Revision of the Genus Cyclopia and Notes on Some Other Sources of Bush Tea.

By

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The leaves and flowers of most of the Cyclopias have been used as tea for many years in the districts where they occur, and lately "bush tea" has become a marketable commodity in wider circles since the great rise in price of Ceylon tea. A revision of the relative nomenclature has become an urgent necessity. Hofmeyr and Phillips in Bothalia 106 (1922) give a summary of the commercial varieties of these tea plants, and, allowing for nomenclature alterations, in general their scheme still holds good.

The genus occurs in the coastal districts of the Cape Province, from Clanwilliam to Port Elizabeth, being bounded in the north by the mountain ranges—Koue Bokkeveld Mountains, Klein Swartberg, Groot Swartberg and Kouga Mountains, and the species seem to be fairly localised.

The earliest mention in botanical literature of one of these plants was an illustration in Pluk. Phyt. 4: t. 413, fig. 5 (1705) under the title "Genista rosmarinifolio triphyllos Promont, Bonae Spei". This figure was cited by later authors under various synonyms until it was eventually placed under Cyclopia genistoides by De Candolle, Prod 2: (1825). On the same plate of Pluk. Phyt., Fig. 4, is a drawing of a species of Aspalathus which has repeatedly been misquoted by earlier authors under C. galioides, but Vogel in Linnaea X (1836) 595, put a stop to this error. A similar error has persisted with regard to the identity of Gompholobium maculatum Andr. Bot. Rep. pl. 427, VI (1803). The name was sunk under Ibbetsonia genistoides Sims, in Bot. Mag. t. 1259 (1810), although the drawings clearly indicate the calyx and bracts in both, and the former is without doubt identical with C. tenuifolia Lehm., Linnaea 5: 373 (1830).

The century-old argument about the priority of Ecklon and Zeyher over Ernst Meyer was settled in Journ. Soc. Bibliogr. Nat. Hist. 1, 4: 101–103 (1937), so that the nomenclature changes here are made accordingly.

Although the generic characters of Cyclopia are very well defined, the specific characters show a great variability and in various stages of development the branches on one individual plant appear, when detached, to be specifically distinct. Systematists have not been able to agree on the exact limits of each species or variety, and have regarded species as varieties or vice versa. The present work is an attempt at finding some stable characters for the classification of the species.

The leaf-shape varies considerably on individual plants, from terete to flattened; the pubescence is very often entirely lost in the mature state of the branches, or persists only as axillary tufts of hairs. The length of the pedicel varies with external conditions or with the age of the flower, and in the fruit it is usually thickened. There are also minute stipules on some leaves, but they are not constant, being absent from other leaves on the same branch, or being replaced by additional leaflets as in C. plicata. Even the number of bracts is not constant in C. burtonii, being either two or three on the same specimen. The shape of the calyx varies with age; in the bud the actual shape is more easily distinguished than in an open flower, where the retroflection of the calyx has occurred. The lower lobe is usually falcate, keeled and longer than the upper four lobes, so that it is not of characteristic shape at all. Even in the petals there are variations. In C. meyeriana the standard may be very clearly apiculate, or just minutely mucronate, and in C. genistoides there is in some forms a small auricle at the lower edge of the wing, which may be reduced or lacking on other flowers of the same plant.
The actual size and shape of the bracts and calyx seem to be constant, and together
with the texture of the leaves they have made some scheme of classification possible.

**CYCLOPIA VENT.**

*Shrubs,* leaves ternate, usually exstipulate, leaflets linear to ovate, margins often
revolute, sessile or shortly stalked. *Flowers* solitary, axillary, stalked or sessile, with
2 or 3 bracts at base of peduncle. *Calyx* introrse at base, five *fid,* lowest lobe carinate,
upper lobes adpressed to vexillum. *Vexillum* suborbicular to oblong, plaited at base,
shortly clawed, with or without dark centre. *Alae* oblong with a transverse fold,
clawed. *Carina* obtusely rostrate, clawed. *Stamens* 10, free or slightly connate at

See figures 1—20 (†) and distribution map.

