *Stolz* 233 and 2360; Shire Highlands, *Buchanan* 322, *Adamson* 280.

50. *C. amoena* Welw. ex Bak. in Fl. Trop. Africa 2: 26 (1871); Hiern Cat. Welw. Afr. Pl. 1: 200; Bak. f. 355.

A shrubby plant; branches shortly grey tomentose. Leaves trifoliolate; stipules subulate, up to 3 mm. long; petioles stout, up to 3 mm. long; leaflets oblong or elliptic, 2–6 cm. long, 7–22 mm. broad, mucronate, shortly petioluled, glabrous on the upper surface except on the midrib, densely appressedly pubescent on the lower surface. Racemes terminal and axillary, short, few flowered. Flowers about 12 mm. long; pedicels 4–7 mm. long, tomentose; bracts linear, acute, 4–6 mm. long; bracteoles smaller at the base of the calyx. Calyx 10 mm. long, smoothly closely tomentose; lobes lanceolate, acute, slightly longer than the tube. Standard silky tomentose on the back. Keels rounded about the middle, broadly U-shaped, with a short beak, glabrous or tomentose in the lower exposed half, ciliate on the margin. Pods (immature) oblong, silky tomentose.

RHODESIA.—Kambola, *Nutt* no number.

51. *C. dura* Wood and Evans in Journ. Bot. 35: 487 (1897); Bak. f. 295.

Virgate shrubs; branches faintly striate and thinly strigose. Leaves trifoliolate; stipules small, subulate, recurved, sometimes absent; petioles 3–10 mm. long, grooved above; leaflets narrowly oblong-cuneate or oblanceolate, 10–32 mm. long, 3–8 mm. broad, acute, mucronate or retuse, cuneate at the base, thinly appressedly pubescent. Flowers 6–10 mm. long, in lax terminal racemes; bracts linear, shorter to almost as long as the pedicels; pedicels 4–6 mm. long. Calyx 6–8 mm. long, appressedly pilose; lobes lanceolate, much longer than the tube. Standard glabrous on the back. Keels rounded about the middle, ending in a short beak, broad, with the upper margin 2-lobed. Pods sub-globose or oblong, very oblique, 5–9 mm. long, 5–8 mm. broad, black with an appressedly white or yellow pubescence.

NATAL.—Pietermaritzburg, *Sim* in Govt. Herb. 18228, *Mitchell* in Govt. Herb. 17518, *Sutherland* no number; Inanda, *Wood* 385; Noodsberg, *Wood* 4134; near Pinetown, *Wood* 11506; Greytown, *Mogg* 13.

PORTUGUESE EAST AFRICA.—Lourenco Marques, *Borle* 344; Delagoa Bay, *Schlechter* 11994.

52. *C. rotundicarinata* Bak. f. in Journ. Linn. Soc. Bot. 42: 396.

Shrubs with softly pubescent branches, bearing numerous lateral branchlets. Leaves fairly dense, trifoliolate; stipules linear, 3–7 mm. long; petioles 2–10 mm. long, tomentellous; leaflets oblanceolate or oblong, cuneate, 1–5 cm. long, 3–14 mm. broad, broadly rounded at the apex with a minute mucro, cuneate at the base into a small petiolule, glabrous on the upper surface, softly appressedly pubescent on the lower. Racemes short, usually 2-flowered, leaf-opposed and terminal on the lateral branchlets. Flowers 10–12 mm. long; pedicels 6–12 mm. long; bracts linear, acute, 3–5 mm. long; bracteoles 2, about midway on the pedicel. Calyx 7–10 mm. long, appressedly pilose; lobes narrowly deltoid, acute, longer than the tube. Standard hispid on the midrib and towards the apex. Keels U-shaped, broad, very shortly beaked, and 2-lobed on the upper margins, glabrous. Pods oblong, about 1.5–2 cm. long, densely villous.

NYASALAND.—*Buchanan* 821; Mt. Milanji, *Whyte* no number.

53. *C. Argyraea* Welw. ex Bak. in Oliv. Fl. Trop. Africa 2: 26 (1871); Hiern Cat. Welw. African Pl. 1: 200, non Franchet. *C. pechueliana* Schinz in Verh. Bot. Brand 30: 157 (1886); Bak. f. 351.

An erect branching suffrutex, the whole silvery puberulous. Leaves trifoliate; stipules none; petioles 1.5–3.5 cm. long; leaflets elliptic to oblong-cuneate, 1.5–3.5 cm. long, rounded or acute at the apex, petioluled at the base, somewhat glaucous, appressedly silvery pubescent, the upper surface becoming glabrous. Racemes terminal and leaf-opposed, few to many flowered. Flowers 1–1.5 cm. long; pedicels 3–6 mm. long; bracts subulate, soon falling off; bracteoles small, near the base of the calyx. Calyx about 5 mm. long, appressedly silvery pubescent; tube wide, somewhat ridged at the base, becoming intruse at maturity; lobes deltoid, about as long as the tube. Standard glabrous on the back. Keels boat-shaped, with a very short beak, glabrous on the surface. Pods oblique obovate, 11–15 mm. long, 7–9 mm. broad, with the style base lateral, silvery puberulous; stipe 3–4 mm. long.

SOUTH-WEST AFRICA.—Okahandja, *Dinter* 300; Haikamchab, *Galpin* and *Pearson* 7608; Keetmanshoop to Windhoek, *Pearson* 9596, 9317 and 9774; Karakoes, *Schinz* 537; Aus, *Rogers* 29548.

54. *C. erecta* Schinz in Herb. Schinz. *C. mollis* var. *erecta* Schinz in Abhandl. Bot. Ver. Prov. Brand. 30: 161 (1888); Bak. f. 359.

Shrubby, with stout, densely silvery silky-hirsute branches. Leaves trifoliate; stipules 2–6 mm. long, hirsute; petioles 1–2 cm. long, rather stout, silky-hirsute; leaflets obovate-cuneate, 2–3.5 cm. long, 1–2.5 cm. broad, broadly rounded at the apex, with a hairy apiculus, cuneate at the base, densely silky-hirsute on both surfaces. Racemes terminal, densely few to many flowered. Flowers 1.2–1.9 cm. long; pedicels 6–10 mm. long, densely silky-hirsute; bracts narrow-linear, 6–10 mm. long, acute, hirsute; bracteoles 2 on the pedicels, somewhat smaller than the bracts. Calyx almost as long as the corolla, 1–1.5 cm. long, densely silky-hirsute; lobes deltoid, acuminate, longer than the tube. Standard glabrous, except for a distinct line of hairs along the mid-rib. Keels rounded about the middle, ending in a distinct beak, glabrous. Pods broadly oblong, 2.5–3 cm. long, 1.2–1.5 cm. broad, tomentose-hirsute, the hairs rubbing off at maturity.

SOUTH-WEST AFRICA.—Grasplek, *Dinter* 3811 and 1033; Kolmanskuppe, *Dinter* 4062; Luderitzbucht, *Peyer* 12; Angra Pequena, *Schenk* 16.

55. *C. colorata* Schinz in Mém. Herb. Boiss. 1: 127 (1900); Bak. f. 359.

Root-stock woody, yellow. Branches many from the root-stock, rather short, appressedly silky-pubescent. Leaves trifoliate; stipules 2–5 mm. long, pubescent; petioles 1–2.5 cm. long, pubescent; leaflets obovate-cuneate, 1–3 cm. long, 6–25 mm. broad, somewhat retuse at the apex, with a small mucro, cuneate at the base, appressedly silky-pubescent on both surfaces. Racemes terminal or leaf-opposed near the apices of the branches, rather lax, about 15-flowered. Flowers 1–1.5 cm. long; pedicels 5–8 mm. long, pubescent; bracts 2–6 mm. long, narrowly linear, acute, pubescent; bracteoles 2 on the pedicels. Calyx almost as long as the corolla, 7–10 mm. long, densely and appressedly silky-pubescent; lobes deltoid, acuminate, longer than the tube. Standard glabrous, except for a line of hairs along the mid-rib. Keels rounded about the middle, contracting into a distinct beak, glabrous. Pods broadly oblong, 2–2.5 cm. long, 1–1.5 cm. broad, appressedly silky-tomentose.

SOUTH-WEST AFRICA.—Swakop River Mouth, *Galpin* and *Pearson* 7606; Hereroland, *Dinter* 1, and 48.

56. *C. burkeana* Benth. in Hook. Lond. Journ. Bot. 2: 593 (1843); Fl. Cap. 2: 43; Bak. f. 322.

An erect herbaceous or suffruticose plant; branches terete, whitish, patently pilose. Leaves 3-5-foliolate; stipules setaceous, 1-1.5 cm. long, pilose; petioles 1-3.5 cm. long, pilose with long patent hairs; leaflets linear-lanceolate or narrowly oblong, 1-4.5 cm. long, 3-7 mm. broad, acute, petioluled, patently pilose on both surfaces, becoming glabrescent on the upper. Flowers up to 2 cm. long, in lax terminal and leaf-opposed racemes; pedicels 2-5 mm. long, pilose, conspicuously bi-bracteolate at the apex; bracts and bracteoles lanceolate, up to 6 mm. long, pilose. Calyx almost as long as the corolla, loosely pilose, deeply lobed; lobes lanceolate. Standard pilose to glabrescent on the back. Keels bent in the lower half or somewhere about the middle and ending in a long beak, white woolly on the upper margins, otherwise glabrous. Pods oblong, 3-5 cm. long, about 1.5 cm. broad, pilose with bulbous-based hairs, turgid, cuneate at the base.

BECHUANALAND.—Mafeking, *Burt-Davy* 11077.

TRANSVAAL.—Christiana, Bloemhof, *Burt-Davy* 11383, 12994, 12881, 1494; Zeerust, *Rogers* 14094; Klerksdorp, *Badenhorst* no number; Pretoria, Magaliesberg, *Burke* and *Zeyher* 1843, *Zeyher* 371; Aapies River, *Burke* 107; Waterberg, *Burt-Davy* 19065; Barberton, *Rogers* 24286 and 18217, *Galpin* 1889 and 405, *Pott* 5351; Komatipoort Poort, *Rogers* 12855; Pietersburg, *Schlechter* 4356.

57. *C. incana* Linn. Sp. Pl. 716 (1753). *C. purpurascens* Lam. Encycl. 2: 200 (1786). *C. Schimper* A. Rich. Tent. Fl. Abyss. 1: 151 (1847). *C. montana* A. Rich. Tent. Fl. Abyss. 1: 152 (1847); Bak. f. 357.

Branches patently pilose. Leaves trifoliolate; stipules setaceous, 4-15 mm. long, pilose, sometimes deciduous; petioles 1-6 mm. long, pilose; leaflets broadly obovate, 1-4 cm. long, 8-25 mm. broad, broad and mucronulate at the apex, cuneate at the base into a petiolule, glabrous on the upper surface, pilose on the lower. Racemes terminal and lateral, few to many flowered, lax. Flowers 7-14 mm. long; pedicels up to 6 mm. long, pilose; bracts setaceous, longer than the pedicels; bracteoles at the base of the calyx, setaceous, deciduous. Calyx 8-12 mm. long, usually as long as the corolla, pilose; lobes narrow-lanceolate, acuminate, several times longer than the tube. Standard pilose on the mid-rib, otherwise glabrous on the back. Keels broadly U-shaped or boat-shaped, shortly beaked, glabrous in lower half, white woolly near the upper margin and on the margin. Pods oblong cylindric, 3-5 cm. long, sub-sessile, pilose.

RHODESIA.—Bulawayo, *Eyles* 84; Salisbury, *unknown collector*, in *Herb. Dept. Agric.* Southern Rhodesia, 3318; Umtali, *Teague* 194.

58. *C. cleomifolia* Welw. ex Baker in Fl. Trop. Africa 2: 43. Hiern Cat. Welw. Afr., Pl. 1: 204; Bak. f. 350.

Branches robust, softly pubescent. Leaves 3-5-foliolate; stipules reflexed, about 3 mm. long, deciduous; petioles 1.5-4 cm. long, softly pubescent; leaflets elliptic, 2.5-10 cm. long, 6-30 mm. broad, acute, cuneate at the base into a hairy petiolule, glabrous on the upper surface, pubescent on the lower with yellow hairs. Racemes terminal, many flowered. Flowers 1.5-1.8 cm. long; pedicels 5-8 mm. long, densely pubescent; bracts 4-6 mm. long, subulate with a broad base, pubescent on the back, reflexed; bracteoles smaller, at the base of the calyx. Calyx about 7 mm. long, stiffly pubescent; tube broad, with the base rigid, becoming intruse in mature flowers; teeth deltoid, acuminate, about as long as the tube, with broad sinuses between. Standard glabrous on the back. Keels boat-shaped, with a short sharp beak, glabrous on the surface. Pods linear-oblong, 3-4.5 cm. long, tomentose, shortly stipitate.

RHODESIA.—Inyanga *Henkel* in *Herb.* *Eyles* 2611.

PORTUGUESE EAST AFRICA.—Vila Pery, *Esselen* no number.

NYASALAND.—Shire Highlands, *Buchanan* 442.

59. *C. Chirindae* Bak. f. in Journ. Linn. Soc. Bot. 42 : 377.

