

# A synopsis of *Argyrobium* (tribe Genisteae, Papilionoideae) in South Africa

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**A synopsis and key to South African species of *Argyrobium* Eckl. & Zeyh. are presented. South Africa constitutes the centre of diversity for the genus and 47**

**species are recognised. Full synonymy and typification of the South African species are provided, with diagnostic characters, distribution maps and illustrations.**

## Introduction

*Argyrobium* is distributed from the Western Cape, through tropical and northern Africa into the Mediterranean, and west into the highlands of India. Polhill (1968) published a revision of the genus in tropical Africa. Harvey's flora treatment of South African species (1862) recognised 35 species, and Nkonki and Swelankomo (2003) recorded 55 species for southern Africa.

*Argyrobium*, *Polhillia*, *Melolobium* and *Dichilus* share bilabiate calyces in which the lower lip comprises three lobes and the upper lip two lobes. Polhill (1976, 1981) expressed hesitancy at the placement of *Argyrobium*. In addition, these genera share chemical characters with the Genisteae (Van Wyk and Schutte 1989, Schutte and Van Wyk 1990, Van Wyk and Schutte 1995) rather than the Crotalariaeae. This data is corroborated by a number of molecular phylogenies which suggest the early divergence of *Argyrobium* from a common ancestor with the remaining Genisteae (Käss and Wink 1997, Crisp *et al.* 2000). The exact tribal placement of the genus remains controversial. Käss and Wink (1997) indicated the polyphyletic nature of *Argyrobium*, revealing the closer alliance of the Mediterranean species *A. zanonii* (Turra) P.W. Ball with the Genisteae, and suggest a genetic alliance of the remaining species with the Crotalariaeae. Ainouche *et al.* (2003) provided an overview of the literature and suggested that the genus is probably best placed within the Genisteae.

*Argyrobium* is distinguished from *Melolobium*, *Dichilus* and *Polhillia* by its broad-based (sometimes amplexicaul) stipules (not auriculate as in *Melolobium*, inconspicuous as in *Dichilus* or adnate to the petioles as in *Polhillia*). Its wing and keel petals are of similar length to the lower calyx lip and shorter than the standard (unlike *Lebeckia* and *Dichilus*). Bracteoles are present in all species of *Argyrobium*, although they are often setaceous (usually absent in *Polhillia*). The occurrence of pseudopeduncles is limited to *Polhillia* and a few species of *Argyrobium* (notably *A. argenteum*, *A. filiforme* and *A. aciculare*). The fusion of the stamens

into a closed sheath is not consistent throughout the genus and is therefore not a reliable diagnostic character. Because of space constraints the selected specimens have been kept to a minimum, except in species which are rare and require conservation assessment.

*Argyrobium tenue* Walp. is excluded from this study because insufficient material was available upon which to make taxonomic studies.

## Taxonomic Account

***Argyrobium* Eckl. & Zeyh.**, Enumeratio plantarum africanae australis extratropicae 2: 184 (Jan. 1836); Harv.: 67 (1862); Polhill: 145 (1968); Polhill: 332 (1976); Van Wyk & Schutte: 397 (1989); Van Wyk: 282 (1991); Van Wyk & Schutte (1995), nom. cons. Type: *Argyrobium argenteum* (N.J. Jacq.) Eckl. & Zeyh. (*Crotalaria argentea* Jacq.) (typ. cons.).

*Lotophyllus* Link, Handbuch zur Erkennung der nutzbarsten und am häufigsten vorkommenden Gewächse II: 156 (1831) nom. rej. Type: *Lotophyllus argenteus* Link [now *Argyrobium linnaeanum* Walp.].

*Chasmone* E. Mey. Commentariorum de plantis africanae australioris 1(1): 71 (5 Feb.–5 Jun. 1836). Lectotype species (selected here): *Chasmone argentea* (Jacq.) E. Mey. [now *Argyrobium argenteum* (Jacq.) Eckl. & Zeyh.].

*Gamochilum* Walp. in Linnaea 13: 509 (1839). Lectotype species (selected here): *Gamochilum sericeum* (E. Mey.) Walp. [now *Argyrobium trifoliatum* (Thunb.) Druce].

*Trichasma* Walp. in Linnaea 13: 510 (1839). Lectotype species (selected here): *Trichasma ciliatum* (Sprgl.) Walp. [now *Argyrobium tomentosum* (Andr.) Druce].

Perennial herbs, suffrutices or shrubs. Leaves alternate, digitately trifoliate, petiolate or sessile; stipules 2, free or variously connate, subulate to foliaceous, bases often amplexicaul. Inflorescence solitary-flowered, racemose or pseudo-umbellate, usually terminal or leaf-opposed; bracts

cymbiform to lanceolate, variously attached to the peduncle or pedicels; bracteoles 2, setaceous to lanceolate, variously attached to the pedicels or calyces. *Flowers* often dimorphic. *Calyx* bilabiate, upper lip usually 2-lobed, lower lip usually 3-lobed. *Corolla* yellow becoming russet or russet and yellow; standard ovate, obovate or suborbicular, adaxial surface variously sericeous, base cordate to cuneate, claw short; wings oblong to obovate, sometimes distally sericeous, lunate-lamellate sculpturing usually present; keel cymbiform, apex blunt, abaxial suture and distal lamina sometimes sparsely sericeous. *Stamens* 10, monadelphous or pseudodiadelphous, sheath often deeply split adaxially; anthers dimorphic, alternating, 5 large, oblong and basifixed, 5 small, ovate and dorsifixed. *Ovary* subsessile, narrowly oblong usually densely sericeous, ovules numerous; style arcuate, glabrous; stigma capitate. *Fruit* subsessile, densely sericeous, oblong or linear, flat, subtorulose or turgid, many seeded. *Seed* irregular, suborbicular or reniform, 1–3mm in diameter, hilar rim raised or flat, hilar tongue usually present, rarely arillate (*A. ascendens*), testa smooth.

### Key to South African species

1. Stipules fused for more than half their length.....2  
Stipules free or fused for less than half their length. .... 5
2. Bracts as long as, or longer than, the calyx..... 3  
Bracts shorter than the calyx..... 4
3. Stipules 4-lobed.....12 **A. crinitum**  
Stipules 2-lobed..... 11 **A. amplexicaule**
4. Inflorescence pedunculate.....35 **A. campicola**  
Inflorescence subsessile.....26 **A. candicans**
5. Flowers produced *en masse*; inflorescences terminal and axillary, flowers never dimorphic.....6  
Flowers seldom produced *en masse*; inflorescences mostly leaf opposed, flowers dimorphic (reduced calyces common on fruits produced early in the season)..... 26
6. Aerial stems annual, sparingly branched below..... 7  
Aerial stems perennial, somewhat woody, branched.... 15
7. Leaves dry silver or brown, monomorphic..... 8  
Leaves dry black, strongly dimorphic..... 12
8. Leaves sparsely hairy, green..... 9  
Leaves densely hairy, silver.....4 **A. wilmsii**
9. Standard ovate to suborbicular..... 10  
Standard obovate..... 1 **A. frutescens**
10. Calyx lobes prominent.....11  
Calyx lobes vestigial..... 5 **A. megarhizum**
11. Leaflets hairy above..... 3 **A. muddii**  
Leaflets glabrous above..... 2 **A. transvaalense**
12. Plants tall (>0.6m), virgate, well branched above .....44 **A. longifolium**  
Plants short (<0.4m excluding the inflorescence), often basally branched.....13
13. Standard obovate to oblanceolate, plain yellow..... 47 **A. baptisioides**  
Standard suborbicular, yellow with red veins..... 14
14. Leaflets 30–70 x 15–20mm..... 45 **A. speciosum**  
Leaflets 50–170 x 20–80mm..... 46 **A. robustum**
15. Shrubs..... 16  
Herbs..... 24
16. Leaves dimorphic.....17  
Leaves monomorphic.....18
17. Upper leaflets small, 5–9 (–17) x 2–4mm, on brachyblasts (reduced lateral branches).....7 **A. polyphyllum**  
Upper leaflets large, 10–24 x 8–14mm, not borne on brachyblasts..... 6 **A. trifoliatum**
18. Leaflets with projecting, reticulate, abaxial veins ..... 10 **A. parviflorum**  
Leaflets without projecting, reticulate, abaxial veins.... 19
19. Petioles longer than their terminal leaflets .....  
..... 15 **A. petiolare**  
Petioles shorter than their terminal leaflets.....20
20. Stipules connate in their basal third..... 21 **A. barbatum**  
Stipules free..... 21
21. Leaflets strongly conduplicate, crescent-shaped ..... 20 **A. pachyphyllum**  
Leaflets not strongly conduplicate or crescent-shaped....22
22. Leaflets densely hairy, coriaceous.....9 **A. incanum**  
Leaflets sparsely hairy, glabrous adaxially..... 23
23. Slender, well branched shrubs; leaflets less than 12mm long; inflorescences less than 5-flowered ..... 8 **A. crassifolium**  
Sparingly branched shrubs; leaflets longer than 16mm; inflorescences many-flowered..... 6 **A. trifoliatum**
24. Leaf margins revolute; petioles shorter than the terminal leaflet; fruits evenly compressed...14 **A. splendens**  
Leaf margins flat; petioles longer than the terminal leaflet; fruits torulose.....25
25. Plants robust; flowers large (calyx longer than 12mm); in the Caledon area..... 13a **A. lunare** subsp. **lunare**  
Plants slender; flowers small to medium (calyx 4–11mm long); widespread in the Western Cape ..... 13b **A. lunare** subsp. **sericeum**
26. Leaves monomorphic or slightly dimorphic.....27  
Leaves strongly dimorphic, upper leaflets filiform..... 47
27. Shrubs or suffrutices..... 28  
Herbs.....31
28. Stipules connate in the basal third..... 21 **A. barbatum**  
Stipules free..... 29
29. Leaflets strongly conduplicate, crescent-shaped; petioles shorter than 5mm..... 20 **A. pachyphyllum**  
Leaflets flat or weakly conduplicate; petioles longer than 5mm..... 30
30. Mesic sub-shrubs; leaflets flat; young stems green ..... 16 **A. tomentosum**  
Xeric shrubs; leaves weakly conduplicate; young stems densely sericeous, white..... 19 **A. argenteum**
31. Chasmogamous flowers sessile..... 44  
Chasmogamous flowers pedunculate.....32
32. Abaxial leaflet veins prominent..... 17 **A. molle**  
Abaxial leaflet veins obscure..... 33
33. Leaflets discoloured.....18 **A. pumilum**  
Leaflets concolorous.....34
34. Stipules as large as or larger than the leaflets .....27 **A. stipulaceum**  
Stipules smaller than the leaflets..... 35
35. Leaflets conduplicate; petiolules reflexed.....  
..... 30 **A. sericosemium**  
Petiolules not reflexed.....36
36. Seeds arillate..... 32 **A. ascendens**  
Seeds with asymmetrical hilar tongues.....37

- 37. Wing petals without sculpturing.....33 **A. rotundifolium**  
Wing petals sculptured.....38
- 38. Petioles of upper leaves shorter than stipules..... 39  
Petioles of upper leaves longer than stipules..... 42
- 39. Young flowers russet and yellow.....42 **A. tuberosum**  
Flowers yellow (sometimes becoming russet with age)... 40
- 40. Leaflets linear, less than 2mm broad.... 36 **A. aciculare**  
Leaflets ovate to elliptical, broader than 2mm..... 41
- 41. Inflorescences 1–2-flowered, leaf-opposed.....  
.....34 **A. humile**  
Inflorescence many-flowered, terminal .....  
.....29 **A. marginatum**
- 42. Stipules shorter than 6mm .....31 **A. rupestre** subsp. **rupestre**  
Stipules longer than 6mm..... 43
- 43. Bracts shorter than 4mm; bracteoles minute.....  
.....28 **A. lotoides**  
Bracts longer than 6mm; bracteoles 4–7mm long  
.....29 **A. marginatum**
- 44. Flowers solitary; legume compressed.....45  
Flowers seldom solitary; legume turgid..25 **A. velutinum**
- 45. Leaflets oblong to oblanceolate, glabrous adaxially...46  
Leaflets obovate, densely sericeous..... 22 **A. collinum**
- 46. Stamens pseudodiadelphous..... 39 **A. nigrescens**  
Stamens monadelphous..... 23 **A. harmsianum**
- 47. Flowers russet and yellow.....51  
Flowers uniformly yellow (aging to red in some species)  
.....48
- 48. Chasmogamous inflorescences sessile.....49  
Chasmogamous inflorescences pedunculate..... 52
- 49. Chasmogamous flowers solitary..... 50  
Chasmogamous flowers in fascicles.....37 **A. filiforme**
- 50. Upper leaves with reduced petioles...38 **A. harveyanum**  
Upper leaves with prominent petioles..... 40 **A. rarum**
- 51. Flowers large; lower calyx lip 15–17mm long .....  
.....43 **A. angustissimum**  
Flowers small; lower calyx lip less than 13mm long .....  
.....42 **A. tuberosum**
- 52. Plants hairy; upper leaflets with prominent petioles.....  
.....24 **A. pauciflorum**  
Plants glabrescent; upper leaflets with short petioles or  
subsessile.....41 **A. pseudotuberosum**

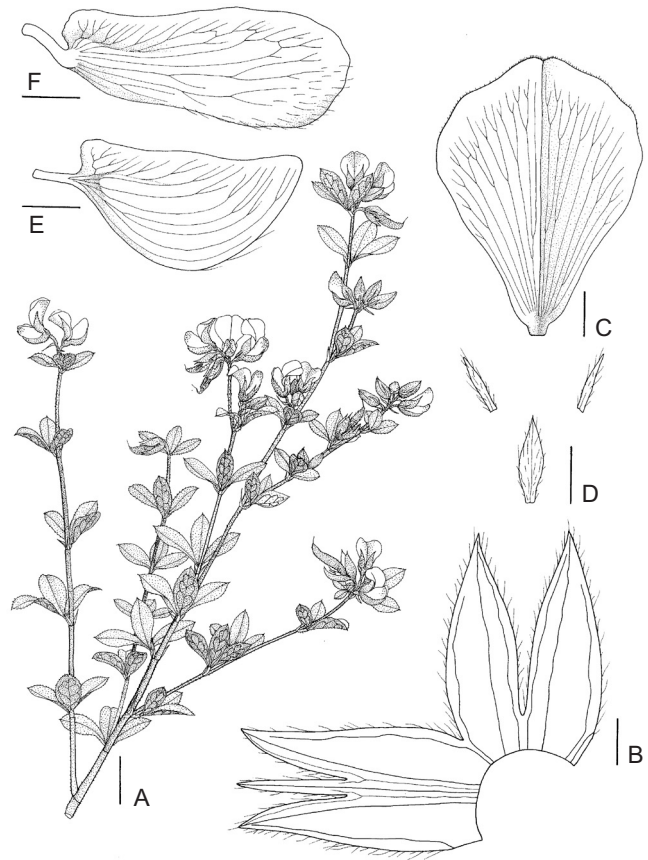
**Descriptions of taxa**

1. **Argyrobium frutescens** Burt Davy, A Manual of the Flowering Plants and Ferns of the Transvaal with Swaziland, South Africa: 393 (1926). Type: Mpumalanga, Barberton, Rogers 23984 (K!, lecto. selected here; J!).

This 0.5–1.3m sub-shrub (Figure 1) is limited to the Barberton area (Figure 2) in North-Eastern Mountain Sourveld and Lowveld Sour Bushveld. It is closely allied to *A. fischeri* which occupies similar habitats in tropical Africa but *A. frutescens* is distinguished by its short petioles, 2–5mm long. Plants are common in scrubby vegetation, often along streams and forest margins.

*Selected specimens*

- 2530 (Lydenburg): Kaapsche Hoop, (–DB), Van Jaarsveld 1105 (MO, PRE).
- 2531 (Komatiport): Agnes Mine, Barberton, (–CC),



**Figure 1:** *A. frutescens*. (A) flowering branch (bar = 20mm); (B) calyx (bar = 2mm); (C) standard (bar = 2mm); (D) bract and bracteoles (bar = 2mm); (E) keel (bar = 2mm); (F) wing (bar = 2mm). Voucher: Edwards 1116



**Figure 2:** Known distribution of *A. frutescens*

- Buitendag* 479 (MO, NBG, PRE); Saddleback Mts above Barberton, (–CC), Edwards 1116 (NU).
- 2631 (Mbabane): Mkomozana River, (–AB), Compton 31989 (NBG, PRE).

2. *Argyrobium transvaalense* Schinz in Bulletin de L'Herbier Boissier 7: 33 (1899); Burt Davy: 392 (1926). Type: Limpopo Province, Makapansberge (Streypoort), *Rehmann 5553* (B†, BM!, lecto. selected here), Houtbosch, *Rehmann 6264 & 6263* (B†, syn.).