**KEY TO CYCLOPIA SPECIES.**

A. Stem densely hairy when young, may become glabrous with age, and tufts of hair persist only in
leaf axils; leaves at first hairy becoming glabrous:

I. Flowers pedicelled, bracts not clasping base of calyx:
   a. Bracts not plicate:
      i. Bracts and calyx villous on outer surface, leaflets terete, calyx lobes lanceolate
         1. C. bolusii
      b. Bracts and calyx villous on inside, subglabrous outside; leaflets at first hairy,
         becoming glabrous, golden, terete to lanceolate; calyx lobes lanceolate
         3. C. aurescens
      c. Bracts pubescent inside, calyx glabrous both sides, leaflets terete, calyx lobes
         lanceolate falcate, acute and apiculate:
            i. Leaves stout, straight, dense.........................4. C. galioides
            ii. Leaves slender, curved, lax........................5. C. capensis
   b. Bracts plicate, apex recurved:
      a. Bracts and calyx pubescent outside, calyx ribbed, lobes acuminate
         6. C. pubescens
      b. Bracts and calyx pubescent inside, calyx lobes obtuse, pedicel pubescent
         14. C. plicata

II. Flowers subsessile, bracts large, ovate, clasping calyx:
   a. Bracts ciliate or villous on margins, calyx hairy on inside and on margins:
      i. Bracts persistently villous on inner surface, calyx lobes ovate, obtuse, glabrous
         outside
         2. C. bowieana
      ii. Bracts glabrous inside, calyx lobes acute, hairy on outer surface
         7. C. meyeriana
   b. Bracts glabrous on margins and outer surface, calyx becoming glabrous on inner surface:
      i. Calyx villous on margin and outer surface, bracts glabrous inside
         8. C. montana
      ii. Calyx glabrous outside, ciliate on margin, bracts pubescent on keel inside
         8. C. montana var. glabra

B. Stem glabrous or minutely pubescent when young, leaves generally glabrous:
   I. Leaves terete or subterete by rolling in of margins:
      a) Calyx lobes short, straight, deltoid, pubescent within:
         i. Bracts obtuse, truncate, becoming coriaceous, leaf slender terete sub-linear or
            lanceolate.................................................................9. C. maculata.
         ii. Bracts acute, keeled, subcoriaceous, leaflets linear-lanceolate to terete, stem and
            leaf golden, calyx in bud glaucous.............................3. C. aurescens var. glauca
      b) Calyx lobes lanceolate, falcate, long, pubescent on margins, or glabrous, leaves reflexed
         when mature:
         i. Leaves slender, terete, curved...............................10. C. genistoides var. teretifolia
         ii. Leaves lanceolate, margins incompletely inrolled 10. C. genistoides var. heterophylla
         iii. Leaves subterete, sulcate below........................10. C. genistoides
         iv. Leaves ovate to terete on same plant.................10. C. genistoides var. ovalifolia
Leaves flat, margins sometimes inrolled:

a) Bracts 2 or 3 on same plant, flowers small, bracts and calyx acute...........11. C. burtonii

b) Bracts always 2:

i. Bracts obtuse with a reflexed mucro:
   0 Plant slender, pedicels filiform, leaves linear, lanceolate........12. C. filiformis
   00 Plant stouter, leaves elongate, spatulate to linear, bracts ribbed slightly
   13. C. longifolia

ii. Bracts acute or obtuse, without reflexed apex:
   0 Bracts large, subequal to pedicel, 6-9 mm. long, acuminate, calyx lobes long, acute, falcate or subfalcate, leaves elliptic, lanceolate or linear, coriaceous, glaucous..........................15. C. falcata

   00 Bracts medium to small, shorter than pedicel:
   X Leaves short, ovate, obtuse at apex, bracts 0.4-0.6 cm. long:
      1. Leaves cordate or truncate at base, distinctly marked with veins on undersurface. Calyx lobes acute...............16. C. buxifolia
      2. Leaves obtuse or acute at base, subcoriaceous, calyx lobes falcate, lanceolate, acute, leaf margin crisped somewhat
      15. C. falcata var. ovata
      3. Leaves ovate to terete on same plant
   10. C. genistoides var. ovalifolia

XX Leaves linear, lanceolate or spatulate:

1. Bracts sub-truncate, coriaceous, plant with a golden sheen when dried, calyx lobes short, deltoid, convex on back:
   △ Leaves thickly coriaceous broadly linear, elliptic, obtuse, calyx and bracts pubescent inside and on margins
   17. C. intermedia
   △ △ Leaves subteretely rolled or narrowly linear....9. C. maculata

