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The genus *Syncolostemon* (Lamiaceae)

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ABSTRACT

The genus *Syncolostemon* E. Mey. ex Benth. is revised and its relationship with *Hemizygia* (Benth.) Briq. is discussed. A new species, *S.* **comptonii** Codd is described and the following new combinations are made: *S. parviflorus* var. **lanceolatus** (Guerke) Codd (=*S. lanceolatus* Guerke) and *S.* **latidens** (N.E. Br.) Codd (=*Orthosiphon latidens* N.E. Br.).

Résumé

LE GENRE SYNCOLOSTEMON (*LAMIACEAE*)

Le genre Syncolostemon *E. Mey .ex Benth. est révisé et sa relation avec* Hemizygia (*Benth.*) *Bri .est discutée. Une nouvelle espèce,* S. **comptonii** *Codd est décrite et les combinaisons nouvelles suivantes sont faites*: S. parviflorus *var.* **lanceolatus** (*Guerke*) *Codd* (=S. lanceolatus *Guerke*) *et* S. **latidens** (*N.E. Br.*) *Codd* (=Orthosiphon latidens *N.E. Br.*).

INTRODUCTION

In his revision of the genus *Hemizygia* Briq. in J. Bot. Lond. 73: 343 (1935), Ashby drew attention to the floral differences between this genus and *Orthosiphon* Benth. but hardly touched on the genus *Syncolostemon* E. Mey. ex Benth.

The corolla characters in *Syncolostemon* and *Hemizygia* are essentially the same and lend no support for their separation as distinct genera: the tube is longer than the calyx, straight or slightly decurved, widening about the middle towards the truncate mouth; the upper corolla lip is usually very small, obscurely 4-lobed, while the lower lip is shallowly concave and longer than the upper lip. The stamens are in two distinct pairs with the upper (posticous) pair attached at or below the middle of the corolla tube, with the filaments free and usually pubescent towards their base; the lower (anticous) pair are attached at the corolla throat with the filaments united (united only near the base in *H. persimilis* and somewhat variable in *H. pretoriae*).

The only character which shows some promise as a basis for separating the two genera is the shape of the calyx. In typical *Syncolostemon* the calyx is more or less equally 5-toothed, while in *Hemizygia* the upper calyx tooth is broadly ovate, often decurrent on the calyx tube, and much larger than the lower four which are usually subulate to almost spinescent. There are, however, certain intermediates which are discussed more fully below.

Syncolostemon E. Mey. ex Benth. in E. Mey., Comm. 230 (1837) was erected to accommodate certain plants collected by Drège. Four species were described which fall into two distinct groups:

Group 1: *S. parviflorus* E. Mey. ex Benth. Calyx and corolla small: Mature calyx less than 8 mm long, campanulate, often becoming subrotund, setose in the throat; corolla tube 6–10 mm long; inflorescence lax; nutlets with a frill at the base.

Group 2: *S. rotundifolius* E. Mey. ex Benth. and *S. densiflorus* Benth. (=*S. ramulosus* E. Mey. ex Benth.). Calyx and corolla large and conspicuous: mature calyx usually exceeding 10 mm in length, cylindrical; corolla tube 14–30 mm long; inflorescence dense; nutlets without a frill at the base.

To Group 1 the following may be added: *S. concinnus* N.E. Br., *S. argenteus* N.E. Br., *S. eriocephalus* Verdoorn and the presently described *S. comptonii* Codd. The species *S. macrophyllus* Guerke, although showing a distant relationship with *S. parviflorus,* has a broadly ovate upper calyx tooth and is transferred to *Hemizygia.*

Closely related to Group 2 are two species described as *Orthosiphon macranthus* Guerke and *O. latidens* N.E. Br. in which the upper calyx tooth is distinctly larger than the lower four, but is elliptic to broadly elliptic rather than broadly ovate. These two species are therefore, somewhat intermediate between *Syncolostemon* and *Hemizygia* and Ashby transferred the former to *Syncolostemon* and the latter to *Hemizygia.* They are both so obviously related to *S. rotundifolius* that it is logical to place all three in the same genus.

It is a matter of convenience to maintain both genera and this may be done on the following basis:

Calyx 2-lipped, the upper lip broadly ovate to subrotund, usually decurrent on the tube; lower lip of 4 subulate to spinescent teeth..... *Hemizygia*

Calyx subequally 5-toothed, the upper tooth, if the largest, elliptic to broadly elliptic, not decurrent; lower 4 teeth deltoid to subulate..... *Syncolostemon*

Phillips, Gen. ed. 2: 651 (1951), lists *S. densiflorus* as the lectotype species without giving reasons for his choice. It will be noted that *S. densiflorus* belongs to Group 2, which tends to grade into *Hemizygia.* Should this group be merged with *Hemizygia,* the older name *Syncolostemon* would then take precedence, with the result that some 30 names in *Hemizygia* would have to be transferred to *Syncolostemon;* on the other hand, Group 1 might be considered sufficiently different to be maintained as a distinct genus and would need a new name. It is therefore considered that a better choice of lectotype would be *S. parviflorus* E. Mey. ex Benth., belonging to Group 1

SYNCOLOSTEMON

Syncolostemon *E. Mey. ex Benth.* in E. Mey., Comm. 230 (1837); Benth. in DC., Prodr. 12: 53 (1848); Benth. & Hook. f., Gen. Pl. 2,2: 1174 (1876); Briq. in Pflanzenfam. 4,3a: 364 (1897); N.E. Br. in Fl. Cap. 5,1: 261 (1910); Phillips, Gen. ed. 2: 651 (1951); Ross, Fl. Natal 306 (1972).