Branches long, striate, thinly strigose in the older parts and tomentellous in the younger. Leaves trifoliolate; stipules small, subulate, deciduous; petioles 1-4 cm. long, strigose; leaflets lanceolate to elliptic, variable, 2-14 cm. long, 4-35 mm. broad, acute, mucronate, shortly petioluled at the base, thinly strigose beneath, glabrous above. Racemes terminal, many flowered. Flowers about 1 cm. long; pedicels 2-4 mm. long, tomentellous; bracts linear-setaceous, 4-8 mm. long, strongly reflexed; bracteoles linear, at the base of the calyx, as long or longer than the calyx. Calyx 4-6 mm. long, hirsute; lobes deltoid, acuminate, about as long as the tube. Standard glabrous on the back. Keels boat-shaped or broadly U-shaped, ending in a short straight beak, glabrous on the surface. Pods strongly deflexed, linear-oblong, up to 2.5 cm. long, 5 mm. broad, hirsute, shortly stipitate.

RHODESIA.—Chirindae, *Swynnerton* 1498, 397.

NYASALAND.—Shire Highlands, *Buchanan* 452.

60. *C. Rogersii* Bak. f. in Journ. Linn. Soc. Bot. 42 : 347.

Stems many from a woody base, erect, puberulous. Leaves trifoliolate; stipules subulate, soon falling off; petioles 1-3.5 cm. long, puberulous, rather flattened; leaflets oblong-elliptic or oblong-cuneate, 2.5-6 cm. long, 7-25 mm. broad, rounded or slightly retuse at the apex, sometimes minutely mucronate, cuneate at the base into an evident petiolule, glabrous on the upper surface, thinly strigose on the lower. Racemes terminal, few to many flowered. Flowers 1-1.6 cm. long, pedicels 2-5 mm. long, tomentellous; bracts subulate, deciduous; bracteoles very small, at the base of the calyx. Calyx 5-8 mm. long, pubescent; lobes deltoid, acute, slightly longer than the tube; tube in mature flowers somewhat rigid at the base. Standard glabrous on the back. Keels boat-shaped, ending in a pointed beak, drying wine-coloured, glabrous on the surface. Pods narrowly oblong, about 2.5 cm. long, 6 mm. broad, stipitate, shortly and softly pubescent.

RHODESIA.—Southern Rhodesia, *Walters* 2326; Salisbury, *Rogers* 4011; Mazabooka, *Rogers* 8330 and 26109; Chilanga, *Rogers* 8471; Mumbwa, *Macaulay* 816; Zambesi-land, Manganja Hills, *Meller* no number.

NYASALAND.—Zomba, *Sharpe* 36.

61. *C. tabularis* Bak. f. in Journ. Linn. Soc. Bot. 42 : 324.

A branching shrub; the branches terete, puberulus. Leaves trifoliolate; stipules none; petioles 3-6 cm. long, puberulous; leaflets oblong-obovate or cuneate-obovate, 3.5-7 cm. long, 1.5-3 cm. broad, rounded at the apex with a small mucro, cuneate at the base into a distinct petiolule, shortly and thinly pilose beneath. Racemes terminal and axillary, many flowered. Flowers about 2 cm. long; pedicels 1-1.5 cm. long, bi-bracteolate about the middle. Calyx about 1 cm. long, 5-lobed; lobes deltoid, about as long as the tube, shortly pubescent. Standard glabrous on the back. Keels rounded about the middle ending in a fairly long beak, glabrous with the lower margin shortly fringed. Pod not seen.

NYASALAND.—Nyika Plateau, *A. Whyte*.

62. *C. striata* DC. Prod. 2 : 131 (1825); Bot. Mag. t. 3200; Fl. Trop. Africa 2 : 38; Bak. f. 345. *C. pisiforme* Guill. and Perr. Fl. Seneg. Tent. 162 (1832). *C. pallida* Klotzsch in Peters' Mosamb. Bot. 57 (1862). *C. fertilis* Delile in Ferr. and Gall. Roy. Abyss. 122, t. 11.

Shrubs, with striate softly pubescent branches, the youngest parts grey sericeous. Leaves trifoliolate; stipules none; petioles 2-9 cm. long, softly pubescent; leaflets broadly elliptic to oblong-cuneate, 3-5 cm. long, 1.5-5 cm. broad, rounded at the apex with a small mucro, cuneate at the base into an obvious petiolule, pubescent on the lower surface, glabrescent on the upper. Racemes many flowered, leaf-opposed. Flowers 1-1.5 cm. long;

pedicels 3-6 mm. long, pubescent; bracts linear, deciduous; bracteoles small, at the base of the calyx. Calyx 5-9 mm. long, pubescent; lobes deltoid, acuminate, about as long as the tube. Standard glabrous on the back. Keel boat-shaped, with a sharp beak, glabrous on the surface. Pods cylindric, about 3.5 cm. long, 6-12 mm. broad, shortly stipitate, appressedly pubescent.

ORANGE FREE STATE.—Vierfontein, *Blackbeard in Govt. Herb. Pretoria* 9168.

TRANSVAAL.—Barberton, *Rogers* 20277 and 14221, *Moore and King in Govt. Herb. Pretoria* 14142 and 13970.

NATAL.—*Gerrard* 1772; Inanda, *Wood* 913; Durban, *Cooper* 1264, *Sanderson* 908, *Wood* 11671; Umgeni, *Wood* 10204.

PORTUGUESE EAST AFRICA.—Lourenco Marques, *Wilms* 255, *Borle* 366.

ZAMBESI-LAND.—*Kirk*.

RHODESIA.—Umtali, *Teague* 57.

NYASALAND.—East Coast of Lake Nyasa, *Johnson* 31; Shiri, *Steward* no number.

63. **C. Nicholsonii** *Bak. f.* in Journ. Linn. Soc. Bot. 42 : 346.

An erect plant with fistular longitudinally striate strigose branches. Leaves trifoliolate; stipules none; petioles 1.5-2.5 cm. long, strigose; leaflets elliptic or ovate, 2.5-5 cm. long, 1-2 cm. broad, mucronulate, cuneate at the base into an obvious petiolule, glabrous on the upper surface, thinly strigose on the under. Racemes long, many flowered in the upper half, leaf-opposed. Flowers 9-12 mm. long; pedicels 3-6 mm. long, pubescent; bracts deciduous, subulate, about 2 mm. long; bracteoles minute, at base of calyx. Calyx intruse at the base in the mature flowers, about 5 mm. long, pubescent; lobes deltoid, acuminate, about as long as the tube. Standard glabrous on the back. Keels boat-shaped, ending in a sharp beak, glabrous on the surface and striate with dark purple markings. Pod not seen.

NYASALAND.—Kondowe, *Whyte* no number; Loangwene, *Nicholson* no number.

64. **C. flavicarinata** *Bak. f.* 333. *C. cataractarum* *Bak. f.* in Journ. Bot. 58 : 75 (1920).

An erect shrub; branches virgate, longitudinally grooved, some distinctly 4-sided, thinly pubescent or strigose, becoming glabrescent. Leaves trifoliolate; stipules linear, up to 4 mm. long, deciduous; petioles 5-25 mm. long, striate and grooved, strigose; leaflets lanceolate-oblong to broadly oblong, 1.5-4.5 cm. long, 4-18 mm., broad, minutely mucronate at the apex, distinctly petioluled at the base, glabrous on the upper surface, thinly strigose on the lower. Racemes terminal, sometimes on short axillary branchlets. Flowers about 1-1.5 cm. long; pedicels 4-6 mm. long, pubescent; bracts 2 mm. long, subulate; bracteoles 2 on the pedicels, smaller than the bracts. Calyx 5-7 mm. long, pubescent; tube broadly cylindric; lobes deltoid, acute, shorter than the tube. Standard pubescent, becoming glabrous on the back. Keels bent sharply in the lower half and ending in a long beak, glabrous on the surface. Pod cylindric, about 2 cm. long, 5-6 mm. broad, pubescent, erect.

RHODESIA.—Victoria Falls, *Allen* 31, *Rogers* 13042, 13290 and 5123; Barotse, *Borle* 272.

65. **C. Buchananii** *Bak. f.* in Leguminosae of Tropical Africa 1 : 33.

An annual, branching in the lower half; branches pilose. Leaves trifoliolate, more or less obscuring the flowers; stipules small, subulate, pilose; petiole flattened, 4-6 mm. long, stiffly pilose; leaflets linear-oblong, 7-14 mm. long, 1-2.5 mm. broad, acute, cuneate at the base, pilose. Racemes terminal, somewhat hidden in the upper leaves and axillary on the branches. Flowers up to 6 mm. long; pedicels 1-2 mm. long, pilose, rather

stout. Calyx about 4 mm. long, pilose; lobes lanceolate, acute, much longer than the tube. Standard densely pilose. Keels bent at right angles near the base and ending in a straight beak. Ovary about 4-ovuled. Pod globose, about 4 mm. in diameter, pilose.

NYASALAND.—Shire Highlands, Blantyre, *Buchanan* 62.

RHODESIA.—Umtali, *Teague* 455.

66. *C. sparsifolia* *Bak.* in Kew Bull. 249 (1897); *Bak.* f. 304.

An erect herb, much branched from the base; branches virgate, very slender, appressedly pubescent, very sparingly leafy in the lower half. Leaves trifoliolate, soon falling off; stipules none or deciduous; petioles 2–5 mm. long; leaflets linear-oblancoate, 4–10 mm. long, appressedly pilose beneath. Flowers about 4–6 mm. long, in long very lax terminal racemes; bracts small, subulate, erect; pedicels up to 2 mm. long, erect, appressedly pubescent. Calyx about 3–4 mm. long; lobes acute, longer than the tube, appressedly pilose. Standard densely appressedly pilose on the back. Keel bent at right angles near the base, and ending in a straight narrow beak, glabrous. Pod sub-globose, about 4 mm. long, erect, pilose.

NYASALAND.—Nyika plateau, between Kondowe and Karonga, *Whyte* no number.

67. *C. flicaulis* *Welw.* ex *Baker* in Fl. Trop. Africa 2: 24 (1871); *Hiern* Cat. Welw. Afr. Pl. 1: 199; *Bak.* f. 291.

An erect slender appressedly pubescent virgate annual; stem simple or somewhat branched at apex. Leaves trifoliolate; stipules linear, deciduous; petioles 2–5 mm. long; leaflets linear, 10–18 mm. long, 1–2 mm. broad, thinly strigose, mucronate, cuneate at the base. Racemes terminal, lax, with the flowers more or less at intervals along the peduncles and sometimes solitary in the axils of the upper leaves. Flowers 4–5 mm. long; bracts erect, shorter than the pedicels; pedicels erect, about 2 mm. long, strigose, usually bi-bracteolate in the upper half. Calyx about 3 mm. long, appressedly silky tomentose; lobes deltoid, as long or longer than the tube. Standard appressedly silky tomentose on the back. Keel bent at right angles in the lower half and broadly ascending into a straight beak, glabrous. Pod globose, 3–5 mm. long, sessile, erect, appressedly pubescent.

RHODESIA.—Umtali, *Teague* 439.

NYASALAND.—Fort Hill, *White* no number.

68. *C. argyrolobioides* *Bak.* in Kew Bull. (1897) 249; *Bak.* f. 384.

A much branched slender herb; branches sericeous strigose. Leaves trifoliolate; stipules none or minute; petioles slender, 2–10 mm. long; leaflets oblanceolate to obovate, 7–20 mm. long, 3–7 mm. broad, rounded at the apex, minutely mucronate, cuneate at the base into a small petiolule, glabrous on the upper surface, appressedly pubescent on the lower. Racemes on terminal and lateral branchlets, with the upper flowers sub-umbellate. Flowers 7–10 mm. long; pedicels 4–8 mm. long, appressedly pubescent; bracts small, subulate; bracteoles in the lower half of the pedicel. Calyx 4 mm. long, pubescent; lobes deltoid, about as long as the tube. Standard pubescent at the apex on the back. Keels bent sharply in the lower half and ending in a long straight beak, glabrous on the surface. Pods oblong-globose, 6–8 mm. long, 4–5 mm. broad, pubescent, sub-sessile.

NYASALAND.—Nyika Plateau, *Whyte* 109 and 117.

69. *C. microcarpa* *Hochst.* ex *Benth.* in Hook. Lond. Journ. Bot. 2: 573 (1843); *Bak.* f. 402.

A dichotomously branched herb; branches slender, terete, pilose. Leaves trifoliolate; stipules setaceous, 1–2 mm. long, deciduous; petioles 1.5–3 mm. long; leaflets narrowly oblong-cuneate or somewhat obovate, 7–18 mm. long, 2–5 mm. broad, rounded or truncate and mucronate at the apex, cuneate at the base, pilose on the lower surface, thinly pilose or

glabrous on the upper. Racemes numerous, as long as or slightly exceeding the leaves, the flowers usually aggregated at the apex into a small head. Flowers 5–7 mm. long; pedicels 1–2 mm. long; bracts linear, acute, longer than the pedicels; bracteoles 2, at the base of the calyx, linear, setose, exceeding the calyx tube. Calyx 2–3 mm. long, pilose; lobes deltoid, acute, about as long as the tube. Standard pilose on the back. Keels bent sharply in the lower half and ending in a long straight beak, glabrous on the surface. Pods oblong, 5–7 mm. long, 2–3 mm. broad, sessile, thinly pilose.

RHODESIA.—*Rogers* 8246.

SOUTH-WEST AFRICA (probably Bechuanaland).—*Chapman* and *Baines* no number.

70. **C. nyikensis** *Bak.* in Kew Bull. (1897) 250; *Bak.* f. 280.