2. Bracts acute, subcoriaceous:
   △ Leaves golden sheen when dried, subteretely rolled to linare-lanceolate, calyx glaucous, short deltoid
   3. C. aurescens var. glauca
   △ △ Calyx lobes lanceolate, falcate, long, acute, leaves becoming reflexed..................10. C. genistoides var. heterophylla
   △ △ △ Calyx lobes short, acute, leaves ascending:
      □ Leaves elliptic-lanceolate, acute at base and apex, veined on undersurface, margins inrolled, calyx acute, bracts shorter than pedicels.............18. C. dregeana
      □ □ Leaves linear to spatulate, obtuse at apex, or subacute, narrowing towards base, slightly veined, subcoriaceous, calyx lobes short, obtuse, bracts small:
         + Pedicels short, stout, 2-3 mm. long, may elongate in fruit, bracts clasping pedicels, 2-3 mm. long, leaves linear to elliptic, veined.............19. C. sessiliiflora
         ++ Pedicels elongated, bracts acute, much shorter than pedicels, leaves attenuate at base, much smaller on axillary branchlets, not veined, leaflets cuneate.
         20. C. subternata
         ++ + Leaflets narrow-linear spatulate
         20. C. subternata var. laxiflora


Small shrub; stem at first hairy, becoming glabrous; bark breaking off in squares; leaf-bases prominent; leaflets at first hirsute, becoming glabrous, ericoid, subclavate, obtuse, sulcate below, reflexed or ascending, curved or straight, laxly arranged, 5-7 mm. long; flowers few, pedicel present; bracts lanceolate, hairy outside, keeled and sulcate on either side of keel, as long as pedicel (5 mm.); calyx lobes lanceolate, subfalcate, acute to obtuse, hirsute on outer surface, ciliate on margins, subglabrous within.

Prince Albert Division: Swartberg Pass, Bolus 11465 (type); Klein Swartberg, Andreae 1250.

Small shrub, branches at first silky, becoming glabrous with tufts of hair persisting in leaf axils; stem and leaves with a golden sheen when dried; leaflets from a thick flattened node, up to 1.75 cm. long, 7 mm. broad, cordate at base, flattened or margins, revolute and leaflets subterete, sulcate and pale glaucous grey on undersurface; bracts 4–8 mm. long, broadly ovate, ciliate, villous inside, glabrous externally; calyx 8 mm. long, lobes ovate, obtuse, long ciliate on margins, hairy inside, glabrous externally; flowers subsessile; calyx clasped at base by bracts.

No locality: Bowie (type in Kew Herb.). Swellendam Division: Burchell 7350; Grootvadersbos, Ashton 2843; Lemoenshoek, Esterhuysen 10444, George Division: Burchell 5893.

3. *C. aurescens* sp. nov.

Nearest *C. bolusii*, but calyx sub-glabrous and leaves somewhat flattened.

Shrub up to 75 cm. high; stem and leaves at first shortly hairy, becoming glabrous, with a golden sheen when dried; stem ribbed and angled with prominent leaf bases; leaflets thickly coriaceous, mucronate subterete and sulcate, becoming flattened, with only margins slightly revolute; the upper surface shiny golden, undersurface dull, glaucous; bracts sparsely pubescent outside, becoming glabrous, hairy inside and on margins, 5–6 mm. long, ovate, acute, mucronate, coriaceous in fruit, shorter or sub-equal to pedicel; calyx lobes 4 mm. long, lanceolate obtuse, subfalcate, convex, keeled, pubescent inside and on margin, outside at first hairy, becoming glabrous. Var. *glaucus* differs from type, being glabrous, and calyx lobes shortly deltoid, glaucous.

Fruticulus erectus, 75 cm. altus. Rami aurei, costati; juniores puberuli. Foliola 2.5 cm. longa, supra aurea, subtus glauca, coriacea, mucronata; juniora teretia, seniora lanceolata, marginibus revolutis. Bracteae 5–6 mm. longae, ovatae, acutae, mucronatae, extus glabrae, intus villosae, margine puberulae, pedicellis subaequales. Calycis lobi 4 mm. longi, lanceolati, subfalcati, obtusi, dorso rotundati, intus pubescentes, extus glabrescentes. Fructus lanceolatum, obliquum.

Var. *glaucus* a typo ramis glabris lobis calycis deltoideis glaucis differt.