*Argyrobium lancifolium* Burt Davy, A Manual of the Flowering Plants and Ferns of the Transvaal with Swaziland, South Africa: 392 (1926), *syn. nov.* Type: Mpumalanga, Lydenburg, between Pilgrim's Rest and Sabie, *Rogers 18237* (K!, syn.), *Rogers 14351* (PRE!, syn.), *Rogers 23225* (BM!, lecto. selected here; J!, PRE!; isolecto.).

*A. transvaalense* is closely allied to *A. muddii* but is a taller, virgate species with smaller flowers (Figure 3). *A. muddii* forms many-stemmed clumps seldom exceeding 0.4m in height. Differences are discussed under *A. muddii*.

*A. lancifolium* is reduced to synonymy with *A. transvaalense* because variation in leaflet shape, vestiture and flower size, which was considered diagnostic by Burt Davy, forms a continuum.

*A. transvaalense* has a fairly wide distribution (Figure 4), mainly in Sour Bushveld, North-Eastern Mountain Sourveld and Lowveld Sour Bushveld.

#### Selected specimens

- 2230 (Messina): Tshififi, (–DC), *Mugwedi 1536* (J, PRE).
- 2329 (Polokwane): Louis Trichardt, (–BB), *Rogers 21650* (SAM); Polokwane, (–CD), *Prosser 1822* (J, PRE); *Schlechter 4457* (B, BR, C, E, PRE).
- 2330 (Tzaneen): Elim, Soutpansberg, (–AA), *Schlechter 4822* (B, BR, E, GRA).
- 2430 (Pilgrim's Rest): The Downs, (–AA), *Rogers 22069* (PRE); 40km west of Ofcolaco, (–AA), *Edwards 3354* (MO, PRE); Pilgrim's Rest, (–DD), *Edwards 568, 573 & 652* (NU).
- 2531 (Komatiipoort): Hazyview, (–AA), *Nel 244* (MO, NBG, PRE); *Edwards 672* (NU).

3. *Argyrobium muddii* Dümmer in Kew Bulletin 1912: 271 (1912); Burt Davy: 392 (1926). Type: Mpumalanga, summit of Mt MacMac, *Mudd s.n.* (K!, holo.).

This species is occasionally confused with *A. transvaalense*. It is distinguished by its shorter stature, many-stemmed clumps, the occurrence of hairs on the adaxial leaflet surfaces, by its prominent petioles and stipules and by its larger flowers (Figure 5). The absence of petal sculpturing is not reliably diagnostic because the character is unstable within *A. transvaalense*.

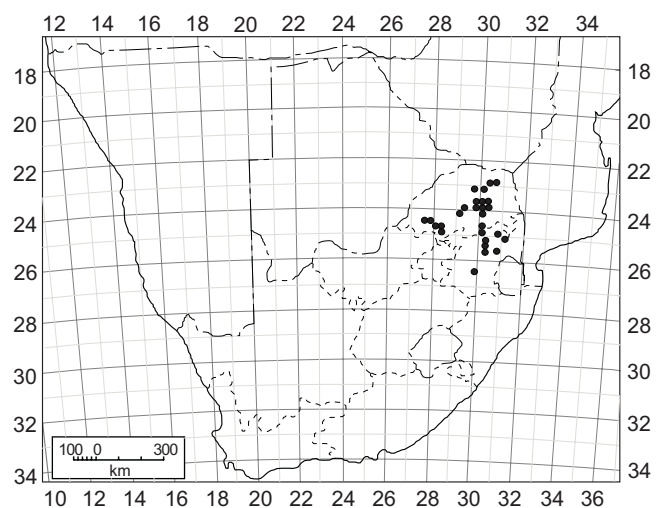
A nexus of similar species exists in Mpumalanga, including: *A. muddii*, *A. transvaalense*, *A. frutescens* and *A. megarhizum*. Of these, *A. muddii* bears the largest flowers and occupies one of the narrowest distributional ranges. Its habitat is disjunct, comprising patches of mistbelt grassveld along the escarpment (Figure 6). The species is common in North-Eastern Mountain Sourveld.

#### Selected specimens

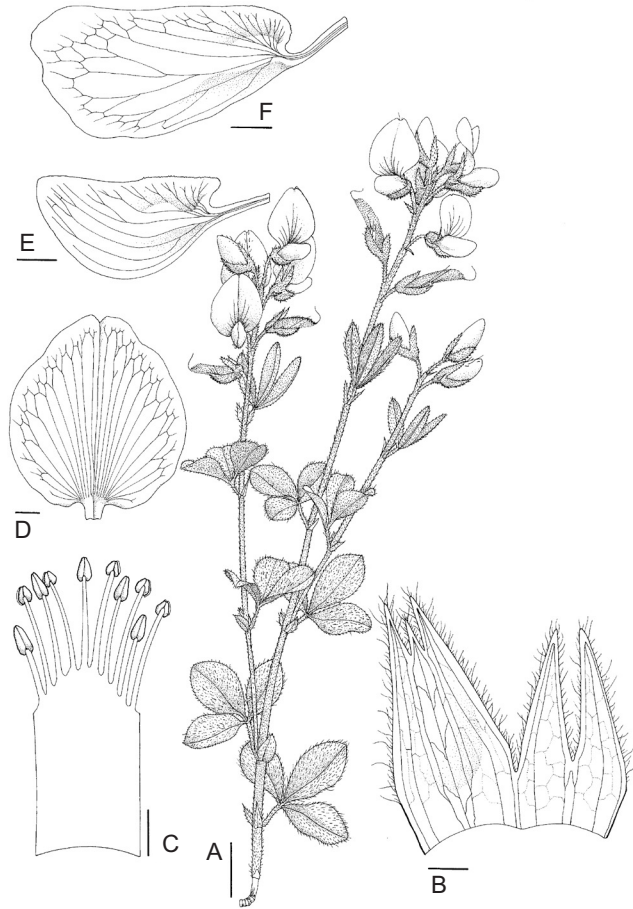
- 2329 (Polokwane): Ramothola ('Ramatula'), Northern Transvaal, (–DB), *Moss 951* (BM).
- 2330 (Tzaneen): Woodbush Mountains, (–CC), *Moss 15483* (BM, J); Magoebaskloof, (–CC), *Schweicherdt 1673* (B).
- 2430 (Pilgrim's Rest): Graskop near Natural Bridge, (–DD), *Galpin 14545* (B, BOL); *Edwards 654* (NU).



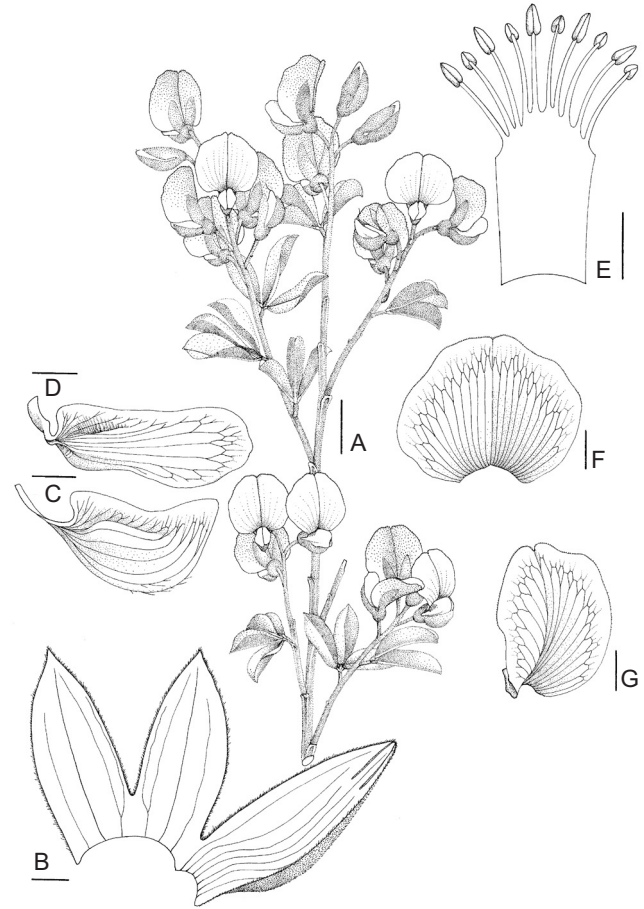
**Figure 3:** *A. transvaalense*. (A) flowering branch (bar = 20mm); (B) androecium (bar = 2mm); (C) keel (bar = 2mm); (D) wing (bar = 2mm); (E) standard, abaxial surface (bar = 2mm); (F) calyx with subtending bracts and bracteoles (bar = 2mm). Voucher: *Edwards 573*



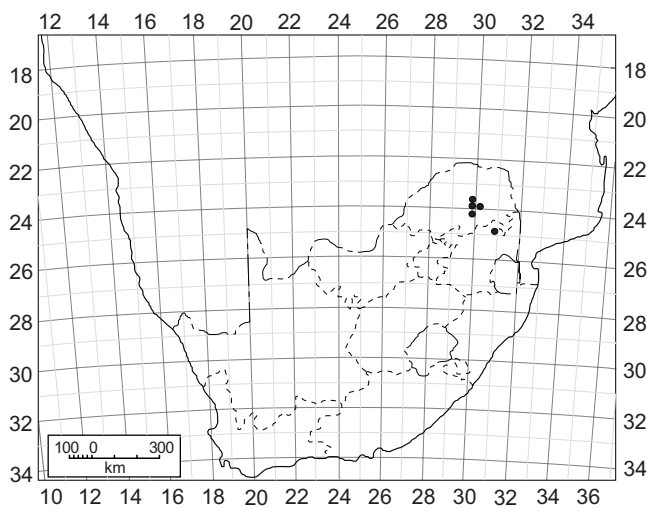
**Figure 4:** Known distribution of *A. transvaalense*



**Figure 5:** *A. muddii*. (A) habit (bar = 20mm); (B) calyx (bar = 2mm); (C) androecium (bar = 2mm); (D) standard, abaxial surface (bar = 2mm); (E) keel (bar = 2mm); (F) wing (bar = 2mm). Voucher: *Edwards 654*



**Figure 7:** *A. wilmsii*. (A) flowering branch (bar = 20mm); (B) calyx (bar = 2mm); (C) keel (bar = 2mm); (D) wing (bar = 2mm); (E) androecium (bar = 2mm); (F) standard, abaxial surface (bar = 2mm); (G) standard, lateral view (bar = 2mm). Voucher: *Edwards 562*



**Figure 6:** Known distribution of *A. muddii*

4. *Argyrolobium wilmsii* Harms in Engl. *Botanische Jahrbücher für Systematik, Pflanzen-Geschichte und Pflanzengeographie* 26: 283 (1899); Burt Davy: 393 (1926). Type: Mpumalanga, near Lydenburg, *Wilms 257* (K!, lecto. selected here; BM!, E!, G!, isolecto.).

*Argyrolobium nitens* Burt Davy: 393 (1926), *syn. nov.* Type: Mpumalanga, between Pilgrim's Rest and Lydenburg, *Rogers 23111* (BOL!, lecto. selected here; PRE!, isolecto.).

*A. wilmsii* is one of the most beautiful species of *Argyrolobium*; it is a silver pyrophytic sub-shrub which bears a profusion of yellow flowers (Figure 7). Some confusion is apparent in the tentative identification of herbarium specimens, which is often due to the inconsistent defoliation of plants before anthesis.

Burt Davy (1926) distinguished *A. nitens* on the basis of its smaller flowers, slender branches and closely appressed pubescens. The type specimen (*Rogers 23111*) falls within the range of variation of *A. wilmsii*, and *A. nitens* is therefore reduced to synonymy. The species is common in Piet Retief Sourveld and North-Eastern Mountain Sourveld (Figure 8).

*Selected specimens*

–2329 (Polokwane): Haenertsberg, (–DD), *Meeuse 9822* (PRE).

–2428 (Nylstroom): Makapaans Valley, (–AA), *Maguire 920* (BOL, NBG, PRE).

–2529 (Witbank): Stoffberg, Monsterlus, (–BA), *Obermeyer s.n.* (BOL, NH, PRE).

–2530 (Lydenburg): Lydenburg, (–AB), *Wilms 257* (BM, E, G); *Edwards 562* (NU); Lowveld Botanic Gardens, Nelspruit, (–BD), *Buitendag 167* (NBG).

–2531 (Komatiipoort): 8km from Lydenburg on rd to Origstad, (–AB); White River, (–AC), *Galpin 14557* (BOL, PRE).

–2631 (Mbabane): Komati Bridge, (–AA), *Compton 26985* (NBG, PRE)

5. *Argyrobium megarhizum* H. Bol. in Journal of the Linnaean Society (Botany) 24: 175 (1887); Burt Davy: 392 (1926). Type: Gauteng, around Pretoria, *McLea s.n.* (BOL!, lecto. selected here; BM!, K!, SAM!, isolecto.).

*A. megarhizum* is a savannah suffrutex up to 80cm tall, closely allied to *A. transvaalense* and *A. muddii*. Florally, it is distinguished by its vestigial calyx lobes. Other characters which distinguish *A. megarhizum* from *A. transvaalense* are its prominent petioles and its clumping habit. It is distinguished from *A. muddii* by its narrow leaflets and its prominent wing sculpturing.

*A. megarhizum* occurs in Mixed Bushveld and Sourish Mixed Bushveld around Pretoria (Figure 9).

*Selected specimens*

–2528 (Pretoria): Pretoria, Magaliesberg, (–CA), *McLea 5635* (BM, BOL, SAM).

–2529 (Witbank): between Verena and Bronkhorstspuit, (–AB), *Mauve & Venter 5025* (MO, PRE).

6. *Argyrobium trifoliatum* (Thunb.) Druce in Report of the Botanical Exchange Club of the British Isles, 1916: 605 (1917). Type: Western Cape, *Thunberg s.n. sub. THUNB-UPS 17401* (UPS!, syn.) & *17402* (UPS!, lecto. selected here).

*Galega trifoliata* Thunb.: 600 (1823). Type: as above.

*Argyrobium sericeum* (E. Mey.) Eckl. & Zeyh.: 184 (1836); Benth.: 342 (1844); Harv.: 70 (1862). Type: Eastern Cape, Uitenhage, 'Vanstadensriverberge', *Ecklon & Zeyher 1304* (P!, lecto. selected here; G!, GRA!, O!, TCD!, isolecto.).

*Dichilus sericeus* E. Mey. non Spreng. f.: 154 (1832), nom. illegit. Type: as above.

*Gamochilum sericeum* (E. Mey.) Walp.: 510 (1839), non *Galega sericea* Thunb. et non *Ononis sericea* Thunb. Type: as above.

*Chasmone holosericea* E. Mey.: 72 (1836), nom. illegit. Meisn.: 76 (1843). Type: Eastern Cape, Kromrivier, *Drège s.n.* (K!, lecto. selected here; G!, MO!, P!, PRE!, SI!, isolecto.); Van Stadensberg, *Drège s.n.* (G!, P!, SI!, syn.).

*Chasmone obcordata* E. Mey.: 72 (1836). Type: Eastern Cape, Uitenhage, *Drège s.n.* (K!, lecto. selected here).

*Gamochilum obcordatum* (E. Mey.) Walp.: 510 (1839). Type: as above.

*Argyrobium obcordatum* (E. Mey.) Steud.: 130 (1841). Type: as above.

*A. trifoliatum* is a shrub or sub-shrub, from the Eastern Cape (Figure 10). The species is often confused with *A.*

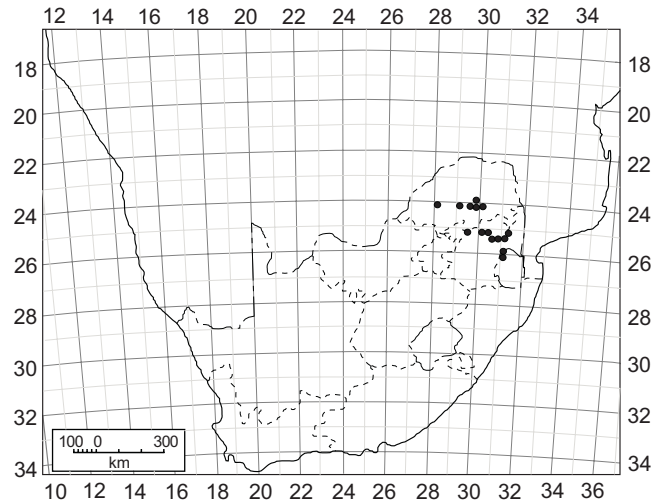


Figure 8: Known distribution of *A. wilmsii*

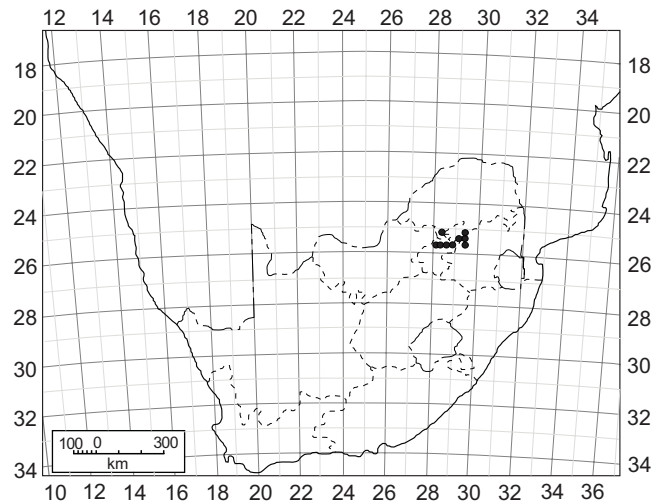


Figure 9: Known distribution of *A. megarhizum*

*incanum* and diagnostic differences are discussed under the latter. *A. trifoliatum* also shows a strong resemblance to *A. polyphyllum*, as both have rod-like primary stems and dimorphic leaves, although this character is more strongly developed in the latter (discussed under *A. polyphyllum*).