Lectotype proposed: *S. parviflorus* E. Mey. ex Benth.

Soft shrubs or stems herbaceous, arising annually from a perennial woody rootstock. *Leaves* opposite, subsessile or shortly petiolate, variously pubescent and gland-dotted, entire or toothed. *Inflorescence* terminal, sometimes on short lateral shoots, paniculate or simple, lax or dense; verticillasters 2–6-flowered

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Calyx variously pubescent and often setose in the throat, subequally 5-toothed or the upper tooth larger than the lower 4, elliptic to broadly elliptic, not decurrent on the tube; lower 4 teeth deltoid to subulate. *Corolla* bilabiate; tube longer than the calyx, widening from about the middle to a truncate mouth; upper lip small, obscurely 4-lobed; lower lip concave, horizontal, longer than the upper lip. *Stamens* 4, exserted, didynamous; upper pair affixed about the middle or towards the base of the corolla tube, filaments free, pubescent below; lower pair attached at the corolla throat, filaments connate for practically their entire length, glabrous. *Style* exserted, minutely bilobed at the apex. *Nutlets* oblong in outline, sometimes slightly frilled at the base.

Endemic in south-east Africa, extending from the Transkei to the Transvaal; 9 species recognized. Briquet, l.c., divided the species into two sections, corresponding to Groups 1 and 2 above, which he designated as Sect. Micranthi and Sect. Macranthi, respectively.

Corolla tube 6–10 mm long (Group 1):
- Pubescence on leaves of stellate hairs ..... 1. *S. concinnus*
- Pubescence on leaves dense or sparse but not stellate:
  - Leaves greenish, sparsely to densely pubescent but not sericeous:
    - Inflorescence lax, verticillasters up to 2 cm apart; bracts ovate-lanceolate, not chartaceous:
      - Leaves obovate or elliptic to lanceolate, up to 3 times as long as broad .... 2a. *S. parviflorus* var. *parviflorus*
      - Leaves narrowly lanceolate to linear-lanceolate, 4–8 times as long as broad 2b. *S. parviflorus* var. *lanceolatus*
    - Inflorescence dense, verticillasters 2–3 mm apart; bracts broadly ovate, chartaceous 4. *S. comptonii*
  - Leaves grey, densely sericeous:
    - Leaves 12–25 × 2–8 mm, flat; inflorescence terminal, lax ..... 3. *S. argenteus*
    - Leaves 4–10 × 1,5–3 mm, margin revolute; inflorescence terminal or on short lateral shoots, dense, densely villous ..... 5. *S. eriocephalus*

Corolla tube 14–30 mm long (Group 2):
- Calyx teeth subequal:
  - Verticillasters usually 6-flowered; calyx teeth linear-subulate, 3–5 mm long .... 6. *S. densiflorus*
  - Verticillasters 2-flowered; calyx teeth narrowly deltoid, 1,5–2 mm long ... 7. *S. rotundifolius*
- Calyx with the upper tooth elliptic to broadly elliptic, larger than the lower 4:
  - Corolla tube 2–3 cm long; rhachis glandular-puberulous ..... 8. *S. macranthus*
  - Corolla tube 1,8–2 cm long; rhachis hispid ..... 9. *S. latidens*

1. **Syncolostemon concinnus** *N.E.Br.* in Fl. Cap. 5,1: 264 (1910). Type: Transvaal, Elandspruit Mts. (Steenkampsberg), *Schlechter* 3891 (K, holo.; PRE).

Shrublet 60 cm tall; stems several, annual, slender, sparingly branched, arising from a perennial woody rootstock, beset with tufts of leaves along the stem, hispidulous. *Leaves* subsessile obovate-oblong to narrowly elliptic, 10–18 mm long, 2–8 mm broad, with minute stellately branched hairs on both surfaces, freely gland-dotted; apex rounded, base cuneate; margin often with a few teeth near the apex. *Inflorescence* a lax panicle 12–20 cm long; rhachis glandular-puberulous often with stellate hairs; bracts very small, 2–3 mm long, caducous; verticillasters 2-flowered, up to 2 cm apart. *Calyx* 5–6 mm long, campanulate, becoming subrotund with a narrowed mouth, glandular-hispid, often with stellate hairs, setose in the mouth; 5 teeth subequal, deltoid-subulate, 2,5 mm long. *Corolla* white, 12–13 mm long; tube 8–9 mm long; upper lip small, erect; lower lip horizontal, 3 mm long. *Stamens* well exserted; upper pair attached near the base of the corolla tube, filaments glabrous below.

Found in mountain grassland, usually among rocks, in eastern and south-eastern Transvaal, southern Swaziland and north-eastern Orange Free State; main flowering season is February–March.

TRANSVAAL.—2530 (Lydenburg): Steenkampsberg (–AA), *Schlechter 3891; Codd 9847;* Belfast (–CA), *Leendertz sub TRV 7891.* 2630 (Carolina): S.E. of Ermelo (–CA), *Codd 10207;* Iswepe (–DC), *Sidey 1617.*

O.F.S.—2729 (Volksrust): Top of Normandien Pass (–DC), *Acocks 23803.*

SWAZILAND.—2631 (Mbabane): 8 km W. of Mankaiana (–CA), *Compton 28664;* Hlatikulu (–CD), *Compton 28757.*

With its slender stems and small white flowers, *S. concinnus* is an inconspicuous plant, closely related to the next species *S. parviflorus*. It differs in having stellate (branched) hairs, often minute, on the leaves and sometimes on other parts as well. The two specimens from Swaziland, *Compton* 28664 and 28757, differ in having very dense stellate pubescence on the leaves, rhachis and calyx. This is the most northerly member of the genus, extending to the Lydenburg District.