Stout shrub; branches angular with prominent leaf bases, at first densely villous with greyish hairs, glabrous with age, bark purplish; leaflets up to 2.5 cm. long, at first hairy, becoming glabrous, sessile, subterete, sulcate beneath, stout, straight, close together on stem or somewhat lax, apex mucronate, ascending; bracts 4–8 mm. long, acuminate, ovate to lanceolate, as long as the pedicel or exceeding it, glabrous outside, puberulous inside; pedicels short, glabrous; calyx glabrous; lobes lanceolate falcate, acuminate, apiculate, flowers in springtime.
No locality: Scholl in Herb. Mus. Vind. (1836); Grey, Herb. Kew., Cape Peninsula; Vlaggeberg, Schlechter 459; Table Mountain, Flanagan 2414; Devils' Peak, Alexander, (1847); Muyzenberg, Burke and Zeyher; Kalk Bay, Alexander (1846); Vis Hoek, Bolus 67; Simonstown, Jameson (1841); Wright; Compton; Pillans 3039.


An erect shrub, 30–50 cm. high, rarely 1–5 metres high; branches virgate, ascending, at first leafy and sparsely grey villous, becoming nude and glabrous and light brown; petioles 1 mm. long, pilose in the axils; leaflets slender, linear terete, curved, mucronate, pilose at first, becoming glabrous, 1–1.5 cm. long, canaliculate below; flowers congested towards apex of branches pedicel 4–7 mm. long; bracts 5–8 mm. long, glabrous on both surfaces, ovate-lanceolate, acute; calyx lobes, broadly lanceolate, falcate, apiculate, 6 mm. long; carina minutely cuspidate, emarginate at apex; flowers in late summer.

CAPE PENINSULA: Table Mountain, Wolley-Dodd 875; Wynberg, Esterhuysen 12643; Paulsberg, Salter 8035, 8036; Compton; Kommetjie, Galpin 12694; Smitswinkel, Salter 8034; False Bay, Alexander (1846); Simon's Bay, Alexander (1846); Bright Water, Leighton 1616.

6. C. pubescens E. and Z. l.c.

Vog. in Linnaea 10 (1836); Walp. l.c. Benth l.c.; Harv. l.c.; Phill and Hofm. l.c.

Plant pubescent; leaflets linear, obtuse, mucronate, margins slightly revolute, midrib prominent below, thinly pubescent to glabrous, up to 2.5 cm. long; bracts wrinkled longitudinally, apex acuminate recurved, pubescent in and outside or sub-glabrous; flowers pedunculate, pedicel 1.5–1.8 cm. long, calyx pubescent both in and outside, distinctly nerved, lobes 0.6 cm. long, acuminate from a deltoid base.

Port Elizabeth Division: Ecklon and Zeyher 1146; Van Staaden's River, Bolus 1604 (partly).

7. C. meyeriana Walp. l.c.

C. sessiliflora E. Mey, non E. and Z. l.c.; Benth. l.c.; Harv. l.c.

Stem at first densely villous, becoming glabrous; leaves crowded, persistently hairy in the axils; leaflets pilose, becoming glabrous with age, slender, terete, sulcate below; flowers sessile, crowded towards apex of branches; bracts broadly ovate, claspers base of calyx, acuminate, 6–8 mm. long, shiny, glabrous, villous on margins; calyx villous on margin, deciduously hairy on outside and inside, lobes 0.6 cm. long, acuminate from a deltoid base.


8. C. montana Hofm. and Phill. l.c.

Stem and leaves laxly silky haired; stem angled to subterete, bark reddish, with a golden sheen when dried; leaves with a tuft of hairs persisting at the base, laxly arranged; leaflets narrowly terete, cordate at base; flowers subsessile towards apex of branches; bracts 4–6 mm. long, broadly ovate, acute, clasping calyx at base, glabrous in and outside; lobes of calyx 5–7 mm. long, lanceolate, acute, straight, becoming glabrous, at first densely long hairy inside, outside and on margins, standard not distinctly apiculate. Differs from C. meyeriana by glabrous bracts.

Var. glabra Hofm. and Phill. l.c., has calyx glabrous, ciliate on margins, petals large and pale yellow.


*Gompholobium maculatum* Andr. Bot. Rep. 6:427 (1803); *Cyclopia tenuifolia* Lehm. in Linnaea 5 (1830) 373; Benth. l.c.; E. and Z. l.c.; Harv. l.c.; Hofm. and Phill. l.c.; *C. laricina* E. Mey. l.c.