Confusion existed over the identity of *Galega trifoliata*, which is the basionym for this name change. Thunberg (1823) described its androecium as diadelphous, which does not conform with this species. However, the types have been seen and they undoubtedly belong to this taxon.

*Selected specimens*

–3324 (Steytlerville): Assegai Bosch, Humansdorp, (–CD), *Rogers 2831* (BOL, GRA, SAM, PRE).

–3325 (Port Elizabeth): Van Stadensberg, (–CC), *Drège s.n.* (G, P, S); *Ecklon 323* (BM, E, GRA, O, P, TCD); *Ecklon & Zeyher 1304* (G, GRA, O, P, S, SAM).

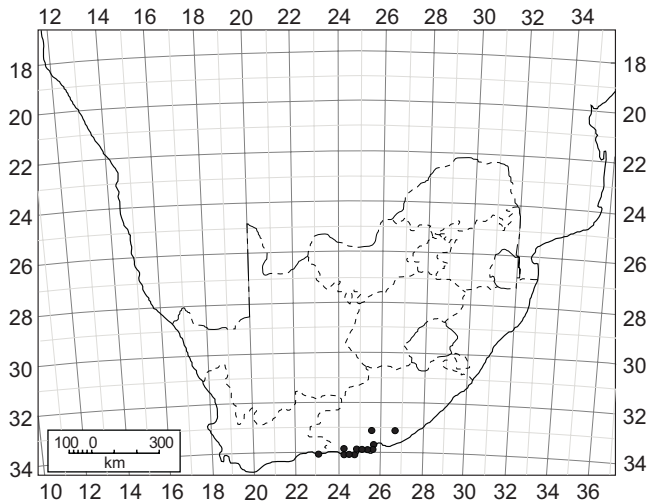


Figure 10: Known distribution of *A. trifoliatum*

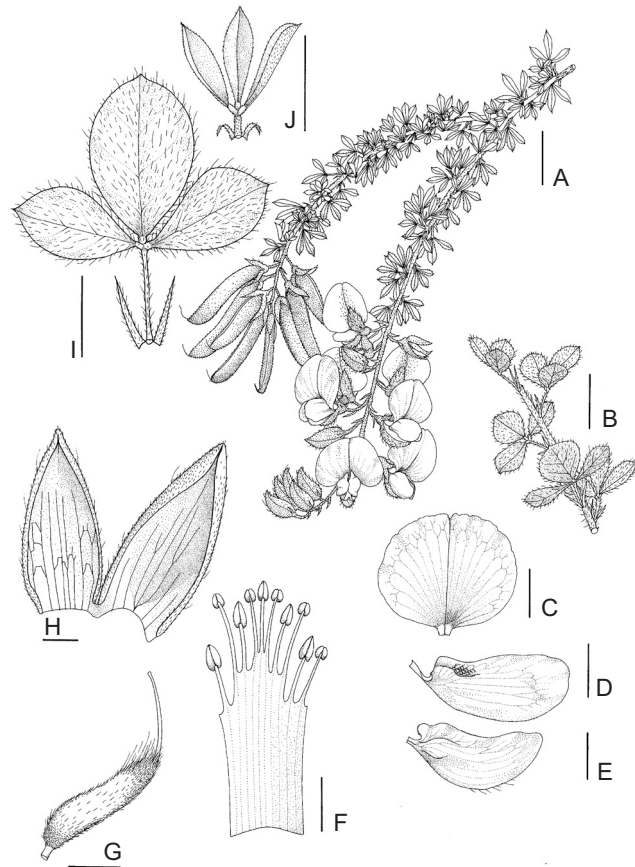


Figure 11: *A. polyphyllum*. (A) flowering branch (bar = 20mm); (B) lower leaves (bar = 20mm); (C) standard, abaxial view (bar = 2mm); (D) wing (bar = 2mm); (E) keel (bar = 2mm); (F) androecium (bar = 2mm); (G) pistil (bar = 2mm); (H) calyx (bar = 2mm); (I) juvenile leaf (bar = 10mm); (J) upper adult leaf (bar = 2mm). Voucher: Edwards 491

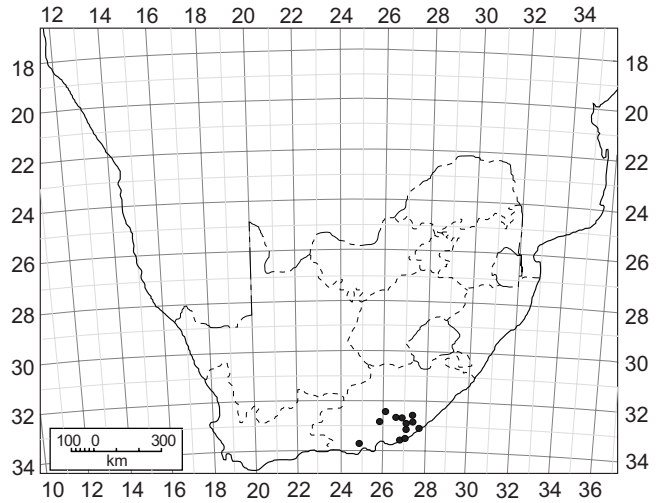


Figure 12: Known distribution of *A. polyphyllum*

–3424 (Humansdorp): Kromrivier, (–BA), Drège s.n. (G, MO, P, S).

7. *Argyrobium polyphyllum* Eckl. & Zeyh., Enumeratio plantarum africae australis extratropicae 2: 184 (1836); Walp.: 506 (1839); Walp.: 631 (1843); Benth.: 342 (1844); Harv.: 69 (1862). Type: Eastern Cape, Chumi and Winterberg, Ecklon & Zeyher s.n. (SAM!, lecto. selected here; C!, G!, K!, MO!, O!, P!).

*Chasnone cuneifolia* E. Mey.: 71 (1836). Type: Eastern Cape, Katberg, Drège s.n. (G!, lecto. selected here; K!, P!, PRE!, S!).

*A. polyphyllum* is very distinctive, due to the upper ramification of short branches. These branches have dense foliage and bear terminal inflorescences. Its upper leaflets are among the smallest in the genus (5–9 (–17) x 2–4mm). The small-leaved axillary branches are, however, absent from seedlings and coppicing specimens (Britten 5654, Bokelmann s.n.). In addition, rejuvenated specimens bear erect inflorescences with well developed bracts while moribund specimens have small bracts and pendent, second inflorescences (Figure 11). The species usually occurs on forest margins in Alexandria Forest and Highland Sourveld (Figure 12).

#### Selected specimens

–3225 (Somerset East): Stockenstroom, (–DD), Scully 119 (BM, PRE).

–3226 (Fort Beaufort): Fort Beaufort, (–BC), Cooper 257 (BM, BOL, E, G, NY, P); mountain sides Chumiesberg and Winterberg, (–DB), Ecklon & Zeyher 1302 (C, G, O, P, SAM).

–3227 (Stutterheim): Stutterheim, top of Frankfort Hill, (–CD); Edwards 491 (NU); Mt Coke, (–CD), Galpin 7842 (PRE).

–3326 (Grahamstown): Kowie, (–DB), Britten 5654 (GRA, PRE).

8. *Argyrobium crassifolium* (E. Mey.) Eckl. & Zeyh., Enumeratio plantarum africae australis extratropicae 2: 184 (1836); Walp.: 506 (1839); Walp.: 631 (1843); Benth.:

342 (1844); Harv.: 70 (1862). Type: Eastern Cape, Uitenhage, Elandsriver Mountains, *Ecklon & Zeyher s.n.* (TCD!, neo. selected here; BM!, GRA!, PRE!, SI!, SAM!). [Original type: Eastern Cape, Zwelendamb (Swelendamb) below 500', *Ecklon s.n.*]

*Dichilus crassifolius* E. Mey.: 154 (1832). Type: as above.

*Chasmone crassifolia* (E. Mey.) E. Mey.: 72 (1836). Type: as above.

*Chasmone goodioides* Meisn.: 75 (1843) *syn. nov.* Type: Eastern Cape, Wintershoekberge, 2 000', *Krauss 929* (G!, lecto. selected here; MO!, WI!).

*Argyrobium goodioides* (Meisn.) Walp.: 845 (1843) *syn. nov.* Type: as above.

In habit *A. crassifolium* resembles *A. parviflorum*, but these species are easily separated on leaf vestiture: the former has glabrous adaxial surfaces. In addition, the prominent abaxial leaf venation of *A. parviflorum* is unique within the genus. With respect to floral characters, *A. crassifolium* is larger in all aspects. Both species are limited to False Macchia but *A. crassifolium* occurs coastally (Figure 13).

Meyer's (1832) original description was based on an Ecklon specimen, presumably collected during the expedition undertaken in 1829 to Algoa Bay (Gunn and Codd 1981). The original description cites only the district Uitenhage. Meyer (1836) transferred the species to *Chasmone* and cited a more precise locality, 'Zwelendamb'. Neither of these specimens were located and it is likely both were destroyed in B during World War II. Ecklon and Zeyher (1836) cite a different collection as the type and in the absence of Meyer's type material, this was chosen as the neotype.

#### Selected specimens

–3324 (Steytlerville): Hankey, near Harmonie, (–DD), *Cowling 823* (GRA).

–3325 (Port Elizabeth): Elandsrivierberge, (–CA), *Ecklon & Zeyher 1305* (BM, GRA, S, SAM); Bulkrivier, (–CC), *Holland 3653* (BOL); Uitenhage, (–CD), *Zeyher 2303* (G, P, PRE, S, SAM); Redhouse, (–DC), *Paterson 601* (BOL, GRA, PRE).

–3424 (Humansdorp): Geelhoutrivier, (–BB), *Fourcade 2288* (BOL, PRE).

9. ***Argyrobium incanum*** Eckl. & Zeyh., *Enumeratio plantarum africae australis extratropicae* 2: 185 (1836); Harv.: 70 (1862). Type: Eastern Cape, Bothasberg near Grahamstown, *Ecklon & Zeyher s.n.* (PRE!, lecto. selected here; SAM!, isolecto.).

*Chasmone holosericea* E. Mey. var. *incana* Meisn.: 76 (1843). Type: Eastern Cape, Baviaanskloof, mountain sides, Dec. 1838, *Krauss s.n.* (B†).

*A. incanum* is usually a virgate perennial and always has densely sericeous leaves (Figure 14). *A. crassifolium* and *A. trifoliatum* are often misidentified as *A. incanum*. The features which separate *A. crassifolium* relate to its diminutive leaves and flowers. In addition, its leaflets are sparsely hairy abaxially and usually glabrous adaxially. The distinction of *A. trifoliatum* is based on the absence of trichomes on the adaxial leaflet surfaces. *A. trifoliatum* frequently produces basal coppices with long internodes and

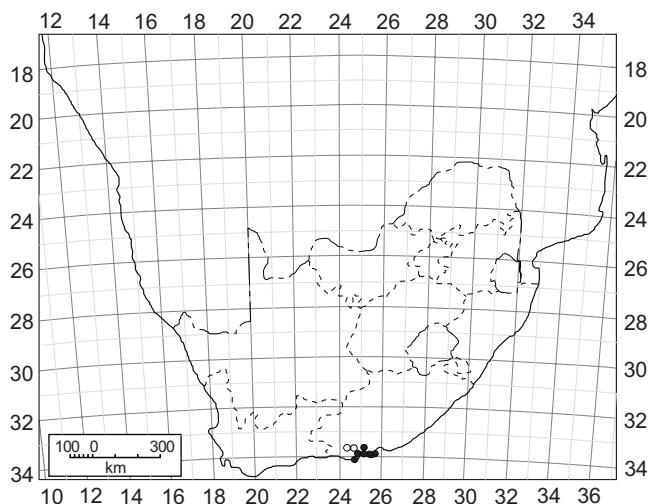


Figure 13: Known distribution of *A. crassifolium* ● and *A. parviflorum* ○

villous indumentum; no similar growth has been observed in *A. incanum*.

*A. parviflorum* was previously lumped with *A. incanum*; however, it is easily distinguished by its prominent abaxial leaf ribs and small flowers.

Coastal forms of *A. incanum* from Humansdorp are less than 600mm tall and have small leaflets. Inland forms from the Baviaanskloof Mountains are taller (c. 2m) and virgate with large leaves (Figure 15). Both forms occur in False Macchia.

#### Selected specimens

–3323 (Willowmore): Joubertina, heights S of Kouga River, (–DD), *Fourcade 5085* (BOL, MO, PRE, STE).

–3324 (Steytlerville): Baviaanskloof, 50km from Patensie, (–CA), *Edwards & Ackermann 477 & 478* (NU).

–3326 (Grahamstown): Bothasberg, (–BA), *Ecklon & Zeyher 1306* (SAM); *MacOwan 799* (mixed collection with *A. collinum*) (BOL, GRA, NY, SAM).

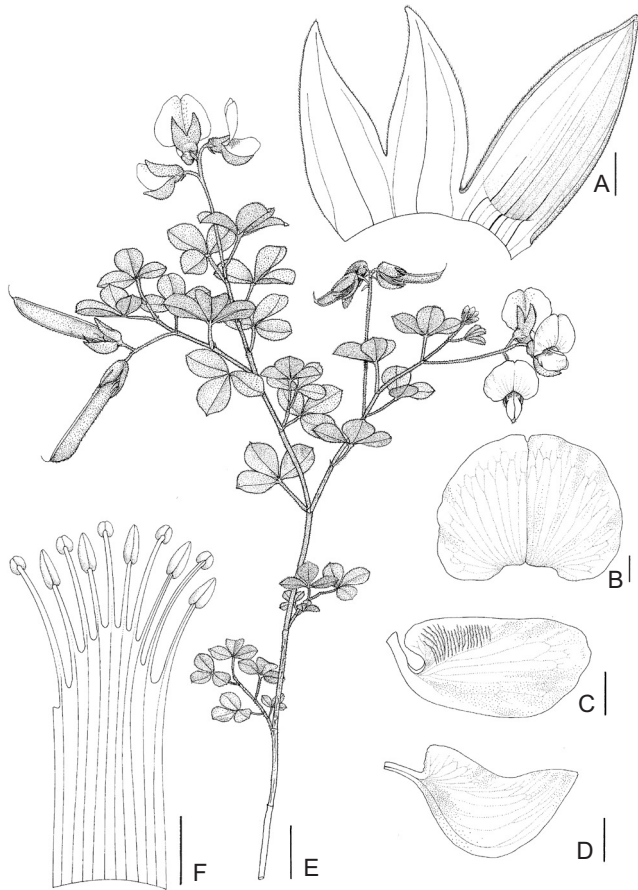
10. ***Argyrobium parviflorum*** T.J. Edwards in *South African Journal of Botany* 59: 296 (1993a). Type: Eastern Cape, Steytlerville, Baviaanskloof, Enkeldoorn track, Klein Rivier, *Snijman 338* (NBG!, holo.; PRE!, iso.).

The reticulate costae of the abaxial leaf surfaces and the small flowers make *A. parviflorum* a distinctive species (Figure 16). With respect to flower size it approximates *A. crassifolium*, which differs in its vegetative indumentum and the absence of costae from the abaxial leaf surfaces. *A. parviflorum* is only recorded from False Macchia on the Baviaanskloof Mountains (Figure 13). The species is very rare and its conservation status requires assessment.

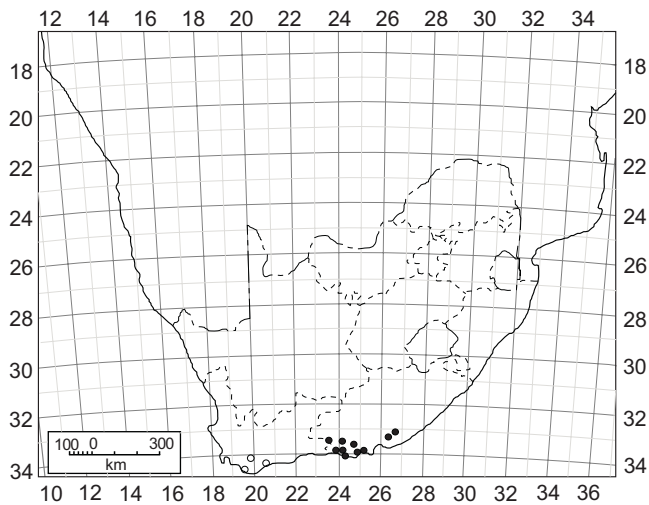
#### Selected specimens

–3324 (Steytlerville): Enkeldoorn Track, Klein Rivier, lower Baviaanskloof Mts, (–CB), *Snijman 338* (NBG, PRE); pass between Cambria and Combrink, Baviaanskloof, (–DA), *Lewis 66037* (SAM); Cambria, (–DA), *Compton 23483* (NBG).