2. **Syncolostemon parviflorus** *E. Mey. ex Benth.* in E. Mey. Comm. 231 (1837). Lectotype: near Umsikaba River, *Drège* (K, lecto.).

Shrublet 40–100 cm tall: stems few to several, slender, sparingly branched, usually arising annually from a woody rootstock, beset with tufts of leaves along the stem. *Leaves* subsessile, greenish or drying blackish, elliptic-obovate to lanceolate-elliptic or linear, 12–32 mm long, 2–12 mm broad, hispidulous to fairly densely appressed pubescent; apex rounded to acute, base cuneate; margin with occasional teeth near the apex on the larger leaves. *Inflorescence* a lax panicle, 12–25 cm long; rhachis hispidulous; bracts very small, ovate-lanceolate, 3–4 mm long, caducous; verticillasters 2-flowered, up to 2 cm apart. *Calyx* 5–6 mm long, campanulate, becoming subrotund often with a narrowed mouth, glandular-hispidulous, setose in the mouth; 5 teeth subequal, deltoid-subulate, 2 mm long. *Corolla* white or flushed with pink, rarely reddish-pink, 10–11 mm long; tube 6–7 mm long; upper lip small, erect; lower lip horizontal, 3 mm long. *Stamens* well exserted, upper pair attached near the base of the corolla tube, filaments with a few hairs.

Found from the Transkei to Barberton District in the Transvaal, in dense grassland, often among rocks, from near sea level in Natal in 1 800 m altitude in the Transvaal; flowering is mainly from January to March.

Two varieties are recognized; for key to varieties, see key to species.

(a) var. **parviflorus.**

S. parviflorus E. Mey. ex Benth. in E. Mey., Comm. 231 (1837); Drège, Zwei Doc. 151 (1843); Benth. in DC., Prodr. 12: 54 (1848): N.E. Br. in Fl. Cap. 5,1: 263 (1910); Compton, Fl. Swaz. 67 (1966); Ross, Fl. Natal 306 (1972) (as "parvifolius"). Lectotype: near Umsikaba River, *Drège* (K, holo.). —var. *dissitiflorus* (Benth.) N.E. Br., l.c. 264 (1910). *S. dissitiflorus* Benth. in DC., Prodr. 12: 54 (1848). Type: Port Natal, *Drège* (K, holo.). *S. lanceolatus* sensu Compton, Fl. Swaz. 67 (1966).

Leaves obovate to oblanceolate or elliptic, 12–26× 4–12 mm.

Distribution and ecology as for the species.

TRANSVAAL.—2531 (Komatipoort): between Barberton and Havelock (–CC), *Codd 9530; Hilliard & Burtt 3664.*

SWAZILAND.—2531 (Komatipoort): Piggs Peak (–CC), *Miller 5208; 7252.* 2631 (Mbabane): Forbes Reef (–AA), *Compton 25568; 31967;* Mbabane (–AC), *Codd 9510; Compton 24828; 25333; 25568; 26762; 27412; 30012; Schlieben 9573;* near Ukutu Forest (–AC), *Meeuse 10140.*

NATAL.—2730 (Vryheid): Utrecht, farm Naauwhoek (–CB), *Devenish 421.* 2731 (Louwsburg): 11 km W. of Ngome (–DC), *Codd 9476.* 2830 (Dundee): Kranskop (–DD), *Codd 9664.* 2831 (Nkandla): Nhlazatshe Mt. (–AA), *Hilliard & Burtt 3336.* 2930 (Pietermaritzburg): The Dargle (–AC), *Letty 265;* Umlazi (–CD), *Medley Wood 9652:* Inanda (–DB), *Strey 5168;* Krantzkloof (–DD), *Medley Wood 12015.* 2931 (Stanger): Groutville (–AD), *Moll 2564;* Durban (–CC), *Krauss 145.* 3030 (Port Shepstone): Mtwalume (–BC), *Hilliard & Burtt 3396; Nicholson 1135;* Ellermere (–BC), *Rudatis 1384;* Umgayi (–BC), *Ward 5492.* 3130 (Port Edward): near Port Edward (–AA), *Nicholson 992.*

CAPE.—3129 (Port St. Johns): near Lusikisiki (–BC), *Acocks 13248;* Magwa Falls (–BC), *Galpin 10961.*

Superficially resembles *S. concinnus* but hairs on leaves, rhachis etc. simple, not stellate. It grades into var. *lanceolatus,* listed below, but is distinguished by the broader leaves. In the great majority of specimens the leaves and stems are shortly hispid but in *Codd* 9576 and 9664 from central Natal they are distinctly villous.

(b) var. **lanceolatus** (*Guerke*) *Codd,* stat. nov.