Shrub 60-90 cm. high, glabrous, with ribbed branches; leaflets linear filiform or lanceolate, 2-3.5 cm. long, acute, margins inrolled, sulcate or open backed; pedicels up to 1 cm. long, in fruit 1-5 cm. and much thickened; bracts truncate, obtuse, coriaceous, thickened with age, keeled, sparsely hairy within, 3-5 mm. long, broader than long; calyx lobes 3 mm. long, ovate-lanceolate, obtuse, glabrous with margins pubescent, uninnerved; vexillum of a deeper colour above the claw; legume oblong, coriaceous.


Shrub with branches ribbed, becoming terete, glabrous, or puberulous, erect, nude at base, leafy above; leaves dense, shorter or longer than internodes, reflexed when mature; leaflets ovate or linear, subterete or open backed with margins incompletely rolled in, 0.5-3.5 cm. long, obtuse, glabrous; pedicel 0.5-1-5 cm. long, flowers crowded at apex of branches; bracts ovate,acute, glabrous outside, pubescent inside, 5-7 mm. long, usually shorter than pedicel; calyx lobes lanceolate, falcate, acuminate, 4-6 mm. long, glabrous or puberulous on margins; fruit lanceolate; wings sometimes auricled on lower margin, just above claw.

Var. *heterophylla* Harv. l.c.: Leaflets terete to lanceolate, margins incompletely inrolled. *C. heterophylla* E. and Z. l.c.


Var. *ovalifolia* var. nov.: leaflets subterete to flattened, ovate; small shrub, flowers long stalked.

Var. *ovalifolia* var. nov.: suffrutex humilis, foliolis ovatis vel subteretibus floribus pedicellatis.

No locality: E. and Z. in N.H. 10018; Siebert 47; Herb. Harv. 745; Zeyher 353; Drege (1876); *Burchell* 417; *Pappe* 9, Herb. Hook.


A small much-branched shrub, 30-41 cm. high, with leaves, flowers and fruits smaller than the average size for the genus; leaflets lanceolate, flat or channelled below, acute, 0·6-1·2 cm. long, 2 mm. broad, coriaceous; bracts 2 or 3 on the same branch, two bracts at base of pedicel, and a smaller one adnate to pedicel, acute, 1-2 mm. long, lanceolate; pedicel 1-2 mm. long; calyx lobes acuminate, 1-2 mm. long, ovate, pubescent on margins; vexillum 8-5 mm. long, 6 mm. broad, acute; alae narrowly oblong; carina obtusely rostrate.


12. *C. filiformis* sp. nov.

Small shrub, stem terete, bark glaucous, purplish when dried; leaflets up to 2 cm. long, linear lanceolate, margins slightly reflexed, midrib prominent below, apex obtuse, membranous, ascending or reflexed when mature; flowers lateral in leaf axils, smaller than in the average size for the genus; bracts 2-3 mm. long, subtruncate, apex reflexed, mucronate, keeled; pedicels filiform up to 8 mm. long; calyx lobes deltoid, acute, 1·5 mm. long, exceeding the tube; standard ovate-lanceolate; wings narrowly oblong, claw 1·5 mm. long, blade 9 mm. long; carina obtuse, as long as wings; legume lanceolate, small; style persistent; flowers appear in November.


Port Elizabeth Division: Van Staadensrivier, *MacOwan* 336/A.K.

13. *C. longifolia* Vog. in Linnaea 10: 595 (1836); Walp l.c.; *Benth.* l.c.; Harv. l.c.

Glabrous shrub, branchlets angled; leaflets subcoriaceous, oblong, linear, attenuate at base, obtuse at apex, 3·5 cm. long or more, flat with extreme edges revolute, dark green above, paler below, midrib prominent below; pedicel exceeding bracts; bracts ovate oblong, plicate-striate, apex recurved, 0·4 cm. long; calyx lobes acute, short, 3 mm. long; petals 9 mm. long.

14. C. plicata sp. nov.

Stem pubescent becoming glabrous, ribbed, with leafbases prominent, golden to reddish in colour; leaves subpetioled, hairy in axils, stipulate; leaflets 3 or abnormally 4 or 5 where leaflets replace the stipules; stipules short, subulate, minute or wanting; leaflets subterete, sulcate or open backed below, coriaceous, curved, ascending 0.8–1.8 cm. long; bracts obtuse, deeply plicate, apex recurved, coriaceous, glabrous outside, hairy inside, 4–5 mm. long; pedicel 5–7 mm. long, pubescent; calyx pubescent in and outside and on margin, becoming glabrous; petals 1.2 cm. long, legume 3 cm. long, oblique and curved, several seeded.