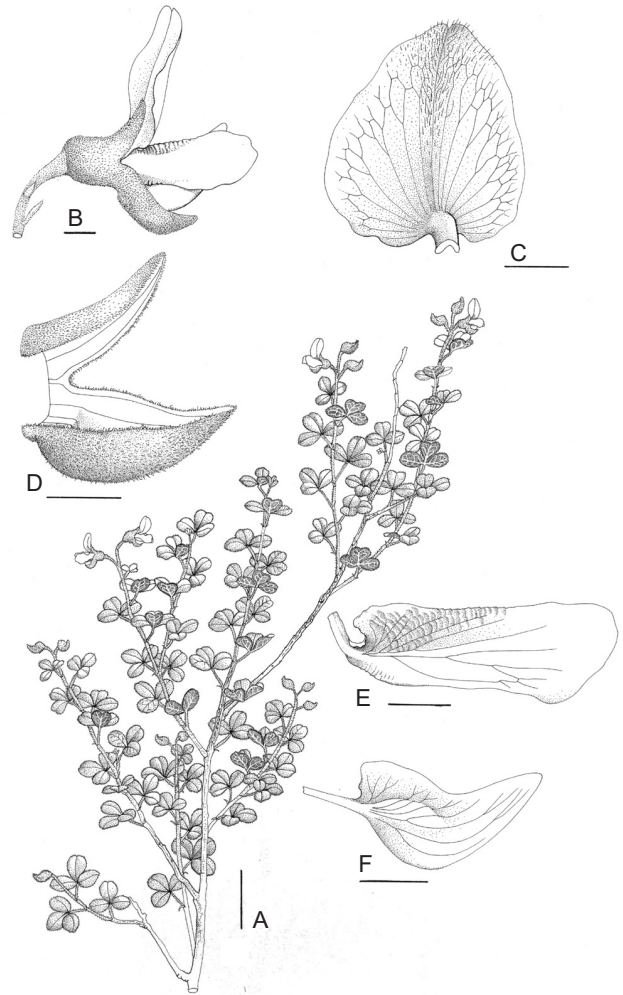




**Figure 14:** *A. incanum*. (A) calyx (bar = 2mm); (B) standard, abaxial surface (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) flowering branch (bar = 20mm); (F) androecium (bar = 2mm). Voucher: Edwards & Ackermann 478



**Figure 15:** Known distribution of *A. incanum* ● and *A. pachyphyllum* ○



**Figure 16:** *A. parviflorum*. (A) flowering branch (bar = 20mm); (B) flower, lateral view (bar = 2mm); (C) standard, adaxial surface (bar = 2mm); (D) calyx, lateral view (bar = 2mm); (E) wing (bar = 2mm); (F) keel petal (bar = 2mm). Voucher: Snijman 338

11. ***Argyrobium amplexicaule*** (E. Mey.) Dümmer in London Journal of Botany 51: 222 (1913a); Harms: 177–178 (1917). Type: Eastern Cape, between Zandplaat and Komgha, *Drège s.n.* (K!, lecto. selected here).

*Lotus amplexicaulis* E. Mey.: 92 (1836); Harv.: 158 (1862). Type: as above.

*Argyrobium pilosum* Harv.: 71 (1862). Type: Eastern Cape, Transkei Country, *Bowker 106* (TCD!, lecto. selected here).

*A. amplexicaule* is distinctive, due to its large connate stipules and dense, pseudo-umbellate inflorescences (Figure 17). The stipules are 1- or more commonly 2-tipped. Its closest ally, *A. crinitum*, differs in having four-lobed stipules and spicate inflorescences. Wood (1910) reported the occurrence of cleistogamy in this species but this is a rare phenomenon. It has been observed once by the author and on that occasion all individuals within a population produced only cleistogamous flowers.

*A. amplexicaule* is often found in association with *Lotononis corymbosa* (E. Mey.) Benth., forming floral guilds.

Plants occur in Coastal Thornveld, Highland Sourveld and Dohne Sourveld (Figure 18).

*Selected specimens*

–2929 (Underberg): Gladstone's Nose, (–BC), *Edwards 763* (NU); Sani Pass, (–CB), *Hilliard & Burt 17945* (E, K, NU, PRE, S).

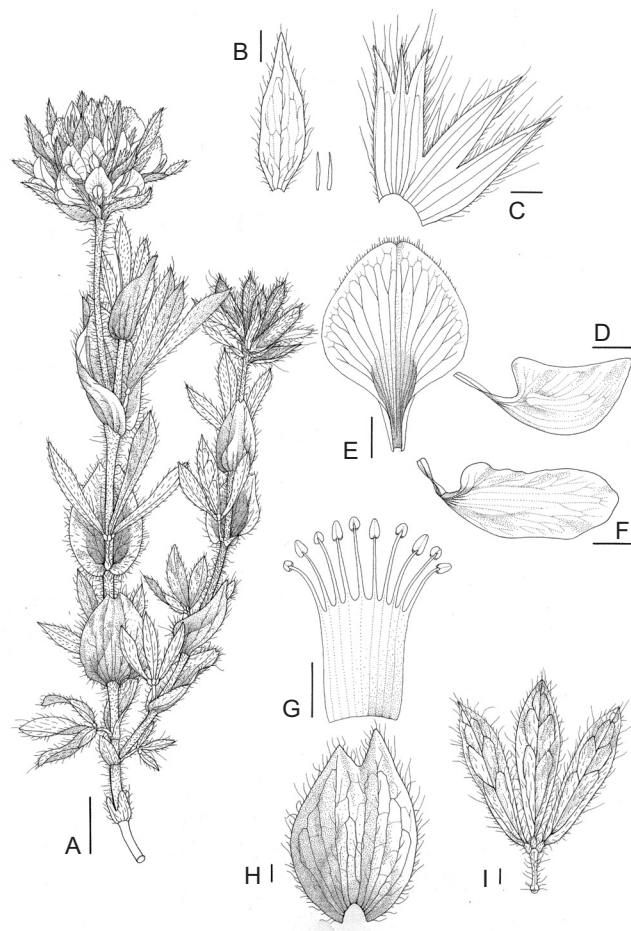
–2930 (Pietermaritzburg): Mooi River, (–AA), *Wood 4074* (MO, BOL); Inanda, (–DB), *Wood 1181* (BM, BOL); Pinetown, (–DD), *Rogers 28100* (GRA, PRE).

–3029 (Kokstad): Clydesdale, (–BD), *Tyson 1256* (BM, BOL, SAM, UPS, W); Weza State Forest, (–DA), *Edwards & Ackermann 505* (NU).

12. ***Argyrobium crinitum*** (E. Mey.) Walp. in *Linnaea* 13: 506 (1839); Walp.: 630 (1843); Benth.: 340 (1844); Harv.: 68 (1862). Type: Western Cape, Swaartberge, Trado, *Drège 6627* (P!).

*Chasmona crinita* E. Mey.: 71 (1836). Type: as above.

*A. crinitum* is a distinctive species with large, 4-lobed stipules



**Figure 17:** *A. amplexicaule*. (A) flowering branch (bar = 15mm); (B) bract and bracteoles (bar = 2mm); (C) calyx (bar = 2mm); (D) keel (bar = 2mm); (E) standard (bar = 2mm); (F) wings (bar = 2mm); (G) androecium (bar = 2mm); (H) stipules (bar = 2mm); (I) leaf (bar = 2mm). Voucher: *Edwards 763*

ules (Figure 19). It was initially collected by Drège, in False Macchia (Figure 18), and was thought to be extinct (Edwards 1996). However, the species has been rediscovered (*Vlok & Schutte 385*) and is in urgent need of protection. Its distinctive morphology led Meyer (1836) to suggest that it may represent a new genus. This comment must be viewed in the light of his placement of *A. amplexicaule* within *Lotus*. These species are closely allied with similar leaves, stipules and vestiture. The calyx has a truncate base and the petals have well developed claws. The fusion of the filaments, the dimorphic anthers and the calyx morphology, however, support its placement within *Argyrobium*.

*Selected specimens*

–3320 (Montagu): Swaartberge, Trado, (–DD), *Drège 6627* (P); *Vlok & Schutte 385* (NU).

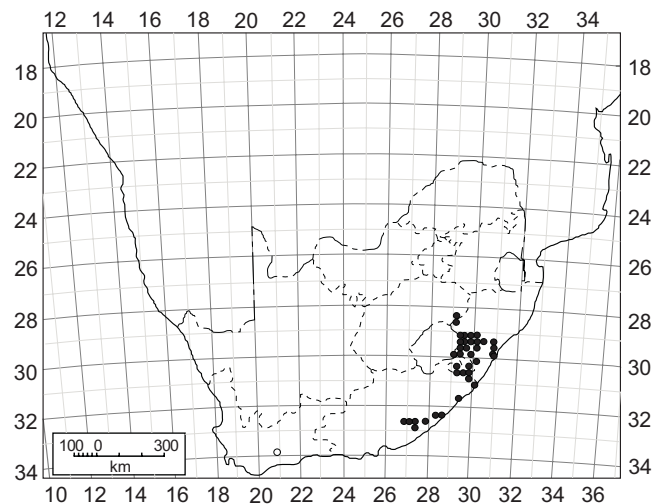
13a. ***Argyrobium lunare*** (L.) Druce subsp. *lunare* in Report of the Botanical Exchange Club of the British Isles, 1913, 3: 414 (1914). Type: Cape of Good Hope, *Crotalaria* No. 5, Herb. *Clifford 357* (BM!).

*Crotalaria lunaris* L.: 715 (1753), non *Crotalaria lunaris* Burm. f.

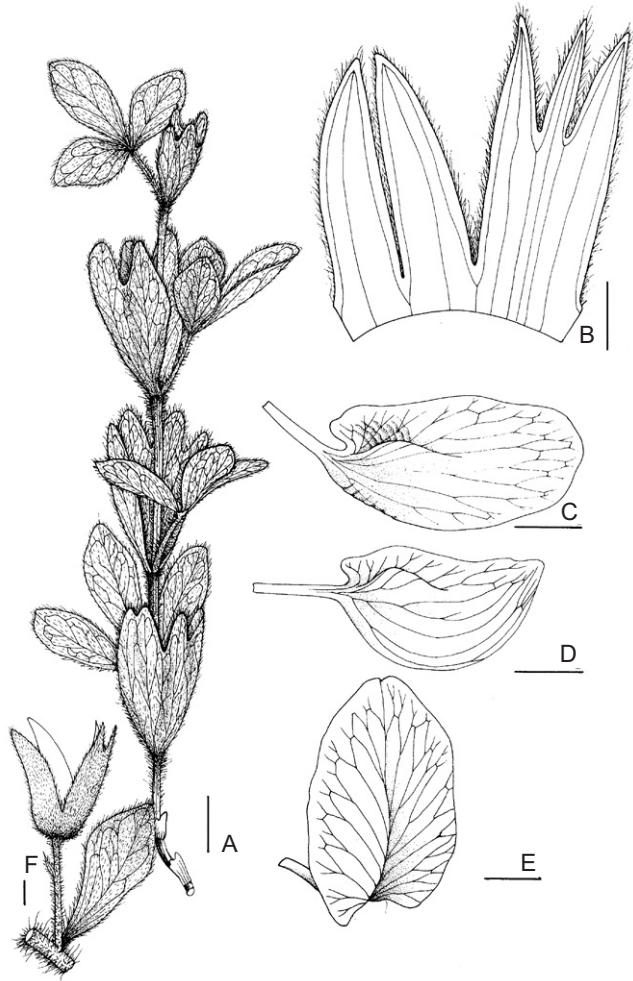
*A. lunare* is the most common species in the Western Cape (Figures 20 and 22). Plants are decumbent and vary considerably in size. The species has torulose fruits and hairy anthers (Figure 24), characters not seen in other Western Cape species. The species is closely allied to *A. splendens* (Meisn.) Walp., which differs in its shorter petioles, coriaceous leaves with strongly revolute margins and evenly compressed fruits.

*A. lunare* is closely associated with the Table Mountain Group of the Cape Supergroup. It is variable in both vegetative and floral characters.

The typical subspecies (Figure 21) is limited to the Caledon area (Figure 20), and is distinguished by its robust reproductive and vegetative organs.



**Figure 18:** Known distribution of *A. crinitum* ○ and *A. amplexicaule* ●



**Figure 19:** *A. crinitum*. (A) vegetative branch (bar = 20mm); (B) calyx (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) standard (bar = 2mm); (F) calyx, pedicel and bract (bar = 2mm). Voucher: *Drège s.n.*

*Selected specimens*

–3419 (Caledon): Jakkalsrivier Catchment 1d, (–AA), *Haynes 1145* (STE); *Haynes 473* (PRE, STE); Pietersfontein, (–AC), *Bolus 9858* (BOL, GRA, NH, PRE); Hermanus, Pietersfontein, (–AC), *Galpin 3954* (BOL, PRE); Hermanus, Voëlklip, (–AC), *Williams 2637* (MO, PRE); Vogelgat, (–AD), *Schlechter 9524* (E, G, GRA, PRE).

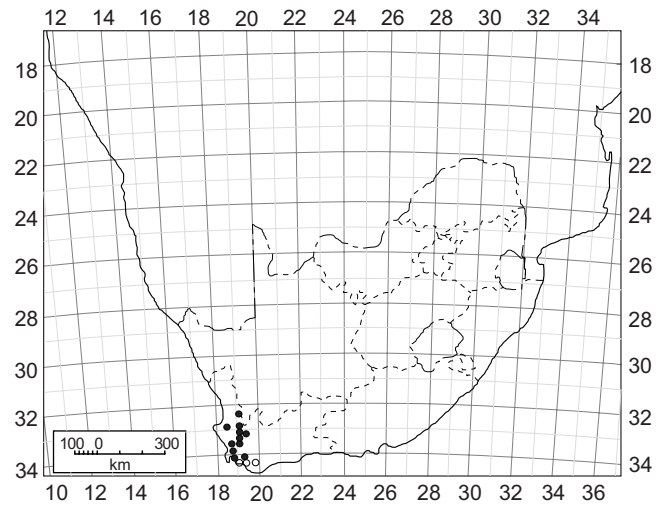
13b. *Argyrobium lunare* (L.) Druce subsp. *sericeum* (Thunb.) T.J. Edwards stat. nov.

*Ononis sericea* Thunb. *Prodromus plantarum capensium*: 129 (1794) non *Argyrobium sericeum* Eckl. & Zeyh. Type: Western Cape, *Thunberg s.n. sub. THUNB-UPS 16642* (UPS!, syn.) & 16643 (UPS!, syn.).

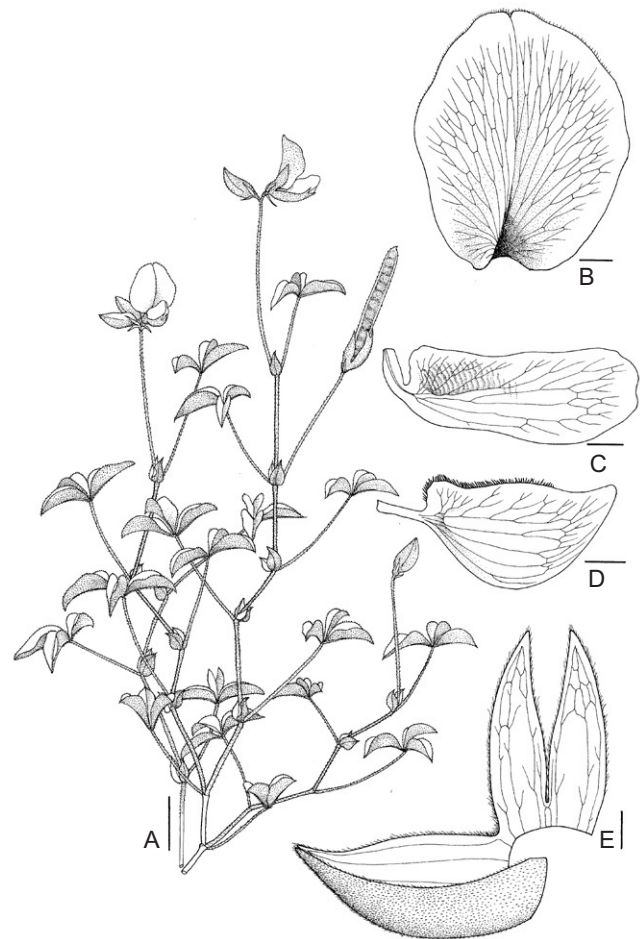
*Dichilus lanceolatus* E. Mey.: 154 (1832), nom. illegit. Type: Cape Town, below Table Mountain, *Ecklon 388* (S!).