Syncolostemon lanceolatus Guerke in Bot. Jahrb. 26: 77 (1898); N.E. Br. in Fl. Cap. 5,1: 262 (1910); Ross, Fl. Natal 306 (1972). Lectotype: East Griqualand, Mt. Malowe, *Tyson* in Herb. Norm. Austr. Afr. 1294 (K, lecto.; PRE). —var. *grandiflorus* N.E. Br., l.c. 262 (1910). Type: Natal, Enon, *Wood* 1882 (K, holo.). —var. *cooperi* (Briq.) N.E. Br., l.c. 262 (1910). *S. cooperi* Briq. in Bull Herb. Boiss. ser. 2,3: 979 (1903). Syntypes: Natal, *Cooper* 1151; 2895.

Leaves narrowly lanceolate to linear-lanceolate, often appressed-pubescent on both sides.

Recorded from East Griqualand and the central Natal midlands. N. E. Brown records *Cooper* 2895 as having been collected in the Orange Free State, but this seems unlikely and requires confirmation.

NATAL.—2930 (Pietermaritzburg): Greytown (–BA), *Medley Wood 9909; Galpin 14691;* near Harburg (–BC), *Marais 801;* New Hanover (–BC), *Wells 1882;* Noodsberg (–BD), *Moll 1488;* Pietermaritzburg (–CB), *Medley Wood 11121; Moss 7290;* Byrne (–CC), *Galpin 14691;* 25 km S.W. of Pietermaritzburg (–CD), *Dyer 4707;* Tala, 8 km S.W. of Thornville (–CD), *Moll & Morris 636.*

CAPE.—3029 (Kokstad): near Clydesdale (–BD), *Tyson 1762; 2770; Schlechter 6616.*

Grades into var. *parviflorus* and so varietal status appears appropriate. There is also an indication of introgression with *S. argenteus,* especially where the two tend to meet in Pietermaritzburg district. *S. argenteus* is a more robust species with a semi-coastal distribution and with markedly sericeous leaves.

3. **Syncolostemon argenteus** *N.E Br.* in Fl. Cap. 5,1: 263 (1910); Ross, Fl. Natal 306 (1972). Type: Natal, near Inyezaan, *Medley Wood* 3875 (K, holo.).

Herb or soft shrublet 60–130 cm tall; stems solitary or few from the base, slender, sparingly branched, sericeous, beset with tufts of leaves along the stem. *Leaves* subsessile, linear-lanceolate to elliptic-obovate, 12–25 mm long, 2–8 mm broad, densely sericeous, entire. *Inflorescence* a fairly lax panicle, 9–25 cm long; rhachis hispid to sericeous; bracts very small, 2,5–3 mm×1,5 mm, caducous; verticillasters 2-flowered, up to 1,5 cm apart. *Calyx* 5–6 mm long, campanulate, becoming subrotund, glandular-hispid, villous in the mouth; 5 teeth subequal, deltoid-subulate, 1,5 mm long. *Corolla* white to pinkish, 10–12 mm long; tube 8 mm long; upper lip small, erect; lower lip horizontal 3 mm long. *Stamens* well exserted, upper pair attached near the middle of the tube, filaments with a few hairs.

Found in dense grassland, often adjoining forest, in central Natal midlands and semi-coastal areas at altitudes of 300 to 1 000 m.

NATAL.—2831 (Nkandla): Nhlazatshe Mt. (–AA), *Hilliard & Burtt 3326;* Mpembeni, near Hlabisa (–BB), *Ward 3078;* Nkandla Forest (–CA), *Wells 2496; De Winter 8262;* Ntumeni (–CD), *Medley Wood 9361;* Eshowe (–CD), *Strey 4592;* Ngoya (–DC), *Medley Wood 10359;* Mtunzini (–DC), *Mogg 4343; 4422; 5808.* 2930 (Pietermaritzburg): 16 km S. of Kranskop (–BB), *Moll 1664;* near Pietermaritzburg (–CB), *Acocks 13449; Dohse & Lindahl 93;* Pateni Estates (–CC), *Nicholson* 535; Mid Illovo (–DC), *Sim 19863.* 3030 (Port Shepstone): Umgayi (–BC), *Ward 5495;* Isezela (–BC), *Strey* 6475.

Allied to *S. parviflorus* but is somewhat more robust with grey, silky-pubescent leaves. Some specimens with narrow leaves are not always distinguishable with certainty from *S. parviflorus* var. *lanceolatus,* especially in the Maritzburg area where the two overlap, suggesting introgression between the two.

4. **Syncolostemon comptonii** *Codd,* sp. nov., a *S. parvifloro* E. Mey. ex Benth. inflorescentia compacta, verticillastris 2–3 mm separatis differt.

Suffrutex 160 cm altus; caules graciles, erecti, breviter antrorsi-pilosi. *Folia* subsessilia, oblanceolata vel anguste elliptica, 2–3,5 cm longa, 3–6 mm lata, parce hispidula, copiose glanduloso-punctata, apice acuto, basi anguste cuneata, margine integro vel apice minute dentato. *Inflorescentia* compacta, paniculata, 5–8 cm longa, 2–2,5 cm lata; rhachis glanduloso-hispidula; bracteae chartaceae, late ovatae, 2,5× 2,5 mm, caducae, margine villoso; verticillastri 2-floribus, 2–3 mm separati; pedicelli 1 mm longi, villosi. *Calyx* per anthesin 6 mm longus, hispidus, glanduloso-punctatus, fauce setosa; dentes 5, subaequales, deltoideo-subulati, 1,5 mm longi. *Corolla* alba, 9–10 mm longa, glabra vel extus labiis puberulis; tubus 6 mm longus, apicem versus ampliatus, ore 2 mm lato; labium posticum 1 mm longum; anticum concavum, 3 mm longum. *Stamina* 9 mm exserta; postica circa medium tubi corollae inserta, filamentis libris basin versus parce pubescentibus; antica fauce corollae, inserta, filamentis ad apicem connatis. *Stylus* 8 mm exsertus, apice breviter bifido.