Rami juniores pubescenti, seniores glabri aurei vel rubro-brunnei. Folia petiolata, stipulata, 3–5 foliolata, axillis villosis. Foliola subteretia, 0.8–1.8 cm. longa, glabra, sulcata, marginibus revolutis. Stipulae subulatae, minutae vel nullae. Bracteae 4–5 mm. longae, plicatae, apice recurvae, intus pubescentes, extus glabrae. Pedunculi 5–7 mm. longi, pubescentes. Calycis lobi 1–2 mm. longi, pubescentes, basi lati apice obtusi. Legumen obliquum, leviter curvatum.

Uniondale Division: Hoopsberg, Esterhuysen 6549 (Type in Herb. Bolus); Mannetjiesberg, Esterhuysen 6466; Smutsberg, Esterhuysen 7035; Marloth Herbarium, under C. longiflora, no locality or details.

15. C. falcata (Harv.) comb. nov.

C. vogelii var. falcata Harv. 1.c.; C. brachypoda Hofm. and Phill. l.c. pro parte, non Benth.

Glabrous erect shrub, stems angled to terete, with a golden sheen or glaucous; leaflets flat or margins revolute, oblong elliptical, linear, ovate or lanceolate tips mucronate, base acute or obtuse, midrib prominent below, up to 2.8 cm. long, up to 1 cm. broad, glaucous, coriaceous; bracts large, 5–9 mm. long, keeled, acuminate, ovate, puberulous inside, glabrous outside, as long as, or exceeding petiole; calyx lobes acute to obtuse, lanceolate, falcate, pubescent on margins, 4–8 mm. long.

Var. ovata var. nov.; leaflets short, ovate, margins crinkled slightly, bracts and calyx shorter, leaves stipulate, leaflets 0.5–1 cm. long, 0.19–0.5 cm. wide, bracts 3–6 cm. long, acuminate.

Var. ovata var. nov.: foliolis ovatis 0.5–1 cm. longis 0.1–0.5 cm. latis, bracteis 0.3–0.6 cm. longis acutis lobis calycis lanceolato-falcatis.


16. C. buxifolia (Burm. f.) comb. nov.


Glabrous shrub; stem ribbed, downwards from leafbases, glaucous, purplish when dried; leaflets ovate or ovate-lanceolate, truncate or cordate at base, 0.5–2.5 cm. long and 0.3–1.4 cm. broad, coriaceous with impressed veins on undersurface of leaflet, petiolate, apex obtuse; bracts lanceolate, keeled, acuminate, 4–7 mm. long, shorter or equal to pedicel; calyx tube short, lobes acute, ovate, equal to or exceeding tube, rare.
No locality: Scholl in Herb. Mus. Vind. (1836). Cape Division: Table Mountain, Bodkin in Bolus Herb. 8038; Esterhuysen 4014; Constantiaberg, Wolley-Dodd, 3450; Waai Vlei, Wolley-Dodd 3399. Ladismith Division: Swartberg, Marloth 3988 b. Prince Albert Division; Swartberg, Pocock 164.


Erect shrub 0.5-0.7 m. high; stem and leaves with a golden sheen when dried; twigs angular; leaflets on a decurrent shield, ciliate within, linear cuneate with revolute margins, 16-30 mm. long, 2.5-6 mm. broad, coriaceous, obtuse, mucronate; bracts 2, concave, ovate, obtuse, keeled, coriaceous, thickened with age, hirsute within, pubescent on margins, 3-6 mm. long, shorter than pedicel; pedicels vary from 0.3-2 cm. in length; calyx lobes short, deltoid-ovate, obtuse, roundbacked, lowest lobe keeled, longer pubescent on margins, sparsely hairy within, 2-3 mm. long at first glaucous, becoming shiny, coriaceous.


Riversdale Division: Marloth 5666; Garcia’s Pass, Galpin 3900; Langeberge, Marloth 7186 (?). Oudtshoorn Division: Olifants River, Gill, Herb. Kew; Uniondale Division: Langkloof, Burchell 4929; Kouga Mountains, Esterhuysen 10738; 7036. Humansdorp Division: Zuur Anys, Fourcade 3049; Blouberg Forest, Holland 4063, Dix 3.

18. C. dregeana nom. nov.

C. latifolia E. Mey. l.c. non. D.C.; Walp, l.c. partly; non Benth.; C. vogelii var. subternata Harv. l.c. partly; C. subternata Hofm. and Phill. l.c. partly.