*Argyrobium lanceolatum* (E. Mey.) Eckl. & Zeyh.: 186 (1836); Harv. in Harv. & Sond. *Fl. Cap.* 2: 76 (1862). Type: as above.

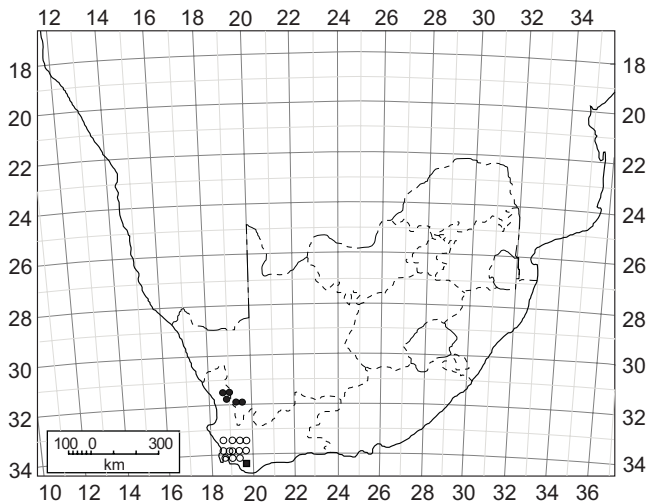
*Chasmone lanceolata* (E. Mey.) E. Mey.: 75 (1836). Type: as above.



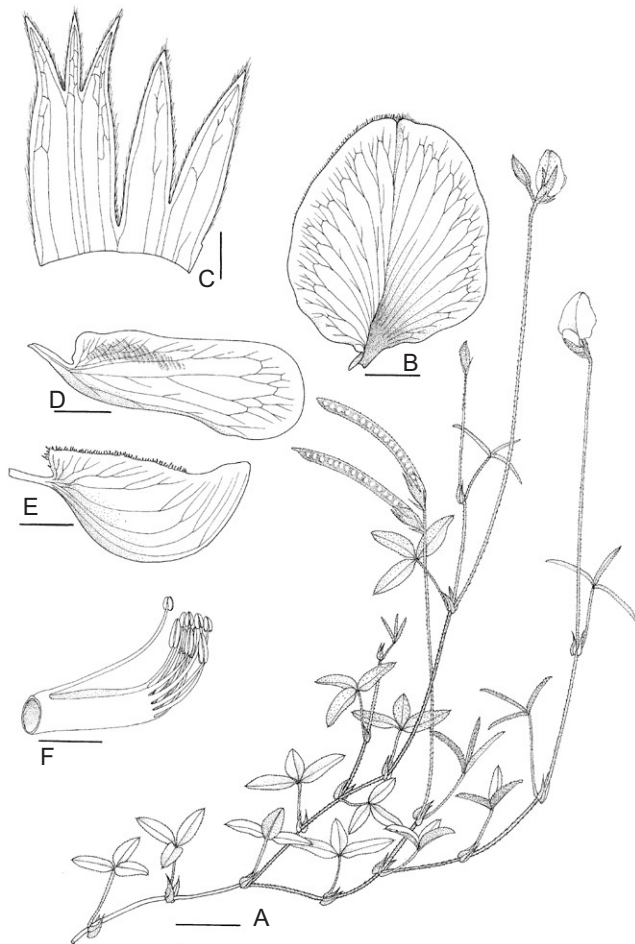
**Figure 20:** Known distribution of *A. lunare* subsp. *lunare* ○ and mesic forms of *A. lunare* subsp. *sericeum* ●



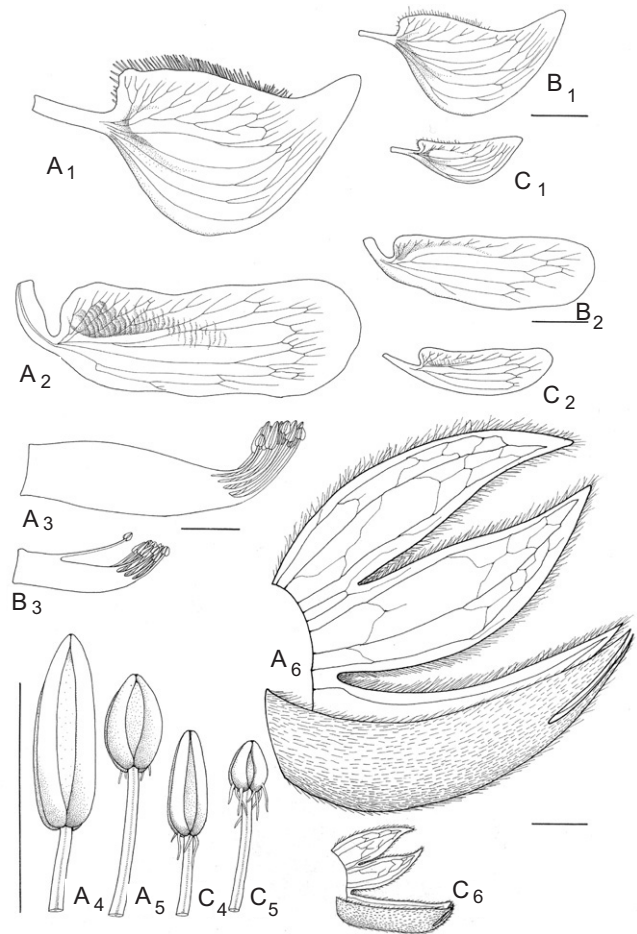
**Figure 21:** *A. lunare* subsp. *lunare*. (A) flowering branch (bar = 20mm); (B) standard (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) calyx (bar = 2mm). Voucher: *De Vos 155*



**Figure 22:** Known distribution of *A. splendens* ■ and *A. lunare* subsp. *sericeum*, terete-leaved form ●, small-flowered form ○



**Figure 23:** *A. lunare* subsp. *sericeum*. (A) flowering branch (bar = 20mm); (B) standard (bar = 2mm); (C) calyx (bar = 2mm); (D) wing (bar = 2mm); (E) keel (bar = 2mm); (F) androecium (bar = 2mm). Voucher: Gray 37



**Figure 24:** *A. lunare* subsp. *lunare*: A<sub>1</sub> keel, A<sub>2</sub> wing, A<sub>3</sub> androecium, A<sub>4</sub> large anther, A<sub>5</sub> small anther, A<sub>6</sub> calyx (bars = 2mm). Voucher: De Vos 155. *A. lunare* subsp. *sericeum*: B<sub>1</sub> keel, B<sub>2</sub> wing, B<sub>3</sub> androecium, C<sub>1</sub> keel, C<sub>2</sub> wing, C<sub>4</sub> large anther, C<sub>5</sub> small anther, C<sub>6</sub> calyx (bars = 2mm). Vouchers: B = Gray 37; C = Borchartd 565

Within *A. lunare* subsp. *sericeum* (Figure 23), morphometric variation shows some degree of geographic pattern. Terete-leaved forms are restricted to the Cederberg, Olifantsrivierberge, Koue Bokkeveld and Piketberg. However, the variability of leaf shape within the subspecies appears to form a continuum.

Small-flowered specimens are widespread and often sympatric with the remaining morphs (Figures 20 and 22). Large-flowered individuals are restricted to the south but no discontinuity between these extremes exists. Because these variants may represent phenotypic shifts associated with moribund vegetation or fluctuation in rainfall, no formal recognition has been given. The subspecies requires further taxonomic investigation.

The species occurs in Coastal Macchia and Coastal Renosterbosveld.

The distribution of the two subspecies repeats a pattern found in *Aspalathus carmosa* Berg. Small-flowered forms of the latter also occur on Table Mountain, while large-flowered forms are restricted to around Caledon (Dahlgren 1963). This pattern may relate to pollinators, since it is likely that the genera share vectors.

*Selected specimens*

–3218 (Clanwilliam): Piquetberg, (–DC), *Goldblatt 6507* (MO, PRE).

–3318 (Cape Town): Platteklip, (–AD), *Dümmer 444* (E); Bergrivier, (–BD), *Drège s.n.* (BM).

–3319 (Worcester): Groot Winterhoek Mountains, (–AA), *Boucher 1991* (STE); Cedarberg Mountains, (–AC), *Esterhuysen 7230* (BOL, PRE); Mitchell's Pass, (–AD), *Marloth 10687* (PRE, STE); *Drège s.n.* (BM, P).

–3418 (Simonstown): Simonsberg, (–AB), *Gray 37* (BOL); Wynberg Hill, (–AB), *Pillans 10471* (MO); Sir Lowry's Pass, (–BB), *Schlechter 5334* (G, GRA).

–3419 (Caledon) Riviersondereinde, (–AB), *Leipoldt 16234* (BOL, MO, STE); *Zeyher 389* (BOL, S).

14. *Argyrobium splendens* (Meisn.) Walp., Repertorium Botanices 2: 845 (1843); Benth.: 348 (1844); Harv.: 76 (1862). Type: Western Cape, mountain sides around Klein Rivier, Swellendam, *Krauss 927* (B†; NY!, lecto. selected here; G!, MO!, W!, isolecto.).

*Chasmone splendens* Meisn.: 78 (1843). Type: as above.

The obvious alliance between *A. splendens* and *A. lunare* (Meisner 1843, Harvey 1862) contradicts the use of torulose fruits as a sectional character (Bentham 1844, Harvey 1862). *A. splendens* (Figure 25) is known only from the type collection which was gathered on the coastal fold mountains which flank the Kleinrivier (Figure 20). The species occurs in close geographic proximity to its ally *A. lunare*, which is distinguished by its torulose fruits, longer petioles and non-revolute leaflet margins.

*Selected specimens*

–3419 (Caledon): mountain sides around Klein Rivier, *Krauss 927* (NY, G, MO, W).

15. *Argyrobium petiolare* (E. Mey.) Steud., Nomenclator botanicus editio 2(1): 130 (1840); Walp.: 632 (1843); Harv.: 72 (1862). Type: Northern Cape, Kamiesberg, hills near Uitkomst, *Drège s.n.* (P!, lecto. selected here; G!, K!, MO!, O!, S!, W!, isolecto.).

*Chasmone petiolaris* E. Mey.: 75 (1836). Type: as above.

*A. petiolare* is endemic to the Namaqualand (Figure 26), where it grows in Mountain Renosterbosveld. The species is characterised by its reduced leaflets (6–20 x 3–11mm) atop elongate petioles of up to 35mm. It is also distinctive, due to its shrubby habit and large, sessile flowers (Figure 27).

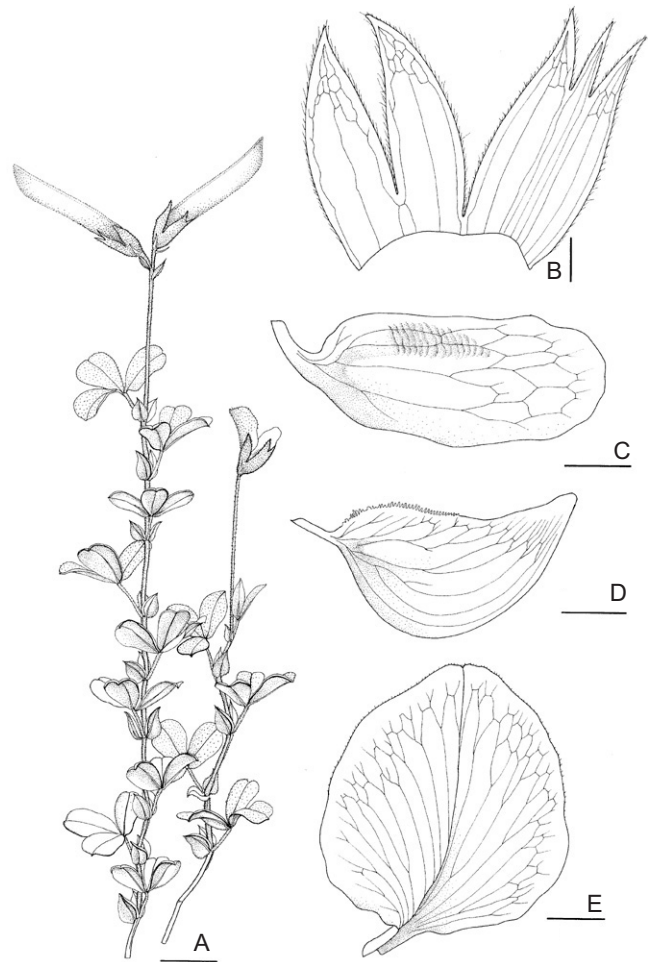
*Selected specimens*

–2918 (Gamoep): Koperberg, (–CA), *Pillans 5667* (BOL).

–3017 (Hondeklipbaai): 'Brackdamm' Kamieskroon, (–BB), *Schlechter 11107* (BM, BOL, E, G, MO, PRE, W).

–3018 (Kamiesberg): Uitkomst, (–CA), *Drège 3299* (G, K, MO, O, P, S, W); Garies, (–CA), *Caporn s.n.* (BOL).

16. *Argyrobium tomentosum* (Andr.) Druce in Report of the Botanical Exchange Club of the British Isles 1916: 605 (1917); Burt Davy: 394 (1926); Wilczek: 277 (1953); Polhill: 162 (1968); Ross: t. 1602 (1970). Type: t. 237 in Andrews' Botanical Repository 4 (1802), from cultivated plants at Hammersmith Nursery, London, seed from Cape Province.



**Figure 25:** *A. splendens*. (A) reproductive branches (bar = 20mm); (B) calyx, inner surface (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) standard (bar = 2mm). Voucher: *Krauss 927*

*Cytisus tomentosus* Andr.: t. 237 (1802). Type: as above.

*Tephrothamnus tomentosus* (Andr.) Sweet: 126 (1830). Type: as above.

*Chasmone andrewsiana* E. Mey.: 74 (1836), nom. illegit. Type: KwaZulu-Natal, between Omcomas and Port Natal, *Drège s.n.* (K!, syn.); near Enon, *Drège s.n.* (syn.).

*Chasmone andrewsiana* E. Mey. var. *umbellata* E. Mey.: 74 (1836), nom. illegit. Type: Port Natal, near the Bay, *Drège s.n.* (not traced).

*Argyrobium andrewsianum* (E. Mey.) Steud.: 129 (1840); Benth.: 348 (1844); Harv.: 75 (1862); Harms: 178 (1917); Bak.f.: 64 (1926).

*Argyrobium andrewsianum* var. *racemosum* Harv.: 75 (1862), nom. nud.

*Argyrobium tomentosum* var. *racemosum* (Harv.) Burt Davy: 394 (1926), nom. nud.

*Argyrobium andrewsianum* var. *pauciflorum* Harv.: 75 (1862), nom. nud.

*Argyrobium andrewsianum* var. *helvolum* Harv.: 75 (1862). Type: KwaZulu-Natal, *Gueinzus s.n.* (G!, lecto. selected here).

*Dichilus ciliatum* Spreng.f.: 20 (1828). Type: without precise locality, Zeyher 273 (not traced).

*Trichasma ciliatum* Walp.: 510 (1839); Walp.: 630 (1843). Type: as above.

*Argyrolobium shireense* Taub.: 207 (1895); Bak.f.: 68 (1926); Wilczek: 279 (1953). Type: Malawi, Shire Highlands, Buchanan 466, 481 & Last s.n. (K!, syn.).

*Argyrolobium stuhlmannii* Taub.: 207 (1895); Bak.f.: 65 (1926); Wilczek: 278 (1953). Type: Rwanda/Uganda border, W. Mpororo, Stuhlmann 3108 (B†).

*Argyrolobium angustistipulatum* De Wild.: 518 (1924); Bak.f.: 67 (1926). Type: Congo Republic, Kivu Province, Boswenda, Bequaert 6088 (BR!, holo.).

*A. tomentosum* (Figure 28) is widespread in afromontane and savannah woodlands (Figure 26). Plants from dry situations are often stunted, seldom exceeding 25cm in height, and have small suborbicular leaflets. Plants from moist habitats in bright light often exceed 1.5m and produce large elliptical leaflets. These differences are not genetically fixed. Considerable variability in plant size and indumentum has resulted in the complex synonymy which was rationalised by Polhill (1968).

In southern Africa this species could be confused with *A. frutescens* which, however, lacks cleistogamous flowers, has obovate standard petals and shortly petiolate leaves.

*Selected specimens*

–2030 (Fort Victoria): Matiwa Lookout near Sibasa, (–CD), Davidson s.n. (J, NU).

–2229 (Waterpoort): Soutpansberg, (–DD), Schlechter 4599 (BR, C, G, PRE).

–2830 (Dundee): Muden, (–CD), Edwards 2780 (B, PRE).

–2930 (Pietermaritzburg): Karkloof, (–AC), Edwards 510 & 512 (NU).

–3325 (Port Elizabeth): Uitenhage, (–CD), Schlechter 2522 (BM, BR, C, UPS).

–3326 (Grahamstown): Grahamstown, (–BC), MacOwan 235 (NYBG); Belmont Valley, (–BC), Booij 27 (MO).