Type: Swaziland, 2631 (Mbabane), near Komati Bridge (–AA), *Compton 28839* (PRE, holo.).

Soft shrub 160 cm tall; stems slender, erect, shortly antrorse-pilose. *Leaves* subsessile, oblanceolate to

narrowly elliptic, 2–3,5 cm long, 3–6 mm broad, sparingly hispid, freely gland-dotted; apex acute, base narrowly cuneate; margin entire or with the apex minutely dentate. *Inflorescence* compact, paniculate, 5–8 cm long, 2–2,5 cm wide; rhachis glandular-hispidulous; bracts chartaceous, broadly ovate, 2,5×2,5 mm, caducous, margin villous; verticillasters 2-flowered, 2–3 mm apart; pedicels 1 mm long, villous. *Calyx* at flowering 6 mm long, hispid, gland-dotted, throat setose; teeth 5, subequal, deltoid-subulate, 1,5 mm long. *Corolla* white, 9–10 mm long, glabrous with the outer surface of the lobes puberulous; tube 6 mm long, widening towards the apex, mouth 2 mm wide; posticous lobe 1 mm long; anticous lobe concave, 3 mm long. *Stamens* exserted by 9 mm; posticous stamens inserted about the middle of the corolla tube, filaments free, sparingly pubescent towards the base; anticous stamens inserted at the throat of the corolla, filaments united to the apex. *Style* exserted by 8 mm, apex shortly bifid. FIG. 1.

FIG. 1.—*Syncolostemon comptonii* (*Compton* 28839, PRE, holotype)

Known only from the single gathering cited above, from Komati Bridge on the road from Mbabane to Piggs Peak.

Although closely related to *S. parviflorus* E. Mey. ex Benth., the specimen appears to be sufficiently distinct to be separated as a species. It is taller (160 cm), the inflorescence is compact with verticillasters 2–3 mm apart, and the bracts are chartaceous, broadly ovate, as broad as long, with a fringe of woolly hairs. In *S. parviflorus* the stems are 40–100 cm tall, the inflorescence is lax with verticillasters up to 2 cm apart, and the bracts are ovate-lanceolate, without a fringe of woolly hairs.

5. **Syncolostemon eriocephalus** *Verdoorn* in Kew Bull. 1937: 447 (1937). Type: Transvaal, Pilgrim's Rest, *Morisse* 51.

Shrub 60–200 cm tall, much branched; branches beset with closely placed tufts of leaves along the stem; branchlets densely villous; *Leaves* sessile, small, linear or narrowly oblong, 4–10 mm long, 1,5–3 mm broad, densely silvery sericeous on both surfaces; apex rounded, base shortly cuneate, margin entire. *Inflorescence* terminal or on short lateral shoots, paniculate or simple, dense, 2–5 cm long; rhachis densely villous; bracts ovate, acuminate, 4–6 mm long, densely villous, caducous; verticillasters 2-flowered, 1–2 mm apart; pedicels 1–1,5 mm long. *Calyx* 4 mm long, thickly covered with white to pale yellowish woolly hairs, villous in the mouth; 5 teeth subequal, deltoid-acuminate. *Corolla* cream, yellow or brownish-yellow, 7–9 mm long; tube 5–6 mm long; upper lip very small; lower lip concave, horizontal, 2 mm long. *Stamens* exserted by 3 mm; upper pair attached about the middle of the corolla tube, filaments free, pubescent near the base.

Found in shallow sandy soil among quartzite rocks along the Drakensberg escarpment from Pilgrim's Rest to near The Downs, at altitudes of 1 400 to 2 000 m. Collected in flower from July to February.

TRANSVAAL.—2430 (Pilgrim's Rest): 8 km S.E. of The Downs (–AA), *McNeil s.n.;* Mariepskop (–DB), *Keet 1111; Van der Schijff 4838; 5587; 6760; 7328; Killick & Strey 2378;* farm Belvedere (–DB), *Codd 10314;* Lisbon River (–DD), *Liebenberg 3551; Galpin 14601; Jordaan 98;* 18 km N. of Graskop, *Codd & de Winter 3349;* near Pilgrim's Rest (–DD), *Morisse 51; Rauh & Schlieben 9661.*

A very distinctive species because of its shrubby habit, small grey leaves, dense small inflorescences nearly obscured by woolly hairs and small cream to yellowish-brown flowers.

6. **Syncolostemon densiflorus** *Benth.* in E. Mey., Comm. 230 (1837); Drège, Zwei Doc. 144, 149 (1843); Hochst. in Flora 67 (1845): Benth. in DC., Prodr. 12: 54 (1848); N.E. Br. in Fl. Cap. 5,1: 265 (1910); Codd in Flow. Pl. Afr. 32: t. 1252 (1957); Ross, Fl. Natal 306 (1972). Lectotype: Cape, between Umzimkulu River and Magwa Falls, *Drège* 4744 c (K, lecto.).