Erect shrub, stem ribbed to terete, purplish; leaflets lanceolate, acute at base and apex, slightly veined on undersurface, coriaceous, margins revolute, 2-5 cm. long, 0.8 cm. broad, shortly petiolate, and leaves minutely stipulate on some twigs, bracts small, acute, keeled, about one-third length of pedicel, 3 mm. long; calyx lobes lanceolate, acute, overlapping at the base. Differs from C. intermedia by small acute bracts and veined leaflets, from C. buxifolia by narrow lanceolate leaflets, from C. subternate by acute leaflets, and slightly larger bracts and calyx lobes, and from C. falcata by smaller size of bracts and calyx.


Vogel l.c.; Walp, l.c.; C. brachypoda Benth. in Ann. Mus. Vind. 2, 1: 67 (1837); Hook, Lond. Journ. Bot. 2. (1843); C. vogelii var. brachypoda Harv. l.c. 6; C. brachypoda Hofm. and Phill. l.c. partly; Rafnia retroflexa B. Thb. in Herb. Thb.

Shrub with virgate, subfastigiate flexuous branches, stem cicatrised at base; leaflets linear or oblong, obtuse or attenuate at base, margin flattened or revolute, shiny on upper surface, veined below; membranous or subcoriaceous, dense to laxly leafy, leaves ascending; bracts 1-2.5 mm. long, ovate, clasping pedicel, pedicel scarcely exceeding bracts, may elongate in fruit; calyx lobes 2-4 mm. long, short, subacute or obtuse; vexillum emarginate; fruit obliquely lanceolate.

20. *C. subternata* Vogel I.e. 595; “Gewone bossiestee”.


Shrub 1–3 m. high; twigs angled, becoming terete, at first glaucous; leaflets sometimes minute on young twigs, 2–3 mm. long, when expanded 2·5 cm. long, 0·5 cm. broad; spathulate lanceolate or sublinear, obtuse at apex, tapering to base, flat or margins slightly revolute, membranous to subcoriaceous; bracts 2–5 mm. long, keeled, about a third the length of pedicel or less, acute or acuminate, sulcate on either side of keel; calyx lobes short acute, deltoid, 2–3 mm. long.

Differs from *C. falcata* by the small bracts and short calyx lobes, and from *C. sessiliflora* by the pedicels being much longer, and by the presence of axillary shoots with small leaves.

*Var. laxiflora* (Bth.) comb. nov. has leaflets narrowly linear, spathulate, membranous, otherwise as type.


**OTHER SOURCES OF “BUSH TEA”**.

*Aspalathus tenuifolia* D.C. Prod. 2, p. 143 (1825).

A slender shrub, with leaves needle-shaped, up to 6 cm. long, single or fascicled, curved or straight; flowers few, interruptedly racemose, flowers distinct, pedicels 4–5 mm. long. Calyx teeth short, distant on the tube; vexillum pubescent, longer than the arched, glabrous or puberulous carina. Leaves, twigs and calyx laxly adpressed hairy. The flowers are up to 1 cm. long, larger than in *A. contaminatus*. This shrub only occurs in the Piquetberg District and is the source of “Naald Tee” according to Marloth.

Piquetberg District: *Drege*, rocky gorge on mountain, Nov. 1830; *Pillans* 7316; *Bolus* 7526; *Edwards* 221; *Marloth* 5361, 11063.


Shrub prostrate or erect and up to 2 m. high, with numerous intermediate forms, leaves solitary or fascicled, long linear terete, 2·5–4 cm. long, stouter than in *A. tenuifolia* and usually straight; flowers on short pedicels, few, in pairs or imperfect corymbose-racemules; calyx teeth lanceolate, shorter than tube, 2 mm. long, corolla 0·5 cm. long, vexillum pubescent, carina pubescent, equal in length to the vexillum. Marloth states that this plant is used as the source of “naald tee”, “koopmans tee”, “Black tea” or
"rooibostee" on the Cedar Mountains near Clanwilliam. The form on the Cape Peninsula is prostrate, while the form on the Cedar Mountains attains the height of 2 metres, but they cannot be separated on any other character.


SUMMARY OF COMMON NAMES OF SPECIES USED AS TEAS AND THEIR LOCALITIES.

**Vlei tee**

- **C. bowieana** Harv. (=C. ashtonii Hofm. and Phill.)
  - Only on Langeberge to Outeniquas. Swellendam to George.