17. *Argyrolobium molle* Eckl. & Zeyh., Enumeratio plantarum africana australis extratropicae 2: 187 (1836); Walp.: 507 (1839); Walp.: 631 (1843); Benth.: 347 (1844); Harv.: 73 (1862); Harms: 180 (1917). Type: Western Cape, Winterberg not far from Philipstown, Ecklon & Zeyher 1319 (K!, lecto. selected here; C!, G!, MO!, O!, P!, S!, SAM!, TCD!, isolecto.).

*Galega sericea* Thunb.: 134 (1794), pro parte. Type: Western Cape, Thunberg s.n. sub THUNB-UPS 17395 (UPS!).

*Argyrolobium patens* Eckl. & Zeyh.: 185 (1836); Walp.: 508 (1839); Walp.: 632 (1843); Benth.: 347 (1844); Harv.: 75 (1862); Harms: 180 (1917), synonym. nov. Type: Eastern Cape, Uitenhage, Zwartkopsrivier, Ecklon & Zeyher 1309 (G!, lecto. selected here; C!, G!, K!, MO!, P!, TCD!, UPS!, isolecto.).

*Chasmone venosa* E. Mey.: 73 (1836). Type: Eastern Cape, Albany, Drège s.n. (K!, lecto. selected here; G!, MO!, P!, isolecto.).

*Chasmone venosa* var. *obscura* E. Mey.: 73 (1836). Type: Eastern Cape, Katberg, Drège s.n. (K!, lecto. selected here; P!, PRE!, S!, isolecto.).

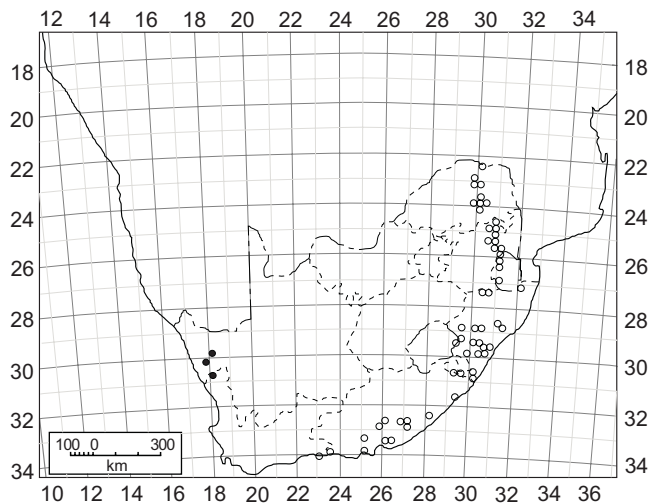


Figure 26: Known distribution of *A. tomentosum* ○ and *A. petiolare* ●

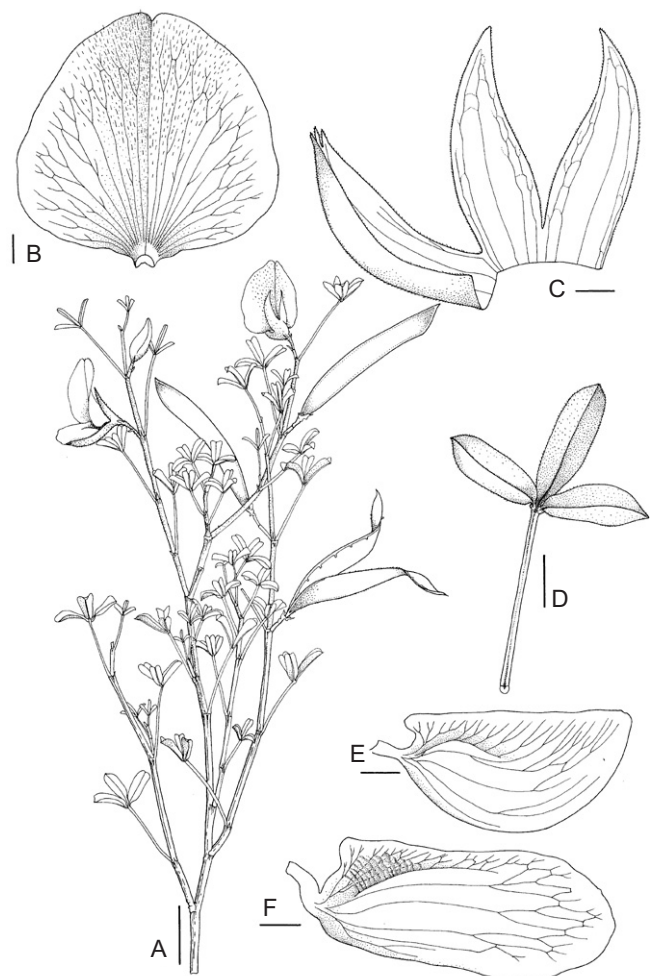
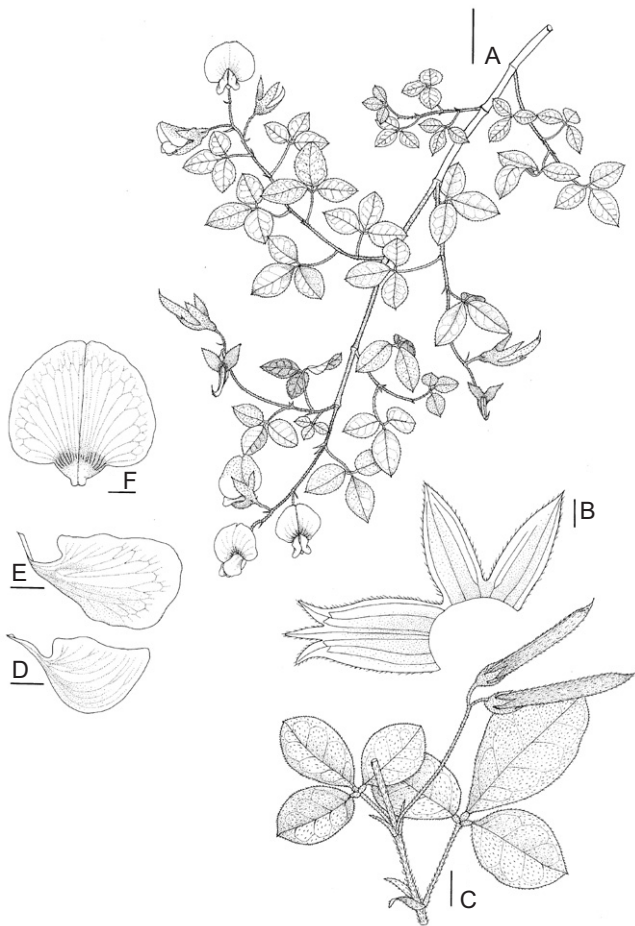


Figure 27: *A. petiolare*. (A) flowering branch (bar = mm); (B) standard, adaxial surface (bar = 2mm); (C) calyx (bar = 2mm); (D) leaf (bar = 5mm); (E) keel (bar = 2mm); (F) wing (bar = 2mm). Voucher: Schlechter 11107



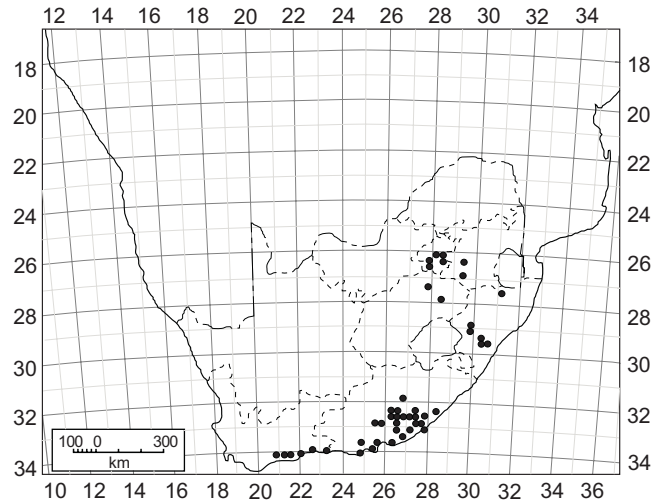
**Figure 28:** *A. tomentosum*. (A) flowering branch (bar = 20mm); (B) calyx (bar = 2mm); (C) fruits (bar = 4mm); (D) keel (bar = 2mm); (E) wing (bar = 2mm); (F) standard, abaxial surface (bar = 2mm). Voucher: Edwards 443

*Chasmone apiculata* E. Mey.: 73 (1836), pro parte. Type: Eastern Cape, Ado, in grassland, *Drège Va*, 2 ( K!, lecto. selected here; MO!, P!, isolecto.).

*Argyrolobium nanum* Burt Davy: 393 (1926) nom. illegit., non Walp. ex Harms, synon. nov. Types: Mpumalanga, farm Burttholm, *Davy 17750* (syn.); Standerton, *Rogers 14792* (PRE!, syn.); Standerton, *Rogers 18450* (PRE!, syn.).

*A. molle* is one of the commonest species of the eastern seaboard of South Africa (Figure 29). This small herb is also exceedingly variable and the species concept has been broadened to include a wide variety of forms which form a morphological continuum. Plant stature is influenced by environmental conditions and large differences were not apparent in cultivated plants from a wide geographic range. Precocious, cleistogamous flowering and phenotypic plasticity may explain the tolerance of the species across a wide distribution range.

Herbarium specimens vary in leaflet shape, size and vestiture, but this variation also occurs within wild populations and is not indicative of different species (Figure 30). No differences were observed in cultivated plants from the Eastern Cape and KwaZulu-Natal.



**Figure 29:** Known distribution of *A. molle*

*A. patens* is reduced to synonymy because its identity is based on its diminutive leaflets and decumbent habit. Moribund specimens of *A. molle* are indistinguishable from this taxon.

The misplacement of *Chasmone apiculata* as a synonym of *A. collinum* (Bentham 1844, Harvey 1862) is the result of the sessile cleistogamous fruits being mistaken for chasmogamous fruits. *A. collinum* is distinguished by its imbricate, subsessile leaves and solitary, subsessile chasmogamous flowers.

*A. molle* occurs in rocky grasslands of many vegetation types and across a range of altitudes from the Eastern Cape to southern Mpumalanga (Figure 29).

#### Selected specimens

–2627 (Potchefstroom): Eikenhof, Johannesburg, (–BD), *Mogg 29662* (J).

–2628 (Johannesburg): Thorntree Kloof, (–AA), *Baker 10564* (J).

–2930 (Pietermaritzburg): Albert Falls, (–AD), *Commins 511* (PRE); Bisle Valley, (–CB), *Barker 3804* (J).

–3030 (Port Shepstone): Brooklands, (–AC), *MacOwan 638* (GRA); Dumisa, St Michael, (–AD), *Rudatis 1970* (NH).

–3226 (Fort Beaufort): Philipton, (–BC), Winterberg, (–BC), *Ecklon & Zeyher 1319* (C, G, K, MO, O, P, S).

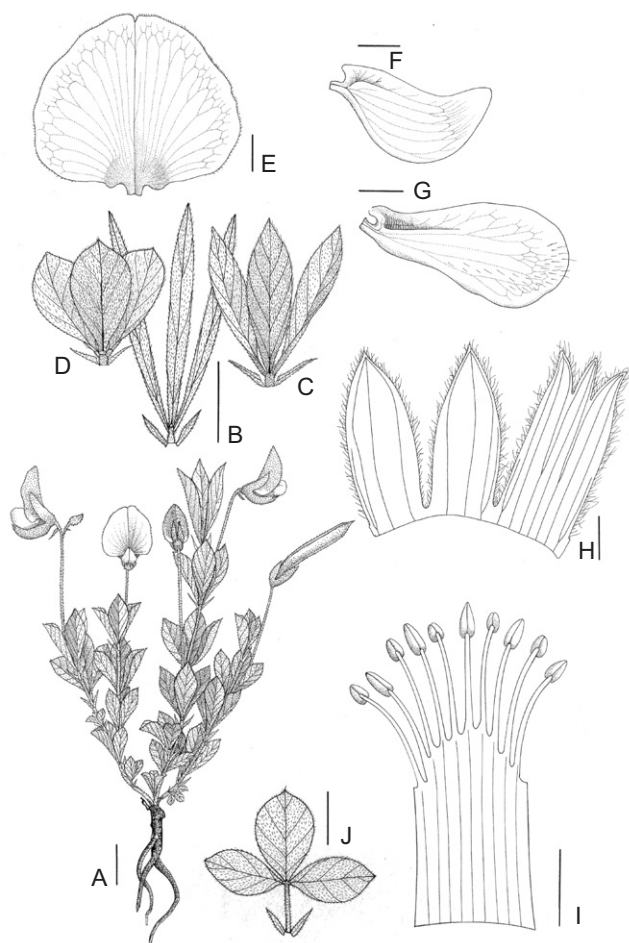
–3227 (Stutterheim): King William's Town, (–CD), *Tyson 836* (BM, BOL, G, SAM, UPS); Komgha, (–DB).

–3324 (Steytlerville): Zwartkopsrivier, (–DB), *Ecklon & Zeyher 1309* (G, MO, P, S, TCD).

–3325 (Port Elizabeth): Uitenhage, (–CD), *Drège 82* (C, E, PRE, S, UPS).

–3422 (Mossel Bay): Great Brak River, (–AA), *Fourcade 3849* (BOL); Christinabaai, (–BA), *Schlechter 2446* (E).

18. *Argyrolobium pumilum* Eckl. & Zeyh., *Enumeratio plantarum africae australis extratropicae* 2: 185 (1836); Walp.: 508 (1839); Walp.: 632 (1843); Benth.: 346 (1844); Harv.: 75 (1862); Harms: 181 (1917). Type: Eastern Cape,



**Figure 30:** *A. molle*. (A) habit (bar = 10mm); (B, C, D) upper leaf variation (bar = 10mm); (E) standard, abaxial view (bar = 2mm); (F) keel (bar = 2mm); (G) wing (bar = 2mm); (H) calyx (bar = 2mm); (I) androecium (bar = 2mm); (J) lower leaf (bar = 10mm). Vouchers: A–I = Edwards 484; J = Flanagan 689

Uitenhage, Van Stadensrivierberge, *Ecklon & Zeyher s.n.* (SAM!), lecto. selected here; CI, PI, PRE!, SI, isolecto.)

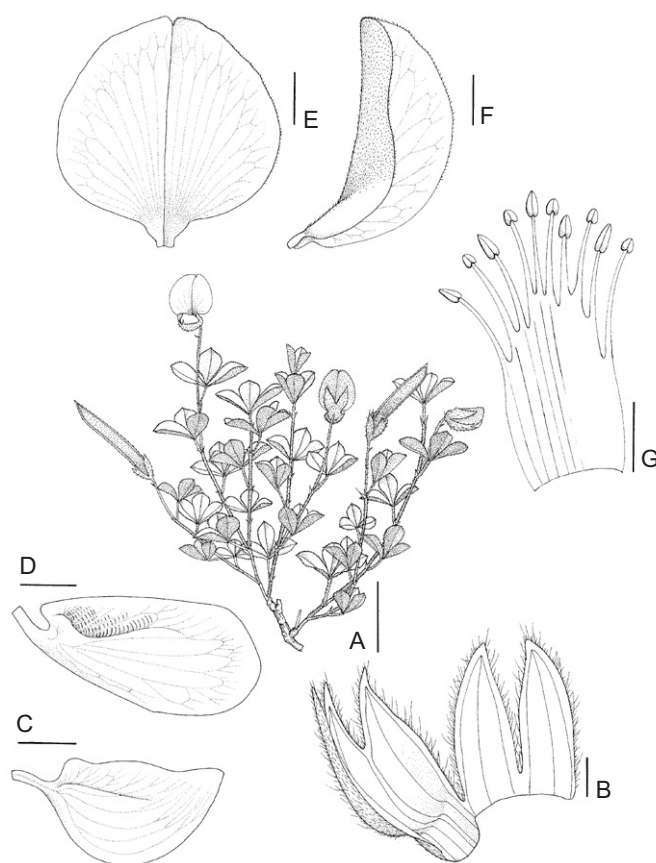
*Argyrolobium venustum* Eckl. & Zeyh.: 185 (1836). Type: Eastern Cape, Uitenhage, Addow (Addo), *Ecklon & Zeyher s.n.* (O!, lecto. selected here; CI, GRA!, MO!, SI, isolecto.)

*Chasmone pusilla* E. Mey.: 600 (1836). Type: not traced.

*Galega sericea* Thunb.: 134 (1794), pro parte. Type: Eastern Cape, *Thunberg s.n. sub THUNB-UPS 17396* (UPS!).

*A. pumilum* is a small distinctive species of rock outcrops and areas of baked earth. It is sometimes confused with decumbent plants of *A. molle*, which are sympatric in the Eastern Cape. *A. molle* is distinguished by its larger, narrower (often conduplicate) and slightly polymorphic leaflets, shorter petioles overtopped by stipules, prominent leaf venation and inflorescences which usually bear two or more flowers. In *A. pumilum* leaves are uniform and leaflets are fairly flat, dark green and discolourous, with silver margins. Petioles are well developed and always exceed the small recurved stipules in length (Figure 31).