Branches virgate, appressedly villose. Leaflets trifoliolate; stipules none; petioles 2–10 mm. long, villose; leaflets oblanceolate, about 5–17 mm. long and 1.5–4 mm. broad, mucronate, villose beneath, more or less glabrous above. Racemes terminal, oblong-globose, with the flowers crowded. Flowers 5–10 mm. long; pedicels 2–8 mm. long, pilose; bracts about as long as the pedicels, pilose. Calyx densely villose, about half as long as the corolla; lobes deltoid, about as long as the tube. Standard villose all over the back. Keel bent almost at right angles below the middle and ending in a long slender straight beak, glabrous, with the upper margins not bearded or ciliate. Pods globose-oblong, about 4 mm. long and 3 mm. broad, densely villose.

NYASALAND.—*Nyika* Plateau, *Whyte* 197.

71. **C. phyllostachys** *Bak.* in Kew Bull. 1897, 250; *Bak.* f. 301.

Shrub erect, branching at the apex, pilose. Leaves trifoliolate; stipules deciduous; petioles about 7 mm. long, flattened, pilose; leaflets oblanceolate or linear-oblong, 12–20 mm. long, 1.5–3 mm. broad, mucronate, cuneate at the base, thinly pilose. Flowers on the same plant in terminal racemes and also 1–3-nate in the leaf-axils along the stem, about 7–12 mm. long; bracts erect, subulate; pedicels about 4 mm. long, pilose. Calyx about 4 mm. long, pilose; lobes lanceolate, acute, longer than the tube. Standard sparingly pilose at the apex on the back. Keel bent at right angles near the base and ending in a long slender beak, slightly hooked at the apex, glabrous. Pod sub-globose, sessile, about 4 mm. long, pilose.

NYASALAND.—*Nyika* Plateau, *Whyte*.

72. **C. Mumbwae** *Bak.* f. 300.

Erect annual; stem unbranched, striate, appressedly pubescent. Leaves trifoliolate; stipules small, deciduous; petiole flattened and narrowly winged, 7–11 mm. long; leaflets cuneate-oblanceolate, 15–22 mm. long, thinly appressedly hairy, broad and mucronate at the apex, cuneate at the base. Flowers about 9 mm. long, or longer, in terminal racemes and clustered in the leaf axils. Pedicels erect, about 7 mm. long, longer than the bracts. Calyx about 4 mm. long, strigose; lobes lanceolate, longer than the tube. Standard not seen. Keel bent at right angles near the base and ending in a long narrow straight sharp beak, glabrous. Pod globose, about 4 mm. long, erect, appressedly pubescent.

RHODESIA.—Mumbwa, *Macaulay* 399.

73. **C. erythrophleba** *Welw.* ex *Bak.* in Fl. Trop. Africa 2: 25 (1871); *Hiern* Cat. *Welw.* Afr. Pl. 1: 200 (1896); *Bak.* f. 286.

Herb with virgate branches, strigose. The leaves trifoliolate, with the upper reduced to a single leaflet; stipules none; petioles flattened, 3–6 mm. long; leaflets small, narrowly linear-oblanceolate, 6–8 mm. long, 1–2 mm. broad, silvery strigose beneath, cuneate at the base into a very small yellowish petiolule. Flowers in terminal racemes and in the axils of the upper leaves, about 8–9 mm. long; pedicels erect, about 3 mm. long, strigose, sometimes 2-, or more-nate; bracts small, subulate, shorter than the pedicels. Calyx about

3 mm. long, strigose; lobes deltoid-lanceolate, a little longer than the tube. Standard thinly silvery strigose on the back near the apex. Keel bent at right angles in the lower half and ending in a long straight beak, glabrous. Pod globose, about 3 mm. in diameter, thinly silvery strigose, on an erect pedicel.

RHODESIA.—Mumbwa, *Macaulay* 736.

74. *C. hyssopifolia* Klotzsch in Peters' Mossamb. Bot. 1: 55 (1862); Fl. Trop. Africa 2: 24 non Schinz in Pl. Menyh. *C. gracillima* Klotzsch l.c.; Bak. f. 286.

An erect herb, usually branching from the base; branches appressedly pubescent. Leaves trifoliolate; stipules none; petioles 3–8 mm. long, flattened, appressedly pubescent; leaflets cuneate-spathulate to oblong-ob lanceolate, 7–15 mm. long, 2–5 mm. broad, mucronate, cuneate at the base, appressedly pubescent beneath, very thinly pubescent above or glabrous. Racemes terminal, with numerous flowers and occasionally a solitary flower in the axils of the leaves. Flowers 3–5 mm. long; bracts linear, erect, shorter than the pedicels; pedicels erect, slender, more than half the length of the flower, appressedly pubescent, sometimes bracteolate. Calyx strigose, about half as long as the corolla; lobes deltoid to lanceolate, as long or longer than the tube. Standard pilose on the back. Keel bent at right angles below the middle and ending in a long straight beak, glabrous. Pod globose or sub-globose, 3–4 mm. in diameter or up to 5 mm. long and 4 mm. wide, pilose.

NYASALAND.—Blantyre, *Buchanan* no number; Shire Highlands, *Adamson* 328; Nandi, *Whyte* no number; Fort Hill, *Whyte* no number.

75. *C. Johnstonii* Bak. in Kew Bull. (1897), 250; Bak. f. 285. *C. leucotricha* Bak. in Kew Bull. (1897), 251; Bak. f. 235.

An erect slender herb, branching from the base; branches appressedly pilose. Leaves trifoliolate; stipules none or early deciduous; petioles 2–8 mm. long, strigose, flattened; leaflets oblong-ob lanceolate or ob lanceolate, 5–30 mm. long, 2–8 mm. broad, mucronate, cuneate at the base, pilose to thinly pilose on both surfaces. Racemes terminal, with flowers numerous and flowers solitary in the leaf-axils of the same plant. Flowers about 6 mm. long; bracts linear, erect, usually longer than the pedicel; pedicels about 2 mm. long, pilose, usually erect, less than half as long as the corolla. Calyx more than half as long as the corolla, pilose; lobes lanceolate, acuminate, longer than the tube. Standard pilose on the back. Keel bent at right angles below the middle and ending in a long straight beak, glabrous. Pod sub-globose, about 3 mm. in diameter, thinly pilose.

NYASALAND.—Fort Hill, *Whyte* no number, *Whyte* no number.

76. *C. geminiflora* Dinter ex Bak. f. 391. *C. homalocarpa* Bak. f. in Journ. Bot. 58: 75 (1920).

Procumbent plant, with long straggling branches, patently hispid. Leaves trifoliolate; stipules linear, acuminate, 6–8 mm. long, hispid; petioles 1.5–4 cm. long, hispid; leaflets ovate to ovate-lanceolate, 1.5–3.5 cm. long, 4–15 mm. broad, bluntly acuminate, mucronate, shortly petioluled at the base, glabrous on the upper surface, thinly hispid on lower surface and margins. Racemes leaf-opposed, with about 1–5 flowers aggregated at the apex of the peduncle. Flowers about 12 mm. long; pedicels about 2 mm. long; bracts linear-lanceolate, about 3–4 mm. long, hispid; bracteoles 2, near the base of the calyx, larger than the bracts, ovate-lanceolate, 4–6 mm. long, hispid on the margins. Calyx about 1 cm. long, almost as long as the corolla; tube short, glabrous; lobes ovate-lanceolate, much longer than the tube, hispid on the margins. Standard glabrous or with a few hispid hairs on the midrib. Keels bent almost at right angles in the lower half and ending in a long straight blunt beak. Pods oviform, 1.5–2 cm. long, about 1 cm. broad, shortly but distinctly stipitate, thinly patently hispid at least along lower suture, sometimes quite glabrous.

TRANSVAAL.—Pietersburg, Marabastad, *Schlechter* 4338.

BRITISH BECHUANALAND.—Vryburg, *Mogg* 8513.

HEREROLAND.—Okavango, *Dinter* 473.

RHODESIA.—Kafue Station, *Rogers* 8721 ; Wankie, *Rogers* 13302.

77. **C. pisicarpa** *Welw.* ex Baker in Fl. Trop. Africa 2 : 16 (1871) ; Hiern Cat. Welw. Afr. Pl. 1 : 197 ; Bak. f. 303.

Herb, much branched from the base ; branches long, trailing, patently pilose. Leaves trifoliolate ; stipules small, acute ; petioles 6–18 mm. long, pilose ; leaflets sub-orbicular or broadly obovate, 11–25 mm. long, 6–15 mm. broad, retuse or sometimes with a small mucro at the apex, cuneate at the base into a very short petiolule, gland-marked on the upper surface, pilose on the lower. Racemes leaf-opposed all along the branches, not clearly longer than the subtending leaf. Flowers 2–6, collected at the apex of the peduncle, about 5 mm. long. Calyx 3.5–4.5 mm. long ; lobes acute, longer than the tube, pilose. Standard glabrous on the back. Keels bent at right angles near the base and ending in a straight beak, glabrous. Pod globose, like a pea, about 6 mm. in diameter, sessile, white tomentose.

SOUTH-WEST AFRICA.—Okahanja, *Dinter* 567.

RHODESIA.—*Rogers* 13254 and 8722 ; Livingstone, *Rogers* 7016 ; Victoria Falls, *Kolbe* 3173.

78. **C. pilulicarpa** *Taub.* var *Schinzii* *Bak.* f. 303.

Annual, branching from the base ; branches long, trailing, patently pilose. Leaves trifoliolate ; stipules small, subulate ; petioles 6–20 mm. long, pilose ; leaflets oblong-cuneate or elliptic, difform, broad and narrow on the same plant, 20–50 mm. long, 5–14 mm. broad, rounded and mucronate or narrow and acute at the apex, cuneate at the base into a very short petiolule, obscurely gland-pitted on the upper surface, pilose on the lower. Racemes leaf-opposed all along the branches, not clearly longer than the subtending leaf. Flowers 2–4, sub-umbellate at the apices of the peduncles, about 6 mm. long. Calyx about 3–4 mm. long ; lobes acute, longer than the tube, pilose. Standard glabrous on the back. Keels bent at right angles near the base and ending in a straight beak, glabrous. Pods globose, pea-shaped, about 6 mm. in diameter, white tomentose.

TRANSVAAL.—Vaalboschfontein, *Schlechter* 4234 ; Elands River, *Rehmann* 4911 ; Pietersberg, *Bolus* 10915.

BECHUANALAND.—Mochudi, *Rogers* 6904.

SOUTH-WEST AFRICA.—Otavi, *Dinter* 5680.

79. **C. reptans** *Taub.* in Engl. Pflanzenwelt Oost. Africa C. 204 (1895) ; Bak. f. 304.

Stems long, trailing, patently pilose ; internodes from 4–9 cm. long. Leaves trifoliolate ; stipules small, acute ; petioles 20–28 mm. long, pilose ; leaflets oblong, cuneate or obovate, 1.7–4 cm. long, 7–20 mm. broad, rounded and mucronate at the apex, broadly cuneate at base into a very short petiolule ; obscurely gland-pitted on the upper surface, pilose on the lower. Racemes opposite the leaves and clearly longer than the subtending leaf. Flowers 2–4, aggregated at the apex of the long pilose peduncle, about 6–7 mm. long. Calyx 4–5 mm. long ; lobes acute, longer than the tube, pilose. Standard glabrous on the back. Keels bent at right angles in the lower half and ending in a rather broad erect beak. Pods globose, pea-shaped, about 6–8 mm. in diameter, white tomentose.

NYASALAND.—*Buchanan* 1193 and 896 ; Zomba, *Sharpe* 121 ; Likoma, *Johnson* 51.

RHODESIA.—*Flanagan* 3091.

80. **C. Dinteri** *Schinz* in Bull. Herb. Boiss. ser. 2, 1 : 875 (1901) ; Bak. f. 302.

Branches long and trailing, softly and shortly white pubescent. Leaves trifoliolate ; stipules acute, 2 mm. long ; petioles 3–10 mm. long, pubescent ; leaflets obovate, 7–15 mm. long, 5–10 mm. broad, broadly rounded or retuse at the apex, strongly cuneate at the base,

shortly pubescent on the lower surface. Racemes leaf-opposed, much exceeding the subtending leaf. Flowers 8–10 mm. long; pedicels 2–5 mm. long; bracts subulate, up to 3 mm. long; bracteoles 2, at the base of the calyx, small, subulate. Calyx 4–6 mm. long, shortly pubescent; lobes broadly lanceolate, abruptly ending in a rather oblique acute apex, longer than the tube. Standard shortly pubescent on the back. Keels bent in the lower half and ending in a long straight beak, glabrous on the surface. Pods sub-globose, 7–8 mm. long, 5–6 mm. broad, shortly stipitate, shortly white pubescent.

SOUTH AFRICA.—No locality, *Burchell* 2519 and 2583; *Silk* 235.

SOUTH-WEST AFRICA.—Lichtenstein, *Dinter* 4335; Windhoek, *Dinter* 317.

81. **C. Friesii** *Verdoorn* n. sp.