S. ramulosus E. Mey. ex Benth. in E. Mey., Comm. 231 (1837); Drège, Zwei Doc. 148, 152 (1843); Benth. in DC., Prodr. 12: 54 (1848); N.E. Br. in Fl. Cap. 5,1: 264 (1910). Syntypes: near Morley, *Drège;* near Umsikaba River, *Drège.*

Shrub 1–2,2 m tall, sparingly branched; branches shortly white tomentose. *Leaves* petiolate; petiole 1–6 mm long; blade ovate or broadly elliptic to orbicular, 5–15 mm long, 4–10 mm broad, scabrid-hispidulous to subglabrous, gland-dotted; apex obtuse to acute, base cuneate; margin subentire or toothed above the middle. *Inflorescence* a dense terminal panicle 5–16 cm long, 4–6,5 cm in diameter; rhachis finely appressed tomentulose; bracts caducous, broadly ovate to orbicular, 3–5 × 3–4 mm, cuspidate, margin ciliate; verticillasters 4–6-flowered, 2–3 mm apart, pedicels 1 mm long. *Calyx* 10 mm long, cylindrical, sparingly hispidulous, not villous in the mouth; 5 teeth subequal, deltoid-subulate, 2,5–5 mm long, the uppermost tooth often slightly shorter than the rest, suberect. *Corolla* crimson, pink or rarely whitish, 18–23 mm long; tube 15–21 mm long, gradually widening to 5–6 mm wide at the mouth, glabrous, with lips finely puberulous; upper lip short; lower lip concave, 3–4 mm long, usually deflexed at maturity. *Stamens* exserted by 10–12 mm, often coiled; upper pair inserted below the middle of the corolla tube, filaments minutely puberulous near the base.

Distributed from Keiskamma Hoek in the eastern Cape Province to about Nongoma in Natal, in dense grassland often adjoining forest, at altitudes up to 1 000 m. It has been collected in flower between November and July, but the main flowering time is from February to May.

NATAL.—2731 (Louwsburg): near Nongoma (–DC), *Ward 4066.* 2831 (Nkandla): Nkandla Forest (–CA), *Edwards 1397;* between Nkandla and Eshowe (–CC), *Strey 4161;* Eshowe (–CD) *Galpin 13553; Rogers 24889; McClean 982; Johnson 1428;* Umlalazi (–DD), *Wylie sub Wood 10340;* Mtunzini (–DD), *Huntley 199.* 2930 (Pietermaritzburg): Pietermaritzburg (–CB), *Sidey 3541;* between Hella-Hella and Richmond (–CC), *Edwards 3112;* near Richmond (–CD), *Acocks 13778; Bayliss 2195;* Ismont (–DC), *Strey 8369.* 2931 (Stanger): Doornkop Estates (–AA), *Pentz & Acocks 10426;* St. Philomina Mission (–AA), *Moll 1619.* 3029 (Kokstad): Harding (–DB), *Bayliss 2227.* 3030 (Port Shepstone): Dumisa (–AD), *Rudatis 232;* Umgayi (–AD), *Ward 5487;* near Port Shepstone (–CB), *Dimmock-Brown 391; Letty 237.* 3130 (Port Edward): Port Edward (–AA), *Strey 6407.*

CAPE.—3929 (Kokstad): Weza (–DA), *Strey 11141;* Clydesdale (–BD), *Tyson 1761; 2545;* S. of Umzimkulu (–BD), *Acocks 12250; Story 659; Codd 8565;* Tabankulu Mt. (–CB), *Hilliard & Burtt 3519.* 3129 (Port St. Johns): near Lusikisiki (–BC), *Galpin s.n.; Comins 1920;* Port. St. Johns (–DA), *Bolus 10256; Hilliard & Burtt 3531.* 3130 (Port Edward): Bizana District (–AA), *Codd 9340.* 3227 (Stutterheim): Keiskamma Hoek (–CA), *Killick 885; Wells 3096;* Kologha Forest (–CB), *Theron 2139;* Stutterheim (–CB), *Wehrmeyer 10;* Pirie (–CC), *Sim 19586; Galpin 3260; Taylor 1756;* near Komga (–DB), *Flanagan 1890; Codd 9241;* Nahoon Mouth (–DD), *Galpin 7743.* 3228 (Butterworth): near Manubi (–BC), *Wells 3609; Plowes 2418; Mauve 4879;* Kentani (–CB), *Pegler 386.* 3327 (Peddie): East London (–BB), *Comins 1563.*

The species may be distinguished by its subulate calyx teeth 3–5 mm long, the upper tooth being often shorter than the lower four. *S. rotundifolius* E. Mey ex Benth. has shorter, more deltoid calyx teeth, and the verticillasters are 2-flowered.

The type of *S. ramulosus* E. Mey. ex Benth. has teeth somewhat intermediate between *S. densiflorus* and *S. rodundifolius* and, as it has 4–6-flowered verticillasters, it is included in the former. No modern material exactly matching it has been seen.

With its dense inflorescences of pink to reddish flowers, *S. densiflorus* makes an attractive garden subject but attempts to cultivate it have not been successful in the Transvaal.

7. **Syncolostemon rotundifolius** *E. Mey. ex Benth.* in E. Mey., Comm. 231 (1837); Drège, Zwei Doc. 153, 155 (1843); Benth. in DC., Prodr. 12: 53 (1848); N.E. Br. in Fl. Cap. 5,1: 265 (1910); Ross, Fl. Natal 306 (1972). Lectotype: Cape, between Umtentu and Umsikaba Rivers, *Drège* 4743a (K, lecto.; PRE).