*A. pumilum* is common in False Macchia grassveld (Figure 32).



**Figure 31:** *A. pumilum*. (A) habit (bar = 20mm); (B) calyx (bar = 2mm); (C) keel (bar = 2mm); (D) wing (bar = 2mm); (E) standard, abaxial surface (bar = 2mm); (F) standard, lateral view (bar = 2mm); (G) androecium (bar = 2mm). Voucher: Edwards 480

*Selected specimens*

–3225 (Somerset East): Tandyiesberg, (–AC), *Bolus 1781* (BOL).

–3324 (Graaff-Reinet): Zwartkopsrivier, (–DB), *Zeyher 88* (BOL, E, GRA, O, TCD).

–3325 (Port Elizabeth): Van Stadensberg, (–CC), *Ecklon & Zeyher 1308* (C, P, PRE, SAM, S); Addo, (–DA), *Ecklon & Zeyher 1310* (C, GRA, MO, O, S).

–3326 (Grahamstown): Grahamstown, (–BC), *Edwards 486* (NU); Trapp’s Valley, (–BD), *Edwards 496* (NU).

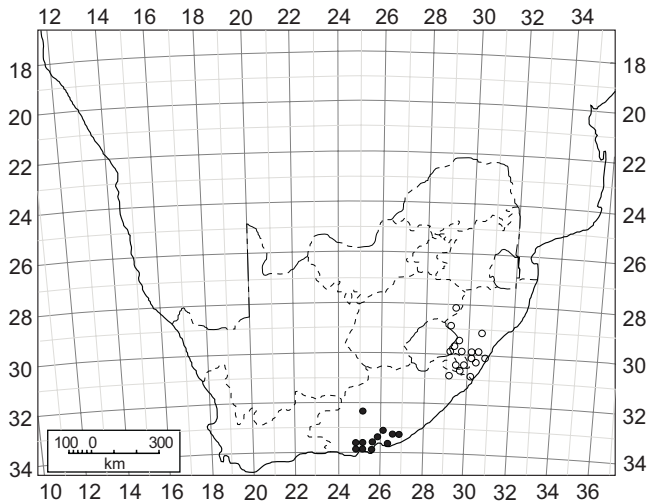
19. *Argyrolobium argenteum* (Jacq.) Eckl. & Zeyh., *Enumeratio plantarum africae australis extratropicae* 2: 184 (1836); Walp.: 632 (1843), non *A. argenteum* (L.) Willk. Type: Cape Province, t. 220 in Jacquin, *NJ Plantarum rariorum horti caesarei schoenbrunnensis* (1797).

*Crotalaria argentea* Jacq.: t. 220 (1797); DC.: 134 (1825), non *Cytisus argenteus* L. Type: as above.

*Chasmone argentea* (Jacq.) E. Mey.: 75 (1836). Type: as above.

*Chasmone argentea* (Jacq.) E. Mey. var. *pilosa* E. Mey.: 75 (1836). Type: Eastern Cape, between Gekau and Basche; Modderfontein near Brakrivier; Nieuwveld, near Gansefontein, all *Drège s.n.* (GI!, MO!, WI!; syn. without specified localities).





**Figure 32:** Known distribution of *A. pumilum* ● and *A. marginatum* ○

*Argyrobium pumilum* Eckl. & Zeyh. var. *pilosum* (E. Mey.) Harv.: 74 (1862), *synon. nov.* Type: as above.

*Dichilus obovatus* E. Mey.: 151 (1832), *synon. nov.* Type: Eastern Cape, Uitenhage, *Ecklon s.n.* (SI, lecto. selected here).

*Argyrobium obovatum* (E. Mey.) Eckl. & Zeyh.: 185 (1836); Walp.: 508 (1839). Type: as above.

*Argyrobium collinum* Eckl. & Zeyh. var. *seminudum* Harv.: 72 (1862), *synon. nov.* Type: Eastern Cape, Uitenhage, Zoutpanshoogte, *Zeyher 3201* (SI, lecto. selected here; GI, PI, isolecto.).

*Argyrobium collinum* Eckl. & Zeyh. var. *angustatum* Harv.: 72 (1862), *synon. nov.* Type: Eastern Cape, Uitenhage, Swellendam, near Gouritzrivier, *Ecklon & Zeyher 1303* (SI, lecto. selected here).

This shrubby species occurs in dry vegetation of the interior (Figure 33) and is characterised by its densely sericeous stems and petioles. New growth is occasionally densely pilose. *A. argenteum* was reduced to synonymy with *A. collinum* (Harvey 1862), due to its frequently subsessile, solitary flowers. However, its small flowers, lax, shrubby stature, sparse indumentum and pronounced petioles clearly separate it (Figure 34). Occasionally, its flowers are borne atop elongate peduncles but in many specimens the inflorescence appears to be pedunculate, due to the delayed maturation of the terminal leaf which opposes the flowers. Sometimes up to three flowers are borne per node, which is reminiscent of *A. filiforme*. The species has also been confused with *A. pumilum* but has smaller, subsessile flowers, narrower leaflets and is a much taller, erect shrub.

#### Selected specimens

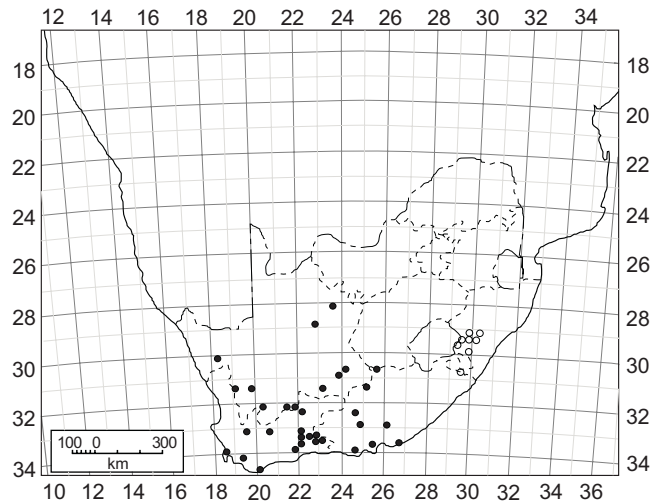
–3119 (Calvinia): Nieuwoudtville Reserve, (–AC), *Perry & Snijman 2067* (NBG); Calvinia, (–BD), *Lewis 6123* (STE).

–3224 (Graaff-Reinet): Graaff-Reinet, (–BC), *Bolus 583* (GRA, S).

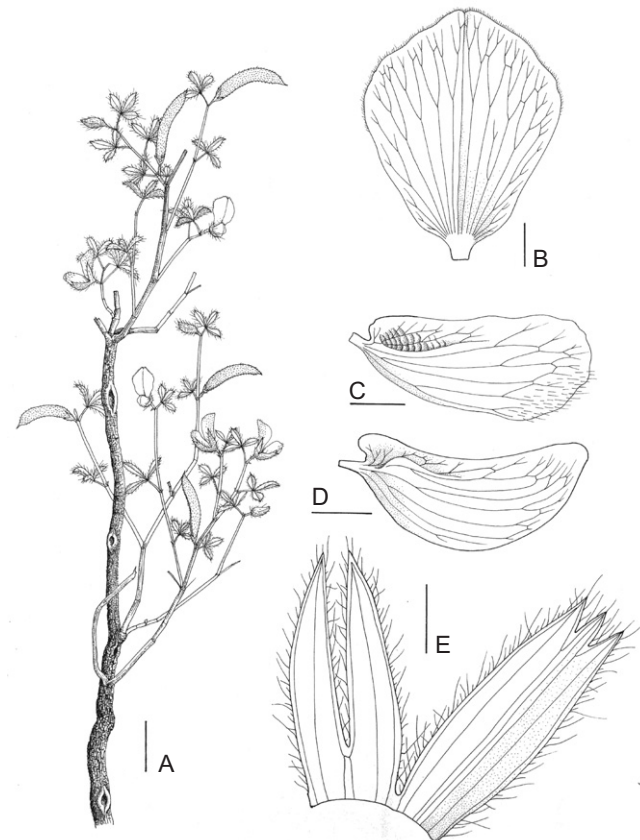
–3321 (Ladismith): Grootplaats beyond Cloetespas, (–DD), *Muir 2035* (BOL, PRE).

–3322 (Oudtshoorn): Prince Albert, (–AA), *Bolus 11789* (BOL).

–3420 (Bredasdorp): Bredasdorp, (–CA), *Taylor s.n.* (NBG).



**Figure 33:** Known distribution of *A. argenteum* ● and *A. sericosemium* ○



**Figure 34:** *A. argenteum*. (A) flowering branch (bar = 2mm); (B) standard, abaxial surface (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) calyx, inner surface (bar = 2mm). Voucher: *Acocks 20077*

20. *Argyrolobium pachyphyllum* Schltr. in Engl. Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 24: 441 (1898). Type: Western Cape, Elim, on grassy hills Schlechter 7724 (K!, lecto. selected here; BOL!, BM!, E!, G!, MO!, S!, W!, isolecto.).

Schlechter (1898) suggested that an alliance exists between *A. pachyphyllum* and *A. collinum*, which both produce solitary (occasionally two) flowers atop abbreviated peduncles; however, in *A. collinum*, the peduncles are barely visible. The young stems of *A. pachyphyllum* are white with appressed trichomes and the plants are densely branched shrubs, characters never seen in *A. collinum*, which is weakly perennial (Figure 35). A closer ally is *A. argenteum*, which is a small shrub of the adjacent interior. It is distinguished by its membranous, weakly conduplicate leaves with pronounced petioles and its smaller flowers with narrower petals.

*A. pachyphyllum* is a narrow endemic around Bredasdorp in Coastal Renosterbosveld and Coastal Macchia (Figure 15). The conservation status of this species requires careful evaluation.

*Selected specimens*

–3419 (Caledon): Dasberg, Storms Vlei, (–BB), Stokoe 61545 (SAM); Caledon, (–DA), Bolus 6477 (BOL); Elim, (–DA), Schlechter 7724 (BM, BOL, E, G, MO, S).  
 –3420 (Bredasdorp): De Hoop, Potberg Nature Reserve, (–BC), Burgers 1580 (PRE); Barker 8440 (NBG).

21. *Argyrolobium barbatum* (Meisn.) Walp., Repertorium botanices systematicae 2: 845 (1843); Benth.: 345–346 (1844); Harv.: 74 (1862). Type: Eastern Cape, Uitenhage, banks of the Koega River, Krauss 928 (B†; W!, lecto. selected here).

*Chasmone barbata* Meisn.: 77 (1843). Type: as above.

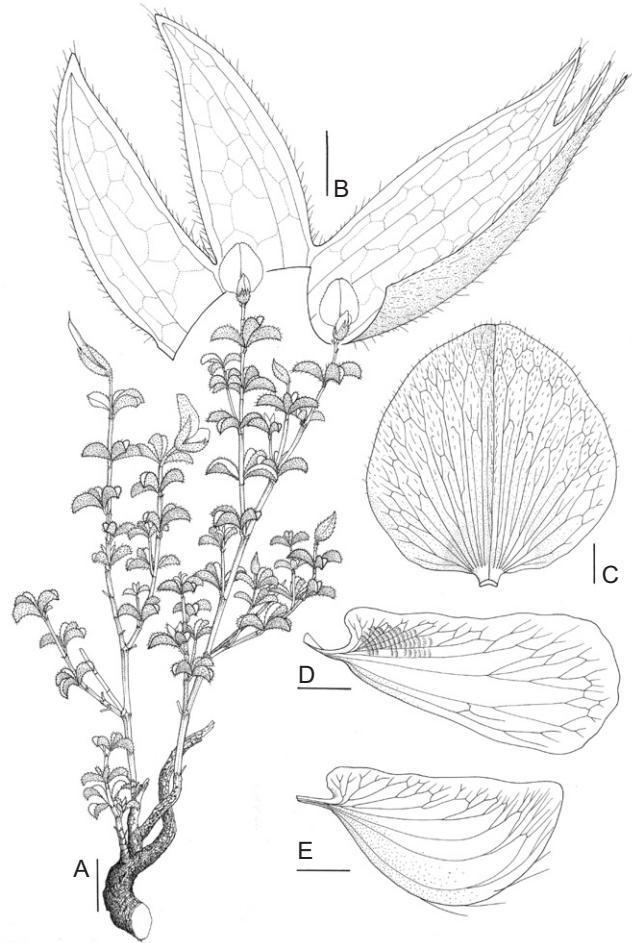
*A. barbatum* is a rare endemic in Addo Bush, a southern form of Valley Bushveld (Figure 36). Plants are distinctive with a rufous, pilose indumentum and partially connate stipules. Mature individuals are characterised by very short, gnarled lower branches. The flowers are borne singly or in pairs atop elongate peduncles. In these characters the species resembles *A. campicola*, which is allopatric and distinguished by its short petioles, herbaceous habit and sparsely pilose wing petals with lamellate sculpturing. *A. barbatum* has elongate petioles which exceed the stipules, very woody lower stems and glabrous wing petals with lunate petal sculpturing (Figure 37).

*Selected specimens*

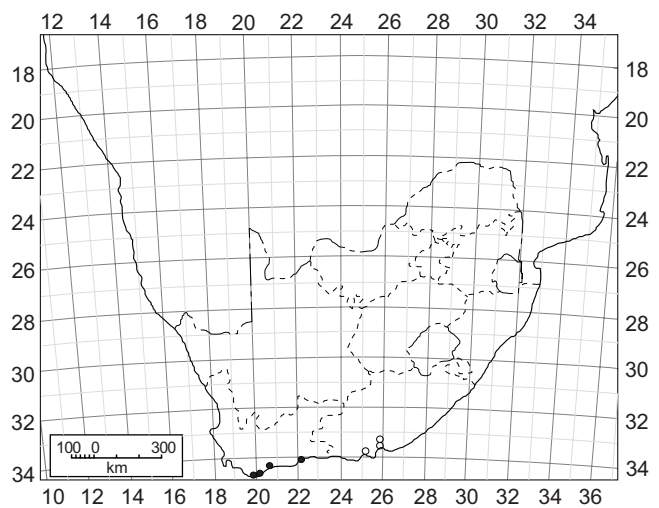
–3325 (Port Elizabeth): Sandflats, (–BD), Story 2356 (GRA); Ngnaga, between Port Elizabeth and Grahamstown, (–BD), Bond 1236 (NBG); Koegakopje, Zwartkopsjan, (–CD), Zeyher 2305 (G, P, S, SAM, TCD).

22. *Argyrolobium collinum* Eckl. & Zeyh. Enumeratio plantarum africae australis extratropicae 2: 186 (1836); Walp.: 507 (1839); Walp.: 631 (1843); Harv.: 72 (1862); Harms: 178 (1917). Type: Eastern Cape, Uitenhage, Addo and near Bosjesmansrivier, Ecklon & Zeyher 705 (K!, lecto. selected here; BM!, E!, TCD!, isolecto.).

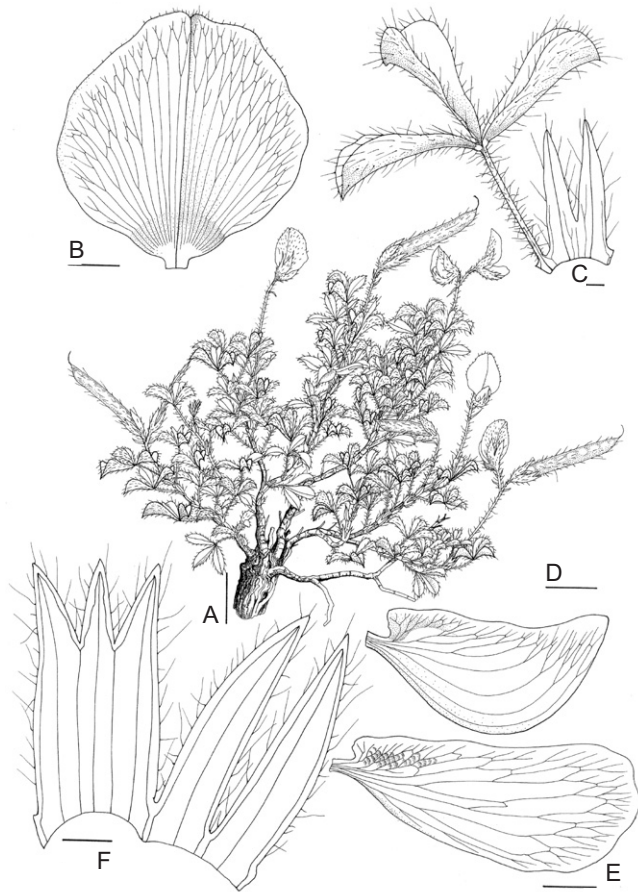
*Argyrolobium podalyrioides* Dümmer: 273 (1912), *synon. nov.* Type: Grahamstown, on grassy hills, Mac Owan 481



**Figure 35:** *A. pachyphyllum*. (A) habit (bar = 20mm); (B) calyx (bar = 2mm); (C) standard (bar = 2mm); (D) wing (bar = 2mm); (E) keel (bar = 2mm). Voucher: Burgers 1580



**Figure 36:** Known distribution of *A. barbatum* ○ and *A. harmisianum* ●



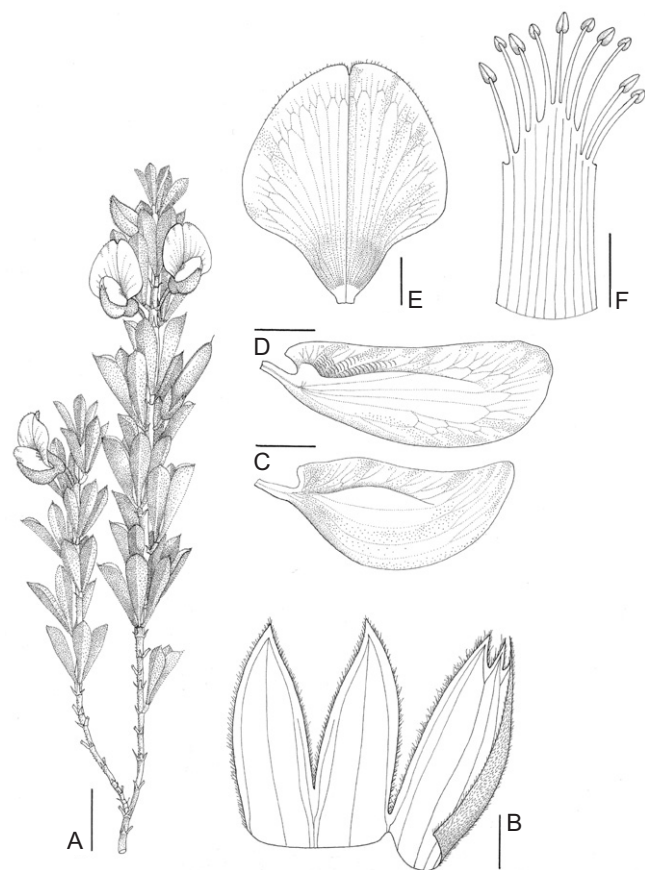
**Figure 37:** *A. barbatum*. (A) habit (bar = 20mm); (B) standard (bar = 2mm); (C) leaf with fused stipules (bar = 2mm); (D) keel (bar = 2mm); (E) wing (bar = 2mm); (F) calyx (bar = 2mm). Voucher: Janus & Sidey 733

(K!, lecto. selected here; BOL!, GRA!, K!, NY!, PRE!, TCD!, isolecto.); Grahamstown, Bothasberg, *Tyson s.n.* (K!, syn.).

*A. collinum* is a herbaceous sub-shrub and seldom exceeds 0.4m. Plants soon become moribund in unburnt grassland. The plants are canescent with solitary (occasionally paired), sessile, chasmogamous flowers (Figure 38). Unfortunately, many similar species produce solitary, sessile cleistogamous flowers, which may cause some confusion in fruiting specimens. However, fruits set through cleistogamy are easily distinguished by their diminutive calyces.

Dümmer's recognition of *A. podalyrioides* is not supported. Leaflet width varies in accordance with the state of surrounding vegetation. Robust coppice growth, with broadly obovate leaflets, characterises resprouting specimens and spindly decumbent plants with narrowly obovate leaflets occur in moribund vegetation.

The reduction of *Chasmonia apiculata* E. Mey. to synonymy with *A. collinum* (Benth. 1844, Harv. 1862, Walp. 1839 and 1843) is not supported. The type of *C. apiculata* was misidentified because the fruits are solitary, subsessile and leaf-opposed. These fruits were produced through cleistogamy, as is evident by their diminutive calyces, and therefore constitute *A. molle* (hence the clear leaflet venation).



**Figure 38:** *A. collinum*. (A) flowering branch (bar = 20mm); (B) calyx (bar = 2mm); (C) keel (bar = 2mm); (D) wing (bar = 2mm); (E) standard, abaxial surface (bar = 2mm); (F) androecium (bar = 2mm). Voucher: Edwards & Ackermann 481

*A. harmsianum* is allied to *A. collinum*, producing similar chasmogamous inflorescences. It is distinguished by its oblong leaflets with glabrescent adaxial surfaces.

*A. collinum* commonly occurs in grasslands associated with False Macchia (Figure 39).

#### Selected specimens

–3323 (Willowmore): Joubertina, (–DD), *Esterhuysen 21215* (BOL, PRE); *Edwards & Ackermann 476* (NU).

–3325 (Port Elizabeth): Grahamstown, (–BC), *Tyson 15373* (SAM); Van Staden's Flower Reserve, (–CC), *Dahlstrand 2567* (GRA, MO, PRE).

–3326 (Grahamstown): Assagaibos, (–AD), *Zeyher 2302* (BM, PRE); Faraway, near Grahamstown, (–BC), *Edwards & Ackermann 481 & 487* (NU); Gunfire Hill, (–BC), *MacOwan 481* (BOL, GRA, NH, NY, TCD).

23. ***Argyrolobium harmsianum*** Schltr. ex Harms, in *Berichte der Deutschen Botanischen Gesellschaft* 35: 183 (1917). Type: Western Cape, on hills at Cape Agulhas, *Schlechter 10565* (G!, lecto. selected here; E!, MO!, PRE!, S!, W!, isolecto.).

*A. harmsianum* is a small herbaceous species which proliferates via stoloniferous lateral stems (Figure 40). The

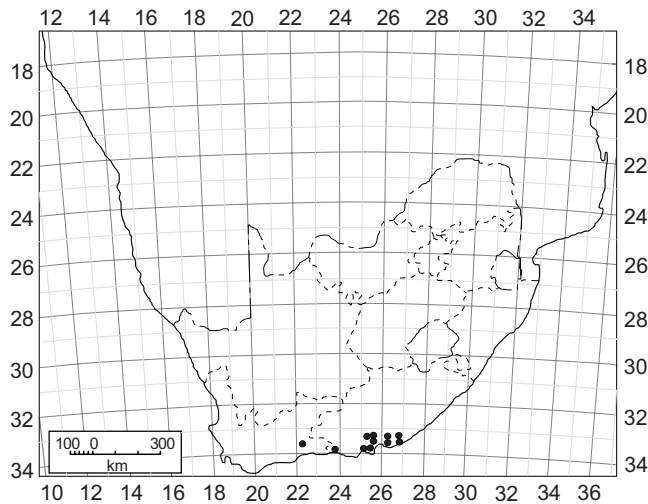


Figure 39: Known distribution of *A. collinum*

herbaceous habit and solitary flowers of *A. harmsianum* are very similar to *A. nigrescens* but its androecia are never pseudodiadelphous (with the vexillary stamen largely free). In addition, the species are allopatric and the leaflets of *A. harmsianum* are obovate to oblong and patent; in *A. nigrescens*, leaflets are oblanceolate and erect. *A. collinum* is another close ally, sharing a similar habit and inflorescence structure. It is distinguished by its densely sericeous to canescent, conduplicate leaves which are usually imbricate, and by its glabrous wing petals.

*A. harmsianum* is endemic to the limestones around Bredasdorp in Coastal Macchia (Figure 36).

#### Selected specimens

–3420 (Bredasdorp): De Hoop, Hamerkop Farm, (–BC), Van Wyk 1599 (STE); De Hoop (–BC), Levyns 10703 (BOL); near Cape Agulhas, (–CA), Hugo 1752 (PRE); Pillans 8175 (BOL); Schlechter 10565 (E, G, MO, PRE, S, W).

24. ***Argyrobium pauciflorum*** Eckl. & Zeyh., Enumeratio plantarum africae australis extratropicae 2: 186 (1836), non *A. pauciflorum* (Willd.) Hayek; Walp.: 507 (1839); Walp.: 631 (1843); Harv.: 74 (1862); Harms: 180–181 (1917); Burt Davy: 393 (1926). Type: Eastern Cape, Zuurepoort, Stormberg, Zeyher s.n. (S!, neo. selected here). [Original type: Eastern Cape, Stormberg near the Kei River source, Ecklon & Zeyher 1314 (B†).]

*Argyrobium pauciflorum* var. *semiglabrum* Harv.: 74 (1862), nom. nud.

*Argyrobium biflorum* Eckl. & Zeyh.: 186 (1836); Benth.: 347 (1844). Type: Northern Cape, Philipstown, Winterberg, Ecklon & Zeyher 1317 (S!, lecto. selected here).

*Chasmonia stricta* E. Mey.: 75 (1836). Type: Eastern Cape, between Klipplaatrivier and Swartkei, Drège s.n. (BM!, lecto. selected here; G!, MO!, O!, P!, isolecto.).

*Argyrobium strictum* Steud.: 130 (1840); Benth.: 346 (1844). Type: as above.

The homonym *A. pauciflorum* (Willd.) Hayek was published in 1926 for Asian material.

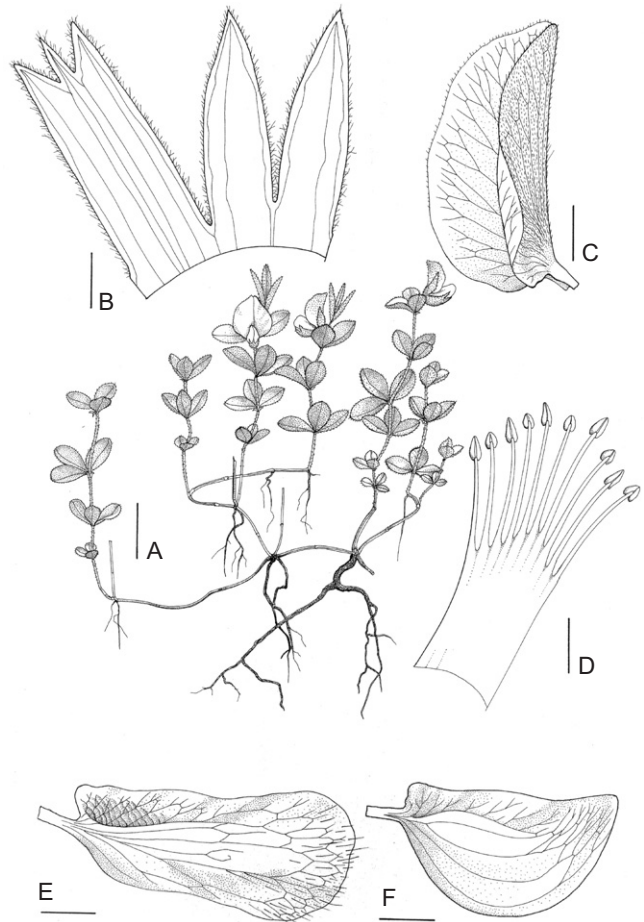


Figure 40: *A. harmsianum*. (A) habit (bar = 20mm); (B) calyx (bar = 2mm); (C) standard, lateral view (bar = 2mm); (D) androecium (bar = 2mm); (E) wing (bar = 2mm); (F) keel (bar = 2mm). Voucher: Levyns 10703

*A. pauciflorum* is a decumbent herbaceous species allied to *A. campicola*, and is distinguished by its smaller, free stipules and its long petioles (Figure 41). Considerable material of *A. molle* has been misplaced under this species; however, the large stature of vegetative and reproductive parts, the prominent petioles and the lanceolate upper leaflets distinguish it.

The species occurs at high altitude, commonly in Highland and Dohne Sourveld (Figure 42).

#### Selected specimens

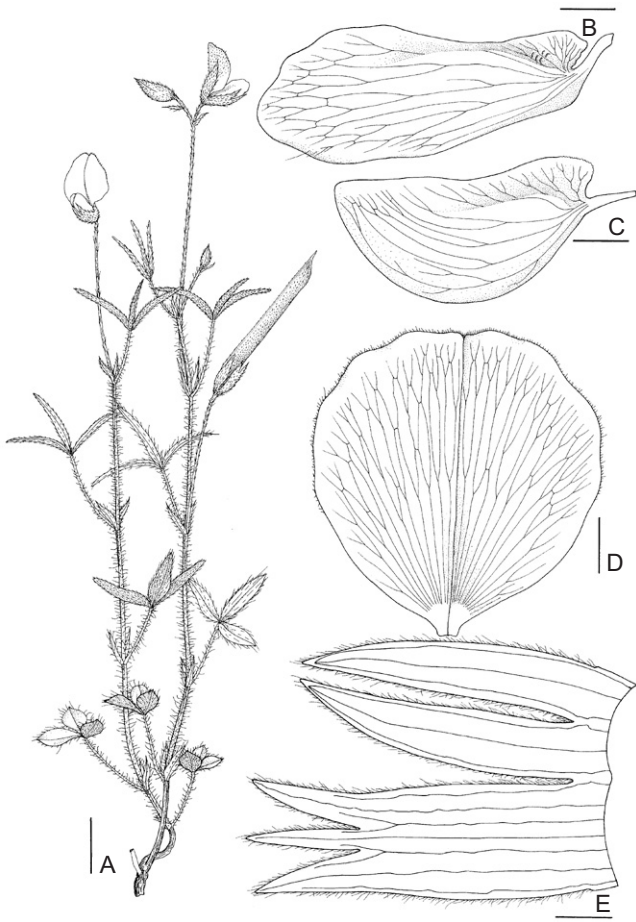
–2530 (Lydenburg): Machadodorp, (–CB), Galpin s.n. (BOL).

–2925 (Jagersfontein): Heuwelsig, west of Dan Pienaar, (–AA), Hanekom 569 (PRE).

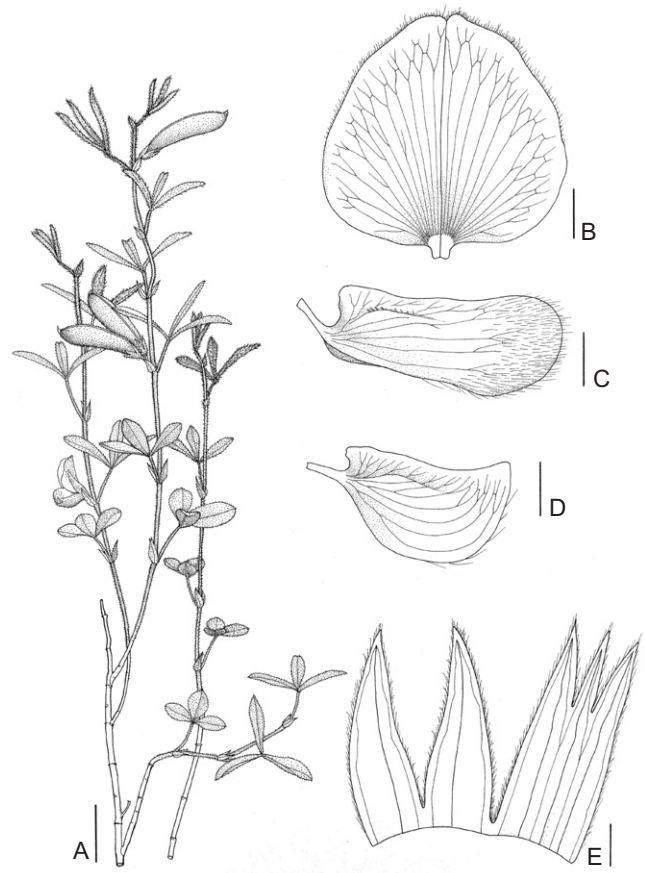
–3126 (Queenstown): Broughton, near Molteno, (–AD), Flanagan 1575 (BOL, SAM); Queenstown, (–DD), Bowker 58 (GRA, TCD).

–3226 (Fort Beaufort): between Klipplaatrivier and Zwart Kei, (–BB), Drège s.n. (BM, G, MO, O).

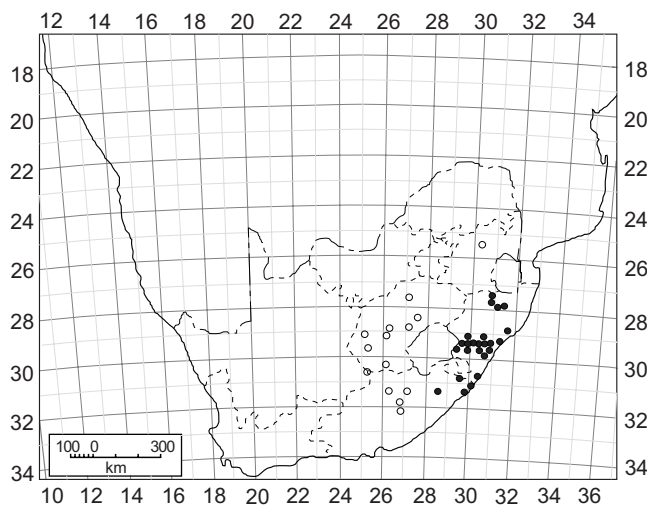
25. ***Argyrobium velutinum*** Eckl. & Zeyh., Enumeratio plantarum africae australis extratropicae 2: 186 (1836); Walp.: 507 (1839); Walp.: 631 (1843); Benth.: 344 (1844); Harv.: 71 (1862); Harms: 182 (1917). Type: Western Cape,