A prostrate plant with long terete stems, sparingly branched; pubescence appressedly sericeous, but in parts, and especially the young parts, sometimes white tomentose. Leaves trifoliolate; stipules 1–2 mm. long, subulate, deciduous; petioles 3–11 mm. long, silky strigose; leaflets oblanceolate or oblong, 5–22 mm. long, 2–6 mm. broad, rounded, sometimes with a small mucro at the apex, cuneate at the base, impressedly dotted on the upper surface, appressedly sericeous on the lower. Racemes terminal and lateral, laxly 5–12-flowered. Flowers 1–1.5 cm. long; bracts 1–2 mm. long, broad based, acute; bracteoles 2, at the apex of the pedicel; pedicels 2–4 mm. long, appressedly silky or tomentose. Calyx 4–7 mm. long, silky or tomentose; lobes deltoid, slightly longer than the tube. Standard silky all over the back. Pods obovoid-oblong, sub-sessile, silky-pubescent.

RHODESIA.—Near Broken Hill, *Fries* 219 (type); Lusaka, *Rogers* 8906; Mazabuka, *Rogers* 26126.

C. Friesii *Verdoorn* sp. nov.

Caules longi, teretes, prostati, paucè ramosi, appresse sericei vel hac atque illac albotomentosi. Folia trifoliolata, petiolata, foliolis oblanceolatis vel oblongis, 5–22 mm. longis, 2–6 mm. latis, infra appresse sericeis. Flores 1–1.5 cm. longi, in racemos terminales vel laterales, 5–12-flores dispositi. Pedicelli 2–4 mm. longi. Calyx 4–7 mm. longus, sericeus vel tomentosus, lobis triangularibus. Vexillum extus sericeum. Legumen obovoideo-oblongum, sub-sessile, sericeo-pubescent.

82. **C. shamvaensis** *Verdoorn* n. sp.

Stems prostrate, sparingly branched; branches terete, long, decumbent, softly and conspicuously white pubescent. Leaves trifoliolate; stipules linear-subulate, 2–3 mm. long; petioles 6–20 mm. long, somewhat flattened; leaflets lanceolate-oblong to narrowly oblong, 1–3 cm. long, 2–5 mm. broad, acute or rounded and mucronate at the apex, shortly cuneate at the base, pubescent on both surfaces. Racemes terminal on the branches, long, many flowered. Flowers yellow, 8–12 mm. long; bracts subulate, 3–4 mm. long, pubescent; bracteoles 2, near the apex of the pedicel, subulate, about 2 mm. long; pedicels about 2–4 mm. long, pubescent. Calyx 5–7 mm. long, pubescent; lobes deltoid-acuminate, longer than the tube. Standard pubescent on the back. Young pod white silky tomentose, stipitate, about 8 mm. long. Mature pod not seen.

RHODESIA.—Shamva, *Mainwaring in Herb. Eyles* 2244 (type). (Probably also *Teague* 178, from Umtali.)

C. shamvaensis *Verdoorn* sp. nov.

Caules prostrati, paucè ramosi. Rami teretes, longi, decumbentes, molliter albo-pubescentes. Folia trifoliolata, petiolata foliolis lanceolato-oblongis vel lineari-oblongis, 1–3 cm. longis, 2–5 mm. latis, pubescentibus. Stipulae lineari-subulatae. Flores 8–12 mm. longi, in racemos terminales pluriflores dispositi, flavi. Bractae subulatae, 3–4 mm. longae, pubescentes. Calyx 5–7 mm. longus, pubescens, lobis triangulari-acuminatis quam tubo longioribus. Vexillum extus pubescens. Legumen immaturum sericeo-tomentosum, stipitatum, circiter 8 mm. longum.

83. **C. macrocarpa** *E. Mey.* Comm. 24 (1835); Fl. Cap. 2 : 45; Bak. f. 324.

A branching shrub; branchlets somewhat angled, shortly silky. Leaves trifoliolate; stipules subulate, sometimes absent; petiole slender, 1-2 cm. long; leaflets obovate, 1-3 cm. long, 6-15 mm. broad, mucronulate at the apex, distinctly petioluled at the base, glabrous on the upper surface, shortly and thinly pubescent on the lower. Racemes terminal and leaf-opposed, many-flowered. Flowers about 1.5 cm. long; pedicels slender, about 1 cm. long, bi-bracteolate near the base, glabrescent above the bracteoles. Calyx about 1 cm. long, shortly and thinly pubescent, 5-lobed; lobes deltoid, acuminate, rather longer than the tube. Standard glabrous on the back, with a few short hairs on the midrib. Keels bent almost at right angles in the lower half and ending in a long beak, glabrous. Pod oblong in outline, about 3 cm. long and 1.7 cm. broad, hairy, becoming glabrescent, long stipitate; stipe about 1 cm. long.

NATAL.—*Sanderson* 542, *Gerrard* 1723, *Sutherland* no number; between Omkomas and Omlas Rivers, *Drège* no number; Alexandra Dist., *Rudatis* 256.

84. **C. Stewartii** *Bak.* in Fl. Trop. Africa 2 : 32 (1871). *C. polysperma*, *Klotschy* subsp. *Stewartii* *Baker*; Bak. f. 321.

An erect herb about 2 ft. high, sparsely branched; branches pilose. Leaves trifoliolate; stipules setaceous, 10-15 mm. long, pilose; petioles 2-5 cm. long, pilose; leaflets ovate-lanceolate, 3-8 cm. long, 1-2.5 cm. broad, acute and mostly long mucronate at the apex, shortly petioluled at the base, pilose on both surfaces. Racemes leaf-opposed and very much exceeding the subtending leaf, lax. Flowers about 2 cm. long; pedicels 3-6 mm. long, pilose, bi-bracteolate at the apex; bracts setaceous; bracteoles lanceolate-linear, conspicuous, about 6 mm. long. Calyx about 1.5 cm. long, deeply lobed, densely pilose; lobes about twice as long as the tube, lanceolate. Standard pilose on the back. Keel bent at right-angles in the lower half and ending in a straight beak, thinly pilose on the upper part, otherwise glabrous, with the upper margin densely ciliate with long white hairs. Pod oblong in outline, up to 5 cm. long, 2.4 cm. broad, turgid, pilose.

SOUTHERN RHODESIA.—*Salisbury*, in *Herb. Dept. of Agric.*, Southern Rhodesia (*unknown collector*) 3319.

PORTUGUESE EAST AFRICA.—Zambesiland, *Stewart* no number; Delta of Zambezi, *Scott* no number.

TRANSVAAL.—*Barborton*, *Rogers* 18217.

85. **C. platycephala** *Harvey* Thes. Cap. 1 : 19 (1859) t. 29; Fl. Trop. Africa 2 : 34. *C. apiculata* *Schinz* in *Mem. Herb. Boiss.* 1 : 126 (1900). *C. Ulbrichiana*, *Harms* in *Engl. Jahrb.* 54 : 384 (1917).

An erect annual; branches pubescent. Leaves trifoliolate; stipules setaceous, about 3 mm. long; petioles 1.5-4.5 cm. long, slightly grooved above, pubescent; leaflets elliptic to oblong-ovate, 2-7 cm. long, 5-30 mm. broad, rounded at the apex with a minute mucro, cuneate at the base into a small petiolule. Racemes few, leaf-opposed and terminal, long, laxly flowered. Flowers 10-12 mm. long; pedicels about 4 mm. long; bracts linear, shorter than the pedicels, reflexed; bracteoles minute, at base of calyx. Calyx 4-6 mm. long, pubescent; lobes longer than the tube, becoming broader towards the apex, then suddenly constricted into an apiculus. Standard pubescent on the back. Keels bent almost at right-angles in the lower half and ending in a long beak, glabrous on the surface. Pods small, oviform, about 1 cm. long, sub-sessile, pubescent.

BECHUANALAND.—Lake Ngami, *McCabe* 8; Kwebe, *Lugard* 158 and 178; Okavango Valley, *Lugard* 238.

RHODESIA.—Victoria Falls, *Rogers* 13307; Wankie, *Rogers* 13303.

SOUTH-WEST AFRICA.—Otavi, *Dinter* 5716.

86. *C. Junodiana* Schinz in Herb. Schinz, Bak. f. 341.

A branched suffrutex; branches terete, appressedly pubescent. Leaves trifoliolate; stipules subulate, about 2 mm. long; petioles 7–15 mm. long, slightly grooved, pubescent; leaflets oblong-cuneate, 1–3 cm. long, 6–10 mm. broad, rounded and obscurely mucronate or retuse at the apex, cuneate at the base, appressedly pubescent beneath. Racemes leaf-opposed, few flowered. Flowers about 7 mm. long; bracts about 2 mm. long; bracteoles at base of the calyx obscure; pedicels about 2 mm. long, pubescent. Calyx 4–5 mm. long, pubescent; lobes broadly lanceolate, abruptly acuminate into a rather oblique acute apex, longer than the tube. Standard pubescent on the back. Keels bent at right angles near the base, and ending in a long straight beak, glabrous on the surface, white pubescent on the inner margin. Pods oviform-oblong, 1·7–2 cm. long, pubescent, sessile.

PORTUGUESE EAST AFRICA.—Delagoa Bay, *Junod* 388.

87. *C. maxillaris* Klotzsch in Peters' Mossamb. Bot. 58 (1862); Fl. Trop. Africa 2: 30; Bak. f. 336. *C. karongensis* Bak. in Kew Bull. 252 (1897).

An erect suffrutex, with a few long branches; branches ascending, striate, pubescent. Leaves trifoliolate; stipules subulate, 2–4 mm. long; petioles 1–5 cm. long, flattened, grooved, pubescent, persistent; leaflets oblong, 1·5–6 cm. long, rounded at the apex, sometimes mucronate, shortly cuneate at the base into a petiolule, appressedly pubescent beneath. Racemes elongated, laxly many-flowered, terminal and leaf-opposed. Flowers 1–1·5 cm. long; bracts 1 mm. long, or subulate and up to 3 mm. long; bracteoles at the base of the calyx inconspicuous; pedicels 3–5 mm. long, somewhat cernuous, pubescent. Calyx 5–6 mm. long, pubescent; lobes broadly-lanceolate, abruptly ending in a rather oblique acute apex, much longer than the tube. Standard pubescent on the back. Keels bent at right angles near the base and ending in a long straight beak, glabrous on the surface, densely white ciliate on the upper margins. Pod oblong-obovoid, 1–1·5 cm. long, pubescent, sub-sessile.

RHODESIA.—Boruma, *Menhart* 1011, Herb. Zurich.

NYASALAND.—Between Kondowe and Karonga, *Whyte* no number.

PORTUGUESE EAST AFRICA.—Cabaceira, *Peters* no number.

88. *C. deserticola* Taub. in Herb. Schwein. Bak. f. 383.

Erect much branched plant; branches striate, thinly strigose. Leaves trifoliolate, leaflets oblong (leaf material very poor). Racemes elongated, fairly laxly many flowered. Flowers about 8–10 mm. long; bracts subulate, about 2 mm. long; bracteoles 2, on the lower half of the pedicels, subulate, 1 mm. long. Calyx about 5 mm. long, glabrous; lobes deltoid, acuminate, longer than the tube. Standard glabrous on the back. Keels bent abruptly in the lower half and ending in a straight beak, glabrous. Pods oblong in outline, about 2–2·5 cm. long, cuneate at the base into a short stipe, pubescent.

NYASALAND.—South-west Nyasa, Kageli, *Stubliann* 3483.

89. *C. Mundyi* Bak. f. in Leg. of Trop. Africa, 1: 42. Partly (excl. Eyles 694).

Branches erect, herbaceous, longitudinally grooved, strigose. Leaves trifoliolate; stipules setaceous, about 4 mm. long; petioles 1–1·5 cm. long, flattened, somewhat patent, strigose; leaflets linear, 2–5 cm. long, 2–8 mm. broad, mucronulate at the apex, shortly petioluled at the base, glabrous on the upper surface, strigose on the lower. Racemes terminal and leaf-opposed, lax, several flowered, much exceeding the leaves. Flowers 1·5–1·8 cm. long; pedicels 3–5 mm. long, basal bract setaceous, about 3 mm. long; bracteoles small, at the base of the calyx. Calyx about 5 mm. long, appressedly pubescent, somewhat 2-lipped; lobes narrowly deltoid, acuminate, with the 3 lower at least about as long as the tube and upper sometimes longer. Standard long, enveloping the rest of the corolla,

appressedly pubescent on the back. Keels bent sharply in the lower half and ending in a long beak, glabrous, ciliate on the margin. Pods narrowly oblong in outline, 2 cm. long, 8 mm. broad, obviously stipitate, strigose.

RHODESIA.—Salisbury Experimental Station, *Mundy* 51 and 2809.

90. *C. natalensis* Bak. f. 357.

An erect branching shrub; branchlets slender, angled, somewhat sericeous, becoming glabrous. Leaves trifoliolate; stipules subulate, sometimes absent; petioles slender, 1–4 cm. long; leaflets obovate or oblong-elliptic, 1–3 cm. long, 6–16 mm. broad, minutely mucronate, distinctly petioluled at the base, glabrous on the upper surface, thinly and shortly hairy on the lower. Racemes leaf-opposed, not much exceeding the leaves, with about 6 flowers towards the apex. Flowers about 1 cm. long; pedicels 5–7 mm. long, minutely bi-bracteolate near the base and less hairy above the bracteoles. Calyx thinly and shortly hairy; lobes deltoid, acuminate, longer than the tube. Standard glabrous on the back. Keels bent at right-angles in the lower half and ending in a long beak, glabrous. Pods oblong-clavate, about 2 cm. long and 1.3 cm. broad, pubescent, becoming glabrescent, long-stipitate; stipe 5–10 mm. long.