Soft shrub 60 cm–2 m tall, sparingly branched; branches densely whitish appressed tomentulose. *Leaves* petiolate; petiole 2–5 mm long; blade broadly elliptic or broadly obovate to subrotund, 10–25 mm long, 6–18 mm broad, shortly tomentulose and usually gland-dotted; apex rounded, base cuneate to obtuse; margin entire or faintly crenate-dentate above

the middle. *Inflorescence* a fairly dense panicle, rarely simple, 5–8 cm long, 5–6 cm in diameter; rhachis densely appressed tomentulose; bracts caducous, concave, broadly ovate, apiculate, 3–5 mm long, 3–4 mm broad, finely tomentulose; verticillasters 2-flowered, 3–5 mm apart, pedicels 1 mm long. *Calyx* 9–10 mm long, cylindrical, finely tomentulose, not villous in the mouth; 5 teeth subequal, narrowly deltoid, 1,5–2 mm long, the uppermost tooth often slightly shorter than the rest, suberect. *Corolla* mauve, pink or magenta-pink, 23–27 mm long; tube 20–23 mm long, gradually widening to 5–6 mm at the mouth, glabrous; upper lip short; lower lip concave, 3–5 mm long, usually reflexed at maturity. *Stamens* exserted by 12–15 mm, often coiled; upper pair inserted below the middle of the corolla tube, filaments pubescent at the base.

Found in grassland and scrub on rocky slopes from about Port St. Johns to Port Shepstone, usually not far from the sea at altitudes up to 400 m. Main flowering season between December and May.

NATAL.—3030 (Port Shepstone): near Port Shepstone (–CB), *Strey 5798; Sidey 3542;* Oribi Gorge (–CB), *Burtt 2994;* near Paddock (–CC), *McClean 287; Hilliard 3975, Sidey 3870;* Uvongo (–CD), *Whellen 1058;* Munster (–CD), *Gemmell s.n.;* Shelly Beach (–CD), *Strey 8438.* 3130 (Port Edward): near Port Edward (–AA), *Pole Evans s.n.; Acocks 13331; Bayliss 551;* Beacon Hill (–AA), *Strey 6526; 6885.*

CAPE.—3129 (Port St. Johns): Egossa (–BC), *Sim 2521;* Magwa Falls (–BC), *Codd 9321;* 20 km S. of Lusikisiki (–BC), *Lewis sub SAM 68185;* between Umzimkulu and Umtentu Rivers (–BD?), *Drège 4743a;* Mkambati (–BD), *Strey 8679;* Port St. Johns (–DA), *Mogg s.n.* 3130 (Port Edward): near Umtamvuna Mouth (–AA), *Pole Evans 4758; Acocks 10918;* Umtamvuna Waterfall (–AA), *Strey 4473;* Umzamba River mouth (–AA), *Lewis sub SAM 68184;* Mtentu Location (–AA), *Strey 8638.*

Related to *S. densiflorus* Benth., but the calyx teeth are shorter and more deltoid, the verticillasters are 2-flowered, and the stems, leaves and calyx have a short, soft appressed tomentum, as distinct from the scabrid, hispidulous pubescence of *S. densiflorus.*

There is also a close resemblance with *S. macranthus* (Guerke) Ashby of the Natal Drakensberg area, but the latter has usually 4–6-flowered verticillasters, while the upper calyx tooth is obovate-elliptic and distinctly larger than the other four. The leaves of *S. macranthus* also tend to be larger and more acute at the apex, with a short scabrid pubescence.

8. **Syncolostemon macranthus** (*Guerke*) *Ashby* in J. Bot. Lond. 73: 357 (1935); Ross, Fl. Natal 306 (1972). Lectotype: Natal, Van Reenens Pass, *Medley Wood* 3573, in NH 949 (K, lecto.).

Orthosiphon macranthus Guerke in Bot. Jahrb. 26: 84 (1898); N.E. Br. in Fl. Cap. 5,1: 242 (1910).

Hemizygia cooperi Briq. in Bull. Herb. Boiss. ser. 2,3: 992 (1903). Type: "Orange Free State", *Cooper* 1015.

Shrub 1–2,5 m tall, much branched; branches finely hispidulous. *Leaves* petiolate; petiole 2–8 mm long; blade ovate to ovate-lanceolate, 2–4,5 cm long, 1,2–2 cm broad, scabrid-hispidulous, gland-dotted; apex acute to obtuse, base obtuse to cuneate; margin obscurely crenate-dentate. *Inflorescence* simple or usually branched, 8–18 cm long, fairly dense to lax; rhachis glandular-puberulous; bracts caducous, broadly ovate, acute, 8–10×5–6 mm, puberulous; verticillasters 4–6 (rarely 2)-flowered, 4–18 mm apart; pedicels 1 mm long. *Calyx* 9–10 mm long, cylindrical, densely glandular-puberulous, not villous in the mouth; upper tooth the largest, obovate-elliptic, 2–2,5 mm long, not decurrent on the tube; lower 4 teeth narrowly lanceolate, acuminate to subulate, 1,5–2 mm long. *Corolla* pink to pale mauve or purple, 25–30 mm long; tube 20–25 mm long, gradually widening to 5–6 mm wide at the mouth, pubescent; upper lip short; lower lip concave, 4–5 mm long, usually deflexed at maturity. *Stamens* exserted by 10–12 mm, often coiled; upper pair inserted about 10 mm from the mouth of the tube, filaments glabrous.