**Vlei tee**

- **C. maculata** (Andr.) Comb. nov. (=C. tenuifolia Lehm.)
  - Drakenstein Mountains, Rivier-Sonder-End Mountains and Langeberge.
  - (Worcester, Paarl, Stellenbosch, Somerset West, Caledon, Swellendam, Riversdale Districts.)

**Heuning tee**

- **C. genistoides** R. Br. (most common tea plant).
  - Table Mountain and Coast, Drakenstein Mountains, Rivier-Sonder-End Mountains, and Potberg (with outlying specimens in Uniondale District).
  - (Malmesbury, Cape, Paarl, Worcester, Somerset West, Caledon, Bredasdorp, Swellendam and Uniondale Districts.)

**Heuning tee**

- **C. burtonii** Hofm. and Phill.
  - Swartberg only.
  - (Oudtshoorn and Prince Albert Districts.)

**Suiker tee**

- **C. subteretifolia** sp. nov.
  - (Ceres, Laingsburg, Prince Albert, Ladismith, Oudtshoorn, Riversdale Districts.)

**Bossies tee**

- **C. sessiliflora** E. and Z. (=C. brachypoda Hofm. and Phill.)
  - Langeberge only.
  - (Swellendam and Riversdale Districts.)

**Hottentots tee**

- **C. subternata** Vogel
  - (Coastal ranges from Riversdale to Humansdorp Districts.)
<table>
<thead>
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<tr>
<td>Scientific Name</td>
<td>Synonym</td>
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<tr>
<td>C. subternata Vog.</td>
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<tr>
<td>C. tenuifolia Lehm.</td>
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<td>C. teretifolia E. &amp; Z.</td>
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<td>C. ternata Sweet</td>
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<td>C. triphylla Sweet</td>
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<td>C. vogelii Harv.</td>
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<td>C. vogelii var. subternata Harv.</td>
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<td>C. vogelii var. brachypoda Harv.</td>
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<td>C. vogelii var. intermedia Harv.</td>
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<td>C. vogelii var. laxiflora Harv.</td>
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<td>C. vogelii var. falcata Harv.</td>
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<td>Galega genistoides Thb.</td>
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<td>Galega var. B.</td>
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<td>Genista buxifolia Burm.</td>
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<td>Gompholobium maculatum Andr.</td>
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<td>Ibbetsonia genistoides Sims.</td>
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<td>Podalyria genistoides Willd.</td>
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<td>Sophora galiioides Berg.</td>
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<td>Sophora genistoides Berg.</td>
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<td>Sophora genistoides Thb.</td>
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</tbody>
</table>
3. (a) C. aurescens Kies Prinxs, 33, Seweweekspoort. (b) C. aurescens var. glauca Kies Pappe (Harv. t. XXIV), Cape of Good Hope.
5. C. capensis Salter Galpin 12694, Cape Peninsula.
8. (a) C. montana Hofm. & Phill. Phillips 11131, Tulbagh. (b) var. glabra Marieth 2277, Matroosberg.
10. (a) C. genistoides R. Br. Dreyg (1836). (b) var. heterophylla E. & Z. E. & Z. 1148, Swellendam. (c) var. ovalifolia var. nov. Esterhuyse 2635, Caledon, Somerset, Sneekop.
11. C. burtonii
   Burton, F. D. H. 2914 (Type).
12. C. filiformis sp. nov.
13. C. longifolia Vogel
14. (a) C. plicata sp. nov.
   Scrap in Herb. Marloth.
   (b) C. plicata sp. nov.
   Esterhuysen 6549, Uniondale, Hoopsberg.
15. (a) C. falcata (Harv.) comb. nov.
   Zeyer 354.
   (b) Alexander Oct. 1846, Caledon.
   (c) C. falcata var. ovata var. nov.
   Esterhuysen 6167, Ceres, Slab Peak.
16. C. buxifolia (Burm.) Kies
   Bolus 8038, Table Mt.
17. C. intermedia E. Mey.
   Fourcade 3049, Humansdorp.
18. C. dregeana nom. nov.
   Drege (1836) (Type), Du Toit's Kloof.
19. C. sessiliflora E. & Z.
   E. & Z. 1147, Puspasvlei.
20. (a) C. subternata Vogel
   Burchell 5519.
   (b) C. subternata var. laxiflora
   (Bth.) comb. nov.
   E. & Z. 1149, Plettenberg Bay.