CAPE.—East London, Buffalo River, *Dodd* 8051; Kei Mouth, *Flanagan* 83; *Flanagan* 2478; *Smith* 3784.

NATAL.—Umzumbi, *Wood* 3009.

91. *C. oocarpa* Bak. in Kew Bull. (1897), 252. *C. pilosiflora* Bak. in Kew Bull. (1897), 251; Bak. f. 339.

A branching shrub; branches pale green, softly and densely pilose. Leaves trifoliolate; stipules linear, up to 4 mm. long, deciduous; petioles usually more than one at a node, 4–22 mm. long, pilose; leaflets oblong-elliptic, acute and apiculate, cuneate at the base into a small petiolule, glabrescent on the upper surface, thinly pilose on the lower. Racemes terminal and lateral, from lax to sub-dense. Flowers 1–1.5 cm. long; pedicels 3–6 mm. long, pilose; bracts linear, 4–7 mm. long, about as long as or longer than the pedicels. Calyx 6–9 mm. long, pilose; lobes triangular, acuminate, longer than the tube. Standard appressedly pilose on the back. Keels bent almost at right angles in the lower half and ending in a long rather blunt beak, glabrous on the surface. Pods oblong in outline, 10–12 mm. long, sessile, pilose.

NYASALAND.—Nyika Plateau, *Whyte* no number; between Mpata and commencement of Nyasa-Tanganyika Plateau, *Whyte* no number; Kyimbila, *Stolz* 230.

92. *C. pauciflora* Bak. in Kew Bull. 251 (1897); Bak. f. 399.

A branching suffrutex; branches pubescent with golden hairs. Leaves trifoliolate; stipules small, subulate, deciduous; petioles 2–5 mm. long; thickly pubescent with golden-brown hairs; leaflets obovate, 5–10 mm. long, 2–4 mm. broad, rounded and mucronate at the apex, cuneate at the base into a very small petiolule, glabrous on the upper surface, loosely appressedly pubescent on the lower. Flowers about 8 mm. long, 1–3 at the ends of the short rigid lateral shoots; bracts small, subulate; bracteoles at the base of the calyx; pedicels 2–3 mm. long, densely pubescent. Calyx 4–5 mm. long, densely pubescent; tube wide at the mouth, with the lobes abruptly contracted into narrow teeth; lobes about as long as the tube or shorter. Standard densely pubescent on the back. Keels abruptly bent in the lower half and ending in a long, straight, blunt beak, glabrous on the surface. Pods shortly oblong-obovoid, 9–12 mm. long, 7–8 mm. broad, shortly stipitate, with the persistent style lateral, appressedly pubescent with golden hairs.

NYASALAND.—Nyika Plateau, *Whyte* no number.

93. *C. distans* Benth. in Hook. Lond. Journ. Bot. 2 : 582 (1843); Bak. f. 340.

A low slender plant much branched; branches ascending, terete, faintly striate, puberulous. Leaves trifoliate; stipules small, 2-3 mm. long, subulate, reflexed; petioles 5-15 mm. long; leaflets oblong-linear or lanceolate, 5-37 mm. long, 1.5-7 mm. broad, somewhat cuneate at the base, rounded with a small mucro at the apex, appressedly pubescent beneath. Racemes leaf-opposed and terminal, very laxly 2-12-flowered. Flowers 7-14 mm. long; pedicels 2-4 mm. long, pubescent; bracts subulate, shorter than or as long as the pedicels, persistent; bracteoles 2, minute at the base of the calyx. Calyx 3-5 mm. long, usually $\frac{1}{2}$ of the corolla, pubescent; lobes deltoid, about as long as the tube. Standard pubescent on the back. Keels bent at right angles near the base and ending in a long straight beak, glabrous on the surface, ciliate on the upper margin. Pod ovoid to oblong in outline, 1-1.6 cm. long, 5-9 mm. broad, puberulus, sub-sessile.

BASUTOLAND.—Leribe, Dieterlen 495.

ORANGE FREE STATE.—Bloemfontein, Potts 2917; The Flats, Barber no number; Marselles, Dawson in Govt. Herb. Pretoria 6439.

NATAL.—Colenso, Kuntze 1050; no locality, Gerrard 1725; Medley-Wood 4479.

TRANSVAAL.—Standerton, Rehmann 6787; Lay Spruit, Burke and Zeyher 369; Tal River, Burke no number; Lydenburg, Wilms 343; Heideberg, Burtt-Davy in Govt. Herb., Pretoria 3133; Middelburg, Burtt-Davy 13325; Pretoria, Pole-Evans no number; Louw 2.

BECHUANALAND.—Vryburg, Mogg 8510; Mafeking, Bolus 6445.

RHODESIA.—Kafue, Rogers 8719.

94. *C. grantiana* Harvey in Harvey and Sonder, Fl. Cap. 2 : 43 (1861-62); Bak. f. 341.

A low slender branching herb; branches terete, faintly striate, puberulus, ascending. Leaves trifoliate; stipules linear-subulate, 1-2 mm. long; petioles 4-14 mm. long; leaflets cuneate-oblong, 5-20 mm. long, 3-7 mm. broad, rounded or retuse at the apex, sometimes with a minute mucro, cuneate at the base, pubescent on the under surface. Flowers 1-3 at the ends of thread-like axillary peduncles and 3-5 in short leaf-opposed racemes; 7-9 mm. long; pedicels thread-like, 4-5 mm. long, pubescent; bracts subulate, 1-3 mm. long, when in pairs one longer than the other; bracteoles minute, mostly in pairs near the base of the pedicels. Calyx 4-5 mm. long, pubescent; lobes deltoid-acuminate, usually longer than the tube. Standard pubescent on the back. Keels bent at right angles near the base, ending in a straight beak; beak up to 7 mm. long. Pods obovoid or shortly oblong-obovoid, about 10-13 mm. long, 6-9 mm. broad, pubescent, sub-sessile.

NATAL.—Port Natal, Grant no number; Gerard 1726; Umkomanzi, Schlechter 6698; Illovo, Medley-Wood 6435; Durban, Medley-Wood 11906; Inanda, Medley-Wood 614; Intshanga, Medley-Wood 9868.

EAST GRIQUALAND.—Umzimkulu, Tyson 1250; 2798.

ORANGE FREE STATE.—Cooper 2237. (Possibly Transvaal: Barberton, Rogers 23921).

95. *C. longistyla* Bak. f. in Journ. Bot. 58 : 75 (1920).

A branching suffrutex; branches terete, shortly whitish tomentose. Leaves trifoliate, sub-fasciated; stipules obscure, subulate, 1-2 mm. long; petioles varying from 1-10 mm. long, pubescent; leaflets obovate, oblanceolate or elliptic oblanceolate, 4-20 mm. long, 2-10 mm. broad, pubescent on both surfaces, sometimes becoming glabrous above. Flowers about 1-1.7 cm. long, 1-3 on axillary peduncles or terminal on short lateral branchlets sometimes also in lax racemes; peduncles or branches becoming rigid; pedicels 3-5 mm. long, tomentose; bracts subulate, about 2 mm. long; bracteoles 2 on the pedicels, small, subulate. Calyx 6-8 mm. long, pubescent; lobes deltoid, long acuminate, longer than the tube. Standard pubescent on the back. Keels bent in the lower half ending in a long sharp beak 1-1.4 cm. long, sometimes slightly hooked at the apex, glabrous. Pods shortly oblong-obovoid, about 1 cm. long, 6 mm. broad, softly pubescent, shortly stipitate.

RHODESIA.—Salisbury, *Rogers* 4064, *Eyles* 2156; Marindallas, *Mainwaring in Herb. Eyles* 3461.

PORTUGUESE EAST AFRICA.—Zambesiland, *Stewart* no number; Vila Pery, *Esselen* no number.

96. *C. virgulata* *Klotzsch* in *Peters' Mossamb. Bot.* 56 (1862). *C. virgatula*, *Bak.* in *Fl. Trop. Africa* 2: 30. *C. Forbesii*, *Bak.* in *Fl. Trop. Africa* 2: 18 (1871); *Bak. f.* 337.

A branching suffrutex; branches terete, rather long, virgate, softly and loosely pubescent, becoming somewhat rigid. Leaves trifoliolate, 2–3 at a node; stipules subulate, up to 2 mm. long; petioles 1–10 mm. long; leaflets varying in size, obovate to narrowly oblong-cuneate, 3–20 mm. long, 2–7 mm. broad, pubescent on both surfaces, sometimes becoming glabrous above. Flowers along the branches, about 1 cm. long, solitary in the axils of the leaves or in terminal and lateral few-flowered racemes; peduncles persistent, becoming rigid; pedicels 3–6 mm. long; bracts subulate, up to 3 mm. long; bracteoles 2, subulate, on the pedicels. Calyx 5–7 mm. long, pubescent; lobes deltoid, acuminate, usually longer than the tube. Standard pubescent on the back. Keels bent at right-angles in the lower half and ending in a long straight sharp beak about 1 cm. or more long, glabrous on the surface. Pods small, obovoid, 8–15 mm. long, 4–6 mm. broad, puberulous, shortly stipitate.

TRANSVAAL.—Komatipoort, *Rogers* 2680; Silwane, *Breyer* no number.

BECHUANALAND.—Mochudi, *Rogers* 6735; *Harbor* no number.

NYASALAND.—*Buchanan* 1410; Shire Highlands, *Buchanan* 183 and 149; East Coast of Lake, *Johnson* 135.

PORTUGUESE EAST AFRICA.—Sena, *Peters* no number; Mozambique, *Forbes* no number; Zambesiland, *Kirk* no number.

97. *C. leubnitziana* *Schinz* in *Abhandl. Bot. Verein. Prov. Brand* 30: 158 (1888); *Bak. f.* 302.

Branches many from the woody root-stock, terete, strigose, with whitish hairs. Leaves trifoliolate; stipules subulate, about 2 mm. long; petioles 5–15 mm. long, strigose; leaflets cuneate-obovate or elliptic-obovate, 7–23 mm. long, 3–10 mm. broad, rounded at the apex, retuse or with a minute mucro, cuneate at the base, strigose on the lower surface, glabrous above. Racemes fairly laxly 7–20-flowered, terminal or leaf-opposed, but crowning the plant. Flowers 1.1–1.3 cm. long; pedicels about 2 mm. long; bracts subulate, about as long as the pedicel; bracteoles 2, at the base of the calyx. Calyx 6 mm. long, strigose pubescent; lobes deltoid, acuminate, longer than the tube. Standard glabrous on the back or thinly strigose along the midrib. Keels bent abruptly in the lower half and ending in a long sharp beak about 1 cm. long, glabrous on the surface. Pods sub-globose, 7–8 mm. in diameter, very shortly pubescent, stipitate. (Very close to *C. aurea*.)

GREAT NAMAQUALAND.—Tiras, *Schinz* 534; Kuibis, *Dinter* 1229, *Range* 838, *Dinter* 2201; Windhuk, *Rogers* 15169.

98. *C. Kurtii* *Schinz* in *Viertelj. Nat. Ges. Zurich* 52: 422 (1907). *C. Dinteri* *Schinz* in *Bull. Herb. Boiss. Ser. II*, 3: 819 (1903); *Bak. f.* 341.

Branches many from a short woody stem, slender, terete, strigose pubescent. Leaves trifoliolate; stipules about 1 mm. long; petioles 2–15 mm. long, appressedly pubescent; leaflets oblong-cuneate to linear-oblong, 5–23 mm. long, 2–8 mm. broad, rounded at the apex, cuneate at the base, appressedly pubescent beneath and glabrous above. Racemes leaf-opposed, laxly few-flowered. Flowers 10–14 mm. long; pedicels 3–6 mm. long; bracts rather fleshy, 1–2 mm. long. Calyx 5–7 mm. long, pubescent; lobes longer than the tube. Standard pubescent on the back. Keels bent abruptly in the lower half and ending in a long straight beak, glabrous on the surface. Pods oviform, 9–12 mm. long, about 6 mm. broad, shortly pubescent; stipe 2–3 mm. long.

SOUTH-WEST AFRICA.—Waterberg, *Dinter* 583; Otavi, *Dinter* 5559; Auasbergen, *Dinter* 3500; Awas Mountains, *Pearson* 9674.

99. *C. Heidmannii* Schinz in Mem. Herb. Boiss. 1: 128 (1900). *C. paucifolia*, Schinz in Viertelj. Nat. Ges. Zurich 42: 420 (1907).

Annual, branching from the base; branches numerous, strigose. Leaves trifoliolate; stipules subulate, 1 mm. long; petioles 7–15 mm. long, strigose; leaflets linear, 1.5–4 cm. long, 1–3 mm. wide, minutely mucronate at the apex, obscurely petioluled at the base, strigose on both surfaces, the upper becoming glabrescent. Racemes very numerous, lax, terminal and lateral; peduncles slender. Flowers 10–12 mm. long; pedicels 5–6 mm. long, strigose; bracts 1–2 mm. long. Calyx 6 mm. long, strigose; lobes deltoid, acuminate, as long as or longer than the tube. Standard hairy on the back. Keels bent in the lower half and ending in a long beak, glabrous. Pod obovoid, 6–10 mm. long, about 5 mm. broad, shortly stipitate, pubescent, becoming glabrescent and transversely marked.

SOUTH-WEST AFRICA.—Gr. Barmen, *Dinter* 525.

100. *C. aurea* *Dinter* M.S. in Herb. Berol.; Bak. f. 325.

Herb. branching from near the base; branches softly appressedly pubescent. Leaves trifoliolate; stipules about 2 mm. long; petioles 1–1.5 cm. long, flattened or very narrowly winged; leaflets linear-oblong, 1.5–3 cm. long, 3–8 mm. broad, rounded or retuse at the apex, or with a minute mucro, cuneate at the base into a very short petiolule, appressedly pubescent on the lower surface, glabrescent on the upper. Racemes leaf-opposed, much exceeding the leaves, lax, many flowered. Flowers 1.2–1.5 cm. long; pedicels 3–4 mm. long; bracts 2.5 mm. long; bracteoles minute, at the base of the calyx. Calyx about 6 mm. long, appressedly pubescent; lobes triangular, acute, about as long as the tube. Standard softly hairy on the back. Keels abruptly bent in the lower half and ending in a long beak, glabrous. Pods more or less globose, about 1.2 cm. in diameter, stipitate, softly hairy.

SOUTH-WEST AFRICA.—Okahanja, *Dinter* 524; Kinrib, *Fleck* 455.

101. *C. Macaulayae* Bak. f. 326.

Branches few, long, ascending, striate, pubescent. Leaves trifoliolate; stipules linear-setaceous, 2–5 mm. long; petioles 1–2.5 cm. long, flattened or grooved, pubescent, more or less patent, persistent; leaflets linear, narrowly oblong to elliptic, 1.5–5 cm. long, 3–13 mm. broad, rounded retuse or minutely mucronate at the apex, slightly cuneate at the base into a petiolule, appressedly pubescent on the lower surface. Racemes elongating, laxly many flowered, leaf-opposed or terminal. Flowers 1.2–2.5 cm. long; pedicels 4–6 mm. long; bracts linear, acuminate into a dark subulate point, 2–4 mm. long; bracteoles at the base of the calyx or on the calyx. Calyx 4–8 mm. long, appressedly pubescent; lobes deltoid, acute, about as long as the tube. Standard pubescent on the back, rather large, enveloping the rest of the corolla. Keels abruptly bent in the lower half, ending in a long straight beak, glabrous, with a ciliate margin. Pods oblong-obovoid, less than twice as long as broad, 1–2 cm. long, 6–12 mm. broad, appressedly pubescent, sub-sessile.

TRANSVAAL.—South African Goldfield, *Baines* no number; Pietersburg, *Bolus* 10873.

RHODESIA.—Victoria Falls, *Allen* 255; Salisbury, *Mundy* 51 and 2810; Mumbwa, *Macaulay* 758.

102. *C. cinerea* *Burt-Davy* MSS.

Suffrutex; stems erect, grey silky, striate, branching above; branches silky, ascending. Leaves trifoliolate; stipules very small, subulate, recurved, sometimes absent; petioles 1–5 mm. long, grey silky, somewhat flattened; leaflets cuneate-oblong, 7–17 mm. long, rounded at the apex, with a small sharp mucro, cuneate at the base into a short petiolule, grey silky on the lower surface. Racemes terminal, closely 10–20 flowered. Flowers 6–9 mm. long; bracts subulate, about half as long as the pedicels or longer; pedicels 2.5–4.5 mm. long, usually bi-bracteolate near the apex, erect, and nodding at the apex. Calyx grey

silky, about half as long as the corolla ; lobes deltoid, about as long as the tube. Standard silky on the back. Keel bent almost at right-angles in the lower half and ending in a long straight beak, glabrous, ciliate on the upper margin. Pod obovoid, sometimes sub-globose, 7-9 mm. long, about 6 mm. broad, stipitate, appressedly silky.

TRANSVAAL.—Barberton, *Galpin* 1328.

103. **C. caespitosa** Bak. in Kew Bull. (1897) 252 ; Bak. f. 335.

Branches herbaceous, numerous from a thick woody root, striate, flattened, strigose. Leaves trifoliolate ; stipules 2 mm. long ; petioles 3-5 mm. long, grooved above, strigose ; leaflets oblanceolate to oblong-cuneate, 1-2.5 cm. long, 3-8 mm. broad, rounded at the apex with a minute apiculus, cuneate at the base into a petiolule. Racemes terminal, many flowered. Flowers about 1 cm. long ; pedicels 4-6 mm. long, bracteate at the base and bi-bracteolate just below the middle ; bracts 2-3 mm. long ; bracteoles smaller. Calyx about 7 mm. long, strigose ; lobes triangular, acuminate, about as long as or longer than the tube. Standard somewhat hairy on the back near the apex. Keels bent abruptly in the lower half and ending in a long beak, glabrous. Pod shortly oblong in outline, laterally compressed, very oblique, 9-10 mm. long, 8-9 mm. broad, glabrous at maturity.

NYASALAND.—Mt. Malosa, *Whyte* no number.

104. **C. florida** Welw. ex Bak. in Fl. Trop. Africa 2 : 30 (1871) ; Hiern Cat. Welw. African Pl. 1 : 202 (1896) ; Bak. f. 293.

Shrubs with numerous silky deeply-furrowed virgate branches. Leaves trifoliolate ; stipules none ; petioles flattened, silky, 5-13 mm. long ; leaflets obovate or oblong-cuneate, broadly rounded at the apex, usually retuse, with an obscure mucro, or rounded and distinctly mucronate, 6-25 mm. long and 2-10 mm. broad, strigose beneath, more or less glabrous above. Flowers in many sessile terminal racemes forming a panicle, and solitary in the axils of the upper leaves. Flowers 8-12 mm. long ; bracts subulate, erect, shorter than the pedicels ; pedicels erect, nodding at the apex, 3-8 mm. long, silky, bi-bracteolate in upper half. Calyx silky, wide-mouthed ; lobes deltoid, as long as or shorter than the tube. Standard glabrous on the back, or obscurely few haired near the apex. Keels bent just below the middle, and ascending in a straight beak, glabrous. Pod sessile, globose, about 8 mm. long, silky.

RHODESIA.—Lukanda Valley, *Allen* 474.

105. **C. brachycarpa** Burt-Davy MSS. *C. globifera* E. Mey var. *brachycarpa* Benth. in Hook. Lond. Journ. Bot. 2 : 581 (1843) ; Bak. f. 287.

Suffrutex with numerous stems from a woody base ; stems erect, simple or branching, finely strigose-silky. Leaves trifoliolate ; stipules small, subulate, usually recurved, sometimes absent ; petioles 6-14 mm. long, silky, slightly grooved above ; leaflets obovate, distinctly mucronate, cuneate into a petiolule, about 7-25 mm. long and 3-10 mm. broad, shortly strigose, becoming glabrous above. Racemes terminal, with flowers numerous. Flowers 7-11 mm. long ; bracts deciduous, subulate, erect, short or sometimes as long as the pedicel ; pedicels 1-3.5 mm. long, silky, erect and nodding at the apex, sometimes bracteolate near the apex. Calyx strigose-silky, about half as long as the corolla ; lobes lanceolate, usually longer than the tube. Standard glabrous on the back. Keel bent almost at right angles in the lower half and ending in a long straight blunt beak, glabrous, obscurely and shortly ciliate on the upper margins. Pod depressed globose, about 4 mm. long and 5 mm. broad, silky, shortly stipitate.

TRANSVAAL.—Zeyher 374 ; Pretoria, Magaliesberg, *Burke* 316, *Rehmann* 4398, *McLea* 5633 ; *Pole-Evans* no number, *Leendertz* 287 ; Waterberg, *Stent* no number, *Galpin* M. 536 ; Zoutpansberg, *Messina*, *Rogers* 20727.

106. *C. globifera* E. Mey Com. 24 (1835), Fl. Cap. 2: 44; Bak. f. 287.

Suffrutex with many stems from a woody base; branches long, ascending, strigose-silky. Leaves trifoliolate; stipules small, subulate, usually reflexed, sometimes absent; petiole 5–17 mm. long, strigose, slender, channelled above; leaflets cuneate-oblong, 1–2.5 cm. long, 3–7 mm. broad, rounded or retuse at the apex, usually with a small mucro, cuneate at the base, obviously petioluled, appressedly pubescent beneath, often glabrous above. Racemes terminal at the ends of long branches, with flowers numerous. Flowers 7–12 mm. long; bracts subulate, often as long as the pedicel; pedicel 4–7 mm. long, bi-bracteolate about mid-way or near the apex, erect and nodding at the apex. Calyx about half as long as the corolla, strigose silky, lobes deltoid, acute or rarely obtuse, about as long as the tube. Standard pubescent on the back sometimes almost glabrous except on the midrib. Keel bent almost at right angles in the lower half and ending in a long straight beak, glabrous, ciliate with longish soft white hairs on the upper margin. Pod obovoid-sub-globose, 8–10 mm. long, 5–7 mm. broad, stipitate, appressedly silky.

NATAL.—Wood 12495, Gerrard 1721, *Gwenzius* no number, *Sanderson* 300; Durban, *Rogers* 1280, *Krauss* 341 and 440, *Harding* no number; Greytown, *Wilms* 1957; Krantz Kloof, *Rogers* 24422 and 24688; Inanda, *Wood* 401; Maritzburg, *Mogg* 2167 and 6565, *Sutherland* no number, *Sim in Govt. Herb.*, Pretoria 13075, *Mitchell in Govt. Herb.*, Pretoria 16844; *Emberton*, *Schlechter* 3233; Tweedie, *Mogg* 3463; Pinetown, *Wood* 11466; Clairmont *Wood* 6134; Ixopo, *Webb in Govt. Herb.*, Pretoria 16990.

CAPE.—Eastern Province: Omsamcaba, *Dr'ge* 1836; Clydesdale, *Tyson* 2049.

107. *C. aculeata* De Wild. in Ann. Mus. Congo Bot. ser. 4, 1: 185. t. 46 (1902–3). *C. spinosa* subsp. *aculeata* Bak. f. 312. *C. spinosa* var. *macrocarpa* Bak. f. 312.

Branches virgate, terete, laxly-softly tomentellous; branchlets short, 1–4 cm. long, bearing usually one flower and ending in a straight, sharp spine. Leaves sub-fascicled, varying much in size, trifoliolate; stipules small, petioles 0.3–1.5 cm. long, narrowly winged; leaflets oblong-cuneate, very shortly petioluled, rounded and retuse at the apex, sometimes with a small mucro, 0.5–2 cm. long, 2–7 mm. broad, glabrous on the upper surface, strigose beneath, with the intermediate larger than the lateral ones. Flowers 1.3–2 cm. long, usually solitary on the short spinous lateral branchlets, leaving a small scar after falling; bracts 1–1.5 mm. long, subulate; pedicels 3–4 mm. long, strigose, minutely bi-bracteolate. Calyx 5–8 mm. long, strigose; the lobes deltoid, acuminate, as long or longer than the tube. Standard softly and conspicuously hairy on the back. Keel bent at right angles near the base and ending in a long acuminate straight beak. Pod obovate to oblong in outline, 1.5–3 cm. long, pubescent.

RHODESIA.—Chelange, *Rogers* 8470; Kalomo, *Rogers* 26017 and 8201; Kafue, *Rogers* 8719; Mumbwa, *Macaulay* 627.

NYASALAND.—Nychor Mts., *Whyte* no number.

108. *C. griquensis* Bolus in Journ. Linn. Soc. Bot. 24 (1887) 174; Bak. f. 311.

Branches dichotomously arranged, rigid, terete, white silky, ending in spines. Leaves trifoliolate; petioles 2–5 mm. long; stipules about 1 mm. long, subulate; leaflets obovate, cuneate at the base into a very short petiolule, emarginate, 6–10 mm. long, usually folded, glabrous above, silky beneath, with the intermediate larger than the lateral ones. Flowers about 8 mm. long, racemose on the spines, 1–2 to each spine; bracts minute; pedicels slender, 2–5 mm. long, with a minute bracteole about midway. Calyx thinly silky, 2–4 mm. long, 5-lobed; lobes deltoid, acute, about as long as the tube. Standard glabrous or sparsely silky on the midrib. Keel pouched in the lower half, ending in a straight beak. Pod sub-globose, stipitate, ending in an oblique persistent style-base, silky pubescent.

CAPE.—Middelburg, Grootfontein, *Burt-Davy* 9684.

GRIQUALAND.—Kimberley, *Bolus* 6802, *Marloth* 408. Near the Vaal River, *Burchell* 1782, *Flanagan* 1434.

ORANGE FREE STATE.—Boshoff, Smitskraal, *Burtt-Davy* 11337 and 10073.

TRANSVAAL.—Bloemhof, Christiana, *Burtt-Davy* 13065 and 13139.

109. *C. erimicola* Bak. f. *C. spinosa* var *Schlechteri* Bak. f., Bak. f. 311 and 312.

Branches virgate with numerous slender spines, terete, pubescent. Spines 0·5–2 cm. long. Leaves small, sub-fascicled, trifoliate; petiole 1–3 mm. long, pubescent; stipule minute, subulate; leaflets small, oblanceolate to obovate, cuneate at the base into a very small petiolule, retuse at the apex or with a minute mucro 2–7 mm. long, glabrous on the upper surface, strigose beneath, with the intermediate larger than the lateral. Flowers varying in size from 6–12 mm. long, arising at the base of, or pendulous from the spines; pedicels strigose, 2–4 mm. long, minutely bracteate at the base and about midway. Calyx strigose, 2–4 mm. long, 5-lobed; lobes deltoid, about as long as the tube. Standard hairy at the apex on the back. Keel sharply bent in the lower half ending in a straight beak. Pod globose, like a pea, 4–7 mm. in diameter, tomentellous, ending in a persistent oblique style-base.

TRANSVAAL.—Pretoria, Magaliesberg, *Schlechter* 3675; Strubens Farm, *Mogg in Govt. Herb.* 10591; Pietersburg, *Bolus* 10914; Plains in Transvaal, *Bolus* 6437; Waterberg *Burtt-Davy* 7065, *Galpin* M. 726.

GRIQUALAND.—Kimberley, Newlands, on banks of Harts River, *Wilman* in McGregor Museum, No. 2389.

NAMAQUALAND.—Kalkfontein to Warmbad, *Dinter* 5126.

110. *C. anthyllopsis* Welw. ex Baker in Oliv. Fl Trop. Africa 2: 15 (1871); Bak. f. 263.

Branches diffuse, pilose. Leaves unifoliate, petiolate, of two forms, oblong-lanceolate and ovate, rounded at the base, at the apex with a small mucro, pilose; upper ones about 10 cm. long and 2 cm. broad; lower about 2·5 cm. long and 1·5 cm. broad, petiole 0·5–1 cm. long, pilose; stipules setaceous, pilose, 0·5–1·5 cm. long. Flowers about 7 mm. long, in terminal oblong heads; heads up to 5 cm. long. Calyx pilose, almost as long as the corolla, divided beyond the middle into linear-lanceolate teeth. Standard glabrous. Keels rounded about the middle, broadly U-shaped, ending in a straight, sharp beak, glabrous on the surface. Pods small, obliquely oblong in outline, about 7 mm. long, densely villose.

NYASALAND.—*Buchanan* 884, 303, 453; Shire Highlands, *Buchanan* 447.

NORTHERN RHODESIA.—Lusaka Vet. Off. A 3 in Nat. Herb., Pretoria.

SOUTHERN RHODESIA.—Rand 11, *Hislop* 151; Salisbury, *Eyles* 2153 *Godman* 126.

111. *C. kipandensis* Bak. f. in Journ. Linn. Soc. Bot. 42: 266 (1914).

Branches erect, more or less pilose and rather densely leafy. Leaves unifoliate, shortly petioled, ovate-oblong, 2·2 cm. long, 5 mm. broad, villose on both sides. Flowers many, in a dense terminal raceme. Bracts linear, villose, about as long as the flowers. Calyx villose, about 8 mm. long, almost as long as the corolla, divided beyond the middle. Standard villose on the back. Keel glabrous, bent below the middle and ending in a straight beak. Pod oblong in outline, about 8 mm. long, villose.

RHODESIA.—Near Mumbwa, *Macaulay* 672; Broken Hill, *Rogers* 8151 and 7678.

NYASALAND.—Shire Highlands, *Buchanan* 337.

112. *C. cylindrostachys* Welw. ex Bak. in Fl. Trop. Africa 2: 15 (1871); Bak. f. 257.

Branches virgate, pilose. Leaves unifoliate, petiolate, ovate or elliptic, 4–6 cm. long, 1·5–2·5 cm. broad, gland-dotted, more or less villose, acute; petiole 3–6 mm. long; stipules setaceous, 2–5 mm. long. Flowers many, in a dense terminal raceme, cernuous. Bracts linear, villose, about as long as the flowers. Calyx 4–5 mm. long, shorter than the corolla,

sparingly pilose ; lobes deltoid, about as long as the tube. Standard glabrous, with distinct veins. Keels rounded about the middle, broadly U-shaped, ending in a very short and blunt beak, glabrous on the surface. Pods sub-globose, pilose.

RHODESIA.—Victoria, *Munro* 1045 in *Herb. Mus. Brit.*

113. *C. calycina* *Schrank*. Pl. Rar. Hort. Monac. t. 12 (1819). Fl. Trop. Africa. 2 : 15 ; Bak. f. 271.

Branches virgate, pilose. Leaves unifoliolate, linear- to oblong-lanceolate, 5–10 cm. long, 6–10 mm. broad, finely gland-dotted, pilose beneath ; petiole about 2 mm. long. Flowers in lax terminal and lateral racemes ; bracts foliaceous, about half as long as the calyx, pilose. Calyx 2–2.5 cm. long, enclosing the corolla, deeply divided, pilose with long ferrugineous hairs on the outside, enlarging in fruit and enclosing the glabrous pod.

RHODESIA.—Kafue, *Rogers* 7638.

SOUTHERN RHODESIA OR PORTUGUESE EAST AFRICA (border), Lion's Creek, *Schlechter* 12210.

NYASALAND.—*Buchanan* 394.

114. *C. glauca* *Willd.* Sp. Pl. 3 : 974 (1800) ; Bak. f. 259.

Plant glaucous. Branches erect, slender, smooth, terete. Leaves variable ; the lower sometimes much broader than the upper, unifoliolate, linear-lanceolate to oblong, narrowing at the base into a very short petiole, acute, 2–9 cm. long, with the upper from 1 mm. broad and the lower up to 9 mm. broad, glaucous ; stipules absent. Racemes opposite the leaves, up to 10 cm. long, bearing from 2 to 5 flowers ; bracts subulate, about 2 mm. long ; pedicels about 4 mm. long, usually bi-bracteolate about the middle. Flowers about 7 mm. long. Calyx glaucous, up to 8 mm. long, 5-lobed ; lobes somewhat longer than the tube. Standard glabrous on the back. Keels broad, rounded about the middle, U-shaped, ending in a short beak, glabrous on the surface. Ovary oblong in outline, glabrous. Pod distinctly stipitate, narrowly oblong to oblong in outline, 1.5–3.5 cm. long, glabrous.

RHODESIA.—Lion's Creek, *Schlechter* 12217 ; Umtali, *Teague* 594.

var *Welwitschii*, Bak. f.

Leafy to the apex ; leaves about 3 cm. long and 7 mm. broad.

RHODESIA.—Mumbwa, *Macaulay* 705.

var. *Elliotii*, Bak. f.

Leaves very narrow and rather sparse ; pods narrower than the type.

RHODESIA.—Salisbury, *Godman* 100.

115. *C. bongensis* var. *shirensis* Bak. in f. Journ. Linn. Soc. Bot. 42 : 256 (1914).

An erect annual, small and slender, 15–20 cm. high ; branches filiform, thinly pubescent. Leaves unifoliolate, narrowly linear to linear-lanceolate, with the lower often much broader than the upper, 1–4 cm. long, varying in width from 1–7 mm., acute, cuneate, sessile, sparingly pubescent to almost glabrous ; stipules minute, subulate. Flowers 1–2 on long filiform leaf-opposed peduncles, about 5 mm. long. Pedicels short, about as long as the calyx ; bracts minute ; bracteoles at base of calyx, inconspicuous. Calyx about 2 mm. long, strigose pubescent ; teeth slightly longer than the tube. Standard glabrous on the back. Keel bent in the lower half and ascending in a straight beak. Ovary pilose. Pod oblong in outline, 1–1.2 cm. long, thinly pilose, becoming glabrescent.

NYASALAND.—Shire Highlands, *Buchanan* 57.

RHODESIA.—Miami, *Band* 23 *Herb. Mus. Brit.*

116. *C. incompta* N. E. Br. in Kew Bull. 1909 : 101 ; Bak. f. 262.

Herb, branching from the base ; branches somewhat fistular, angled, minutely pubescent. Leaves unifoliate, linear-lanceolate, varying much in width, 2·5–9 cm. long, 2–6 mm. broad, acuminate, acute, petioled, glabrous above, shortly pubescent beneath ; petioles 8–12 mm. long ; stipules 2 mm. long. Racemes leaf-opposed, 2–4-flowered, 3–5 cm. long. Flowers 5–7 mm. long ; pedicels 3 mm. long, bracteate at the base and in the upper half ; bracts up to 2 mm. long. Calyx 5 mm. long, divided beyond the middle, appressedly pubescent. Standard glabrous. Keels rounded about the middle, somewhat boat-shaped, ending in a long sharp beak, glabrous on the surface. Pods not seen.

NGAMILAND.—Botletle Valley, *Lugard* 205.

117. *C. Hislopii* Corbishley in Kew Bull. 1922, 27.

Herb branching from the base. Branches somewhat flattened, weak, thinly strigose. Leaves unifoliate, difform, mostly long-acuminate, linear-lanceolate or ovate, usually 7–14 cm. long, 5–12 mm. broad, with a few 7 cm. long and 3·5 cm. broad, glabrous or thinly pubescent ; petiole flattened, 0·3–1·5 cm. long ; stipules linear-subulate, 0·3–1 cm. long. Racemes lax, leaf-opposed and longer than the subtending leaf. Flowers about 1 cm. long. Pedicels about 5 mm. long, bracteate at the base and bi-bracteolate in the lower half. Calyx about 1 cm. long, divided beyond the middle, strigose. Standard glabrous, bluish. Keel deeply rounded about the middle and ending in a stout beak ; beak horned near the apex. Pod oblong in outline, 2·5–3 cm. long, stipitate ; stipe up to 1 cm. long.

RHODESIA.—Salisbury, *Eyles* 2092, 2138 ; *Hislop* 155.

118. *C. spartea* R. Br. ex Baker in Fl. Trop. Africa, 2 : 12 (1876) ; Bak. f. 262.

Branches terete, fistular, sparingly strigose. Leaves unifoliate, lanceolate-linear or lanceolate, with the lower broader than the upper, from about 4–11 cm. long, 2–12 mm. broad, narrowed at the base into a very short hairy petiole, acute, strigose, becoming glabrescent ; stipules subulate ; petiole about 1 mm. long. Racemes terminal, up to 12 cm. long, lax ; bracts subulate, 1–2 mm. long ; pedicels very slender, about 5 mm. long, strigose or tomentose, sometimes bi-bracteolate at the apex. Flowers about 7 mm. long. Calyx thinly hairy, 3 mm. long, 5-toothed ; teeth deltoid, acute, about as long as the tube. Standard glabrous on the back. Keels boat-shaped, ending in a straight beak. Ovary hairy along the upper suture. Pod oblong in outline, 1·5 cm. long, shortly stipitate, thinly strigose or glabrous.

TRANSVAAL.—Barberton, *Rogers* 20073.

NYASALAND.—*Buchanan* 544, 323.

119. *C. Adamsonii* Bak. f. in Journ. Linn. Soc. Bot. 42 : 261 (1914).

Branches many from the same root, virgate angular and somewhat fistular. Leaves unifoliate, oblong-lanceolate, 2·5–8 cm. long, 3–10 mm. broad, rounded at both ends, mucronate, thinly strigose-pubescent to almost glabrous, sub-sessile ; petiole 1 mm. long ; stipules small, 1–2 mm. long, setaceous. Racemes 1–3-flowered, about 7 cm. long. Flower about 9 mm. long ; bracts subulate, 2 mm. long ; pedicels 8 mm. long, strigose, bi-bracteolate at the apex. Calyx 7 mm. long, strigose ; lobes lanceolate, acute, longer than the tube. Standard strigose along the mid-rib on the back. Keels rounded about the middle, U-shaped, ending in a very short blunt beak. Pod not seen.

ZAMBESILAND.—Shire Highlands, *Adamson* 321.

120. *C. virgultalis* Burch. in DC. Prodr. 2 : 128 (1825) ; Fl. Cap. 2 : 40 ; Bak. f. 269.

Branches virgate, striate, appressed-sericeous. Leaves rather sparse, unifoliate, narrowly linear or linear-lanceolate, 3–4 cm. long, 2–3 mm. broad, cuneate at the base and jointed to a short petiole, obtuse or obscurely mucronate, appressedly hairy on both

surfaces; petiole 1.5–5 mm. long; stipules absent. Racemes terminal, lax, 4–14 cm. long; bracts subulate, about 3 mm. long; pedicels about 4–7 mm. long, silky, bi-bracteolate at the apex; bracteoles similar to the bracts, but smaller. Flowers 1.3–2 cm. long. Calyx appressedly hairy, 7–9 mm. long, 5-lobed; lobes deltoid, acute, about as long as the tube or somewhat longer. Standard sparingly hairy on the back. Keels bent in the lower half and ending in a long straight beak. Ovary oblong in outline, 5 mm. long; style geniculate, 1.4 cm. long, pubescent. Pod ellipsoid, 1–1.5 cm. long, softly appressed-tomentellous, abruptly narrowed into the persistent rather thickened style.

GRIQUALAND WEST.—Between the Vaal and Riet Rivers, *Burchell* 1752.

BUSHMANLAND.—Sand dunes between Ougrabies and Aggenys, *Pearson* 2928.

NAMAQUALAND.—*Wyley in Herb. Hooker* no number; on Gariep, near Verleptram, *Drège* 1752 and 1836, *Pearson* 3712 and 7753.

CAPE.—Prieska, *Bryant* 356.

No LOCALITY.—*Dinter* 5040 and 4207.

121. *C. Allenii* *Verdoorn* n. sp.

Branches virgate, striate, thinly strigose or glabrous. Leaves rather sparse, unifoliate, linear, 2–4 cm. long, 1.5–4 mm. broad, glabrous, articulated at the base to the petiole, obtuse; petiole 1–1.7 cm. long; stipules absent. Racemes terminal, few-flowered, lax, 4–12 cm. long; bracts subulate, 1–2 mm. long; pedicels 5–7 mm. long, glabrous or thinly strigose, minutely bi-bracteolate at the apex; bracteoles similar to the bracts, but much smaller. Flowers 1.5–2 cm. long. Calyx glabrous or thinly strigose, 5–6 mm. long, 5-lobed; lobes deltoid, acute, about as long as the tube. Standard thinly strigose on the back. Keels bent almost at right angles in the lower half and ending in a long straight beak. Ovary oblong in outline, appressed-pubescent. Pod not seen.

SOUTHERN RHODESIA.—Bulawayo, *Rogers* 13812; Victoria Falls, *Allan* 226.

C. Allenii *Verdoorn* sp. nov.

Rami virgati, striati, strigosi vel glabri. Folia pauca, simplicia, linearia, 2–4 cm. longa, 1.5–4 mm. lata, glabra, basi-articulata, apice obtusa; petiolus 1–1.7 cm. longus; stipulae nullae. Racemi terminales, pauciflori, 4–12 cm. longi; bractae subulatae, 1–2 mm. longae; pedicelli 5–7 mm. longi, glabri vel sparse strigosi, apice bi-bracteolati. Flores 1.5–2 cm. longi. Calyx glaber vel sparse-strigosus. Vexillum dorso strigosum. Carina angulo recto curvata inde in rostrum attenuata.

122. *C. spartioides* *DC.* Prodr. 2: 128 (1825); Fl. Cap. 2: 40; Bak. f. 270 (partly).

Branches virgate, striate, sparsely strigose. Leaves few, unifoliate, linear-acicular, 1–2.5 cm. long, 0.5–1.5 mm. broad, articulated at the base to a very short petiole, acute, strigose; stipules absent. Racemes terminal, lax, up to 22 cm. long; bracts subulate, up to 3 mm. long; pedicels 4–6 mm. long, silky-strigose, minutely bibracteolate at the apex; bracteoles similar to the bracts, but much smaller. Flowers 1–1.5 cm. long. Calyx appressedly hairy, 6 mm. long, 5-lobed; lobes deltoid, acute, about as long as the tube. Standard silky-strigose on the back. Keels bent in the lower half, ending in an acuminate erect beak. Ovary oblong in outline, appressedly hairy. Pod ellipsoid, 1–1.3 cm. long, strigose, abruptly narrowed into the persistent rather thickened style.

BECHUANALAND.—Chooi Desert, *Burchell* 2336 and 2407; near Malichwae, *Lugard* 232; Vryburg, *Burt-Davy* 11194 and 13724.

123. *C. orientalis* *Burt-Davy*. *C. spartioides*, *Harv.* Fl. Cap. 2: 41 (partly), not of *DC.*

Branches virgate, striate, glabrous. Leaves few, unifoliate, linear, acicular, 0.5–3 cm. long, 0.5–1 mm. broad, glabrous, articulated at the base to a petiole; petiole 3–10 mm. long, resembling the leaf blade exactly; stipules absent. Racemes terminal, lax, 5–12 cm.

long; bracts subulate, 3-4 mm. long; pedicels 0.5-1 cm. long, glabrous, bi-bracteolate about midway; bracteoles similar to bracts, but smaller. Flowers about 1.5-2 cm. long. Calyx glabrous, 5-7 mm. long, 5-lobed; lobes deltoid-acuminate, about as long as the tube. Standard strigose on the back, becoming glabrous. Keels bent abruptly in the lower half, ending in a very long straight beak. Ovary oblong in outline, appressedly hairy. Pod ellipsoid, 1-1.3 cm. long, glabrous and reticulate, abruptly narrowed into the persistent rather thickened style.

ORANGE FREE STATE.—Rhinoster River, *Burke* 338, *Zeyher* 370.

TRANSVAAL.—Matebe Valley, *Holub* no number; *Piet Retief*, *Leipoldt* no number; *Zeerust*, *Leendertz* 4258, *Burt-Davy* 7185; *Lichtenberg*, *Leibenberg* 30.

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SOUTH AFRICAN GRAMINEAE.

An Undescribed Species of *Schmidtia*.

By SYDNEY M. STENT.

The genus *Schmidtia* is represented in South Africa by two species, *S. bulbosa* Stapf, a perennial known in the Karroo region as "Sandkweek" from its stoloniferous habit, and the annual species described in this article under the name of *S. kalahariensis*. Samples of this annual species are to be found in most of the South African herbaria named *S. bulbosa*, and many duplicates have been distributed under that name.

The two grasses are very similar in general appearance, but are easily distinguished by their very different habit. *S. bulbosa* is a distinct perennial, with a number of close-packed cataphylls at the base of the culms and creeping surface stolons. It is common in Bechuanaland and the western districts of Cape Province, Orange Free State and Transvaal. In the Vryburg district, where it covers large tracts of land, it is considered by most of the farmers a pest more difficult to eradicate than the troublesome steak grass (Mr. Pentz). There are, however, some farmers who claim for it a certain amount of food value, and assert that cattle graze it readily during the summer months.

S. kalahariensis is a tufted, much branched annual, with rather broader leaves than *S. bulbosa* and smaller and generally darker spikelets. It is spread widely over the Kalahari area, vast tracts of land being occupied by little else (Dr. Pole Evans). It is there known as "suur gras" and "Kalihari grass."

Farmers in the Upington district say that the grass is not eaten readily by stock when it is green, but that after it has been frosted it is eaten greedily (Dr. Pole Evans). In parts of South-West Africa, where it is the dominant grass, it is known as "bushman grass," and is much relished by stock. Its dense covering of glandular hairs makes it a sticky unpleasant grass to handle in its fresh green state (Dr. Pole Evans). Chemical analyses of air-dried material, made by the Chief Chemist, Department of Agriculture, in August 1923, is given as follows:—

| | Per cent. | | Per cent. |
|---------------|-----------|--------------------|-----------|
| Moisture..... | 8.14 | Fibre..... | 31.74 |
| Protein..... | 9.01 | Carbohydrates..... | 34.75 |
| Fat..... | 1.82 | Ash..... | 14.54 |

The ash content is high, but at that time this was not examined further.

In August, 1928, however, a further analysis was made of samples of this grass from the Upington district with a view to ascertaining more specially its phosphorus content (P_2O_5), and this was found to be unusually high, one sample giving 0.362 per cent. on the dry material—a higher figure than that given even by cultivated teff.

I have included a detailed description of *S. bulbosa* Stapf for purposes of comparison, as a certain amount of confusion has existed about the identity of the two grasses.

***Schmidtia kalahariensis* Stent, n. sp.**

Tufted annual-culms geniculate or ascending up to 6.5 cm. high, 4-6-noded, repeatedly branched from the lower nodes, finely striate, more or less densely hirsute with tubercle based hairs, upper internodes long exserted, lower included or shortly exserted; *sheaths* of leaves loose, striate, densely hairy, with fine tubercle based gland-tipped hairs; basal not scale-like; *ligule* a fringe of hairs; *blades* linear lanceolate, long, tapering to an acute apex, 7-15 cm. long by 8-10 mm. broad, softly and densely hairy on both surfaces with gland-tipped hairs.

Panicle dense, linear or narrow oblong to lanceolate, contracted, spiciform, rarely somewhat lax, 5–15 cm. long by 2–4 cm. broad, rhachis and all divisions densely hairy; branches short, appressed to the rhachis or the lower, sometimes up to 4 cm. long and obliquely spreading; *spikelets* sessile, dark grey to greyish green, crowded from the base of branches, articulate above the glumes, usually 6-flowered, the lower perfect, the upper more or less reduced, internodes long bearded; *glumes* somewhat unequal, grey, delicately membranous, hairy all over with tubercle-based, occasionally gland-tipped hairs, prominently 7-nerved, nerves percurrent, except the marginal, which are usually evanescent above; lower glume the shorter, obtuse or narrowly truncate, about 6 mm. long, upper more broadly truncate and minutely toothed at the apex, about 7 mm. long; *valves* up to 4.5 mm. long (to tip of lobes), broadly cuneate, lobed to about one-third of length, long hairy on the back, 9-nerved or occasionally 11-nerved, lobes obtuse, glabrous dark grey, the body of the valve being usually pallid; awns 4–7 mm. long, scabrid; callus long-bearded; *pale* shorter than the valve or sub-equalling it, lanceolate cuneate, 2-keeled from the base to minutely bi-dentate tip, keels shortly ciliate with acute mixed with occasional longer gland-tipped hairs; flaps very narrow, about 0.12 mm. wide, long silky towards the base; *lodicules* 2, minute, cuneate, sub 5-nerved, fleshy, yellowish or colourless, with few cilia from the more or less toothed apex; *stamens* 3, anthers about 2 mm. long; *ovary* cuneate, stipitate; styles quite separate, short, stigmas rather broadly plumose and slightly longer than the styles; *grain* about 2 mm. long, oblong cuneate, light straw coloured and opaque to translucent golden brown, embryo equalling about half the grain, hilum oblong, minute.

✓ CAPE PROVINCE.—Kalihari region, Upington, *Borchards* (Nat. Herb. H. 21496 and 21522); Kuruman, sand dunes at Vischkat, *Pole Evans* 2090 and 2058; Hay District, near Griquatown, *Daniels* (Nat. Herb. H. 21480); Kimberley District: Kimberley, *Burger* (Nat. Herb. H.) 21772; Vryburg District: Vryburg, *Butler* (Nat. Herb. H. 10996); Little Bushmanland, Kraaiwater, *Schlechter* 84.

***Schmidtia bulbosa* Stapf.**

Perennial on a short creeping rhizome, sending out rather long surface stolons. *Culms* finely ribbed, rather densely hairy with acute hairs mingled with gland-tufted hairs, erect or geniculately ascending, simple or more usually branched from the lower nodes, 3–5 or more nodded, lower internodes short, included or shortly exserted, uppermost often long exserted and equalling half the length of the culm. *Sheaths* of the leaves loose, finely ribbed, more or less densely hairy, the lowest short and scale-like; *ligule* a line of stiff hairs; *blades* linear lanceolate, tapering to a setaceous point, flat, about 5 mm. wide at the base and 5–12 cm. long, the primary nerves (7) distinct on the lower surface, less so on the upper, both surfaces densely hairy, margins scabrid, colour glaucous green. *Panicle* narrow, somewhat contracted, about 6–11 cm. long by 2–3 cm. broad, the lower branches up to 3 cm. long, sometimes spreading, rhachis and all divisions of the panicle hairy; *spikelets* shortly pedicelled to sub-sessile, disarticulating readily above the glumes more tardily between the valves, rather pallid, 6–8-flowered internodes between the florets, long bearded; *glumes* somewhat unequal, greenish grey, glabrous or sparsely and shortly hairy, 7-nerved, with a few irregular transverse veins, mid nerve percurrent or minutely excurrent, middle lateral nerves evanescent just below the tip, others evanescent lower down, keels usually quite smooth but occasionally scabrid; *lower glume* 5–7 mm. long, rather broad, and sub-acute or minutely emarginate, upper 7–8 mm. long, narrower than the lower, sub-acute; *valves* broadly cuneate, about 7 mm. long (from base to tips of lobes), long hairy and scabrid on the back, lobed to nearly the middle; lobes 6, sub-acute to minutely obtuse, pale coloured like the body of valve; awns about 8 mm. long, scabrid; callus short and long bearded; *pale* slightly shorter than valve, lanceolate, strongly keeled to the minutely bilobed tip, keels rigidly ciliate, flaps about 0.3 mm. wide and long hairy; *lodicules* minute, yellow, linear trigonous, fleshy, 2-toothed, with occasionally 1–2 gland-tipped hairs from summit; *stamens* 3, anthers about 2 mm. long; *ovary* oblong cuneate; styles separate. Grain about 1.5 mm. long oblong, light golden brown, embryo occupying about two-thirds of the whole; hilum minute, oblong.

Throughout the western district of the Orange Free State and Transvaal, and the Vryburg-Kimberley area of the Cape Province.

There is no record in the National Herbarium of this species from the Kalihari regions, where its place is apparently taken by the annual *S. kalihariensis*.

***Schmidtia kalihariensis* Stent, sp. n.**

Gramen annuum plus minus totum glanduloso-pilosum. Culmi geniculati vel ascendentes, ad 65 cm. alti, multi ramosi; *vaginae* foliorum laxae, inferiores non squamuliformae; *laminae* longe et tenuiter acuminatae, 7-15 cm. longae, 8-10 mm. latae. *Panicula* densa, coartata, 5-15 cm. longa, 2-4 cm. lata; rami brevi rhachis appressi. *Spiculae* sessiles, plumbeae vel plumbeo-virides, dense confertae, 6-floribus; *glumae* dense hirsutae, prominente 7-nervatae; nervi percurrentes; gluma inferior 6 mm. longa, gluma superior 7 mm. longa, apice truncato et minute dentato; *valvae* ad 4.5 mm. longae, lobae inclusae, plerumque pallidae lobis plumbis; lobae 1-5 mm. longae, obtusae vel sub-acutae; aristae 4-6 mm. longae; *paleae* marginibus inflexis 0.12 mm. latibus; *lodicali* minuti, apicis minute-dentatibus et sparse hirsutibus; *antherae* 3, circ. 2 mm. longae; *ovarium* cuneatum, stipitatum; *styli* distincti, brevi quam stigmatam paulam latam parce breviores.

Caryopsis circ. 2 mm. longa, embryo circ. 1 mm. longo.