Recorded from a restricted area of the Drakensberg between Cathedral Peak and Van Reenens Pass, where it is locally frequent along streams and forest margins at altitudes of 1 600–2 200 m. Although *Cooper* 1015 (K) is said to have been collected in the "Orange River Colony", this requires confirmation as all modern gatherings are from the Natal side of the border. Flowering mainly from January to May.

NATAL.—2828 (Bethlehem): Royal Natal National Park (–DB), *Trauseld 255.* 2829 (Harrismith): Van Reenens Pass (–AD), *Medley Wood 12106; Schlechter 6912; Phillips s.n.; Taylor 2013; Codd 8516;* Oliviershoek Pass (–CA), *Schweickerdt sub TRV 31653; Acocks & Hafstrom 1340; Acocks 11207; Bruce 405; Repton 1019; Codd 10533; Strey 9505;* Umlambonja Valley (–CC), *Marriot s.n.;* Saddle area (–CC), *Edwards 2130;* Cathedral Peak Forest Station (–CC), *Killick 1074; 1223; 1251; White 10586.*

Differs from *S. rotundifolius* in the calyx having the upper tooth larger than the lower four, the larger, more acute leaves and the fine scabrid pubescence of stems and leaves.

S. latidens (N.E. Br.) Codd differs from it in the leaves having a fine appressed tomentum and the calyx hispid with the lower four calyx teeth deltoid-lanceolate, not acuminate as in *S. macranthus.* The two are closely related but the distribution is different, *S. latidens* occurring in a restricted area near Kranskop.

Briquet in Bull. Herb. Boiss. ser. 2,3: 993 (1903) considered that *H. cooperi* Briq. occupied an isolated position in *Hemizygia* and made it the type of a new section, Sect. *Cooperozygia* Briq. *H. cooperi* is conspecific with *S. macranthus,* which is so obviously allied to *S. rotundifolius* that Ashby is considered justified in placing it in *Syncolostemon.*

9. **Syncolostemon latidens** (*N.E. Br.*) *Codd,* comb. nov.

Orthosiphon latidens N.E. Br. in Fl. Cap. 5,1: 242 (1910). Type: Natal, Umvoti District, *Gerrard* 1233 (K, holo.).

Hemizygia latidens (N.E. Br.) Ashby in J. Bot. Lond. 73: 348 (1935); Ross, Fl. Natal 306 (1972).

Soft shrub 1–1,5 m tall, branching; branches hispidulous. *Leaves* petiolate; petiole 3–10 mm long, tomentulose; blade ovate to broadly ovate, 3–5 cm long, 2–3,5 cm broad, drying dark brown, tomentulose on both surfaces, especially on the nerves; apex obtuse to acute, base obtuse to truncate; margin crenate-dentate. *Inflorescence* a fairly dense terminal panicle, 10–20 cm long; rhachis hispid; bracts caducous, broadly ovate, acute, 5 mm long, sparingly pubescent; verticillasters 6-flowered, 4–8 mm apart; pedicels 1 mm long, hispid. *Calyx* 10–11 mm long, cylindrical, glandular-hispid, purple, not villous in the mouth; upper tooth the largest, broadly obovate, 3–3,5 mm long, rounded at the apex, not decurrent; lower 4 teeth lanceolate-deltoid, flat, tapering gradually, 2,5 mm long. *Corolla* mauve-pink to deep pink, 22–25 mm long; tube 20–22 mm long, widening beyond the middle to 5–6 mm wide at the mouth, finely pubescent, particularly on the lobes; upper lip short; lower lip concave 3–5 mm long, often deflexed at maturity. *Stamens* exserted by 10–12 mm; upper pair inserted below the middle of the corolla tube, puberulous near the base.

Known only from a restricted area near Kranskop in central Natal, growing in and near the forest margin. Flowering is mainly from March to May.

NAT AL.—Grid uncertain: Umvoti District, *Gerrard 1233* (K); " Greytown", *Wylie s.n.;* Kranskop District, Olifants Hoek, *Strey 4248*. 2930 (Pietermaritzburg): S.E. of Kranskop (–BB), *Dyer 4353; Codd 10193.*

Closely related to *S. macranthus* but differs in the stronger pubescence, the broader lower calyx teeth and the somewhat shorter corolla. The leaves tend to dry a dark brownish colour, which is not the case with *S. macranthus*. These two species are somewhat intermediate between *Syncolostemon* and *Hemizygia* but the former genus is preferred because the upper calyx tooth, although broad, is not decurrent on the tube and the lower calyx teeth are not markedly subulate or spine-like. They are also more closely allied to *S. rotundifolius* and *S. densiflorus* than they are to any *Hemizygia* species.

The four species are very showy and should make good horticultural subjects. Unfortunately initial attempts to cultivate them have not been successful but they are worth persisting with until the difficulties are overcome.

EXCLUDED SPECIES

Syncolostemon macrophyllus Guerke in Bull. Herb. Boiss. 6: 555 (1898) is placed as *Hemizygia* **macrophyllus** (*Guerke*) *Codd*, comb. nov. (see p. 3).

UITTREKSEL

Die genus Syncolostemon *E. Mey. ex Benth. word hersien en sy verwantskap met* Hemizygia (*Benth.*) *Briq. word bespreek. 'n Nuwe species,* S. **comptonii** *Codd word beskryf en die volgende nuwe kombinasies word gemaak;* S. parviflorus *var.* **lanceolatus** (*Guerke*) *Codd* (=S. lanceolatus *Guerke*) *en* S. **latidens** (*N.E. Br.*) *Codd* (=Orthosiphon latidens *N.E. Br.*).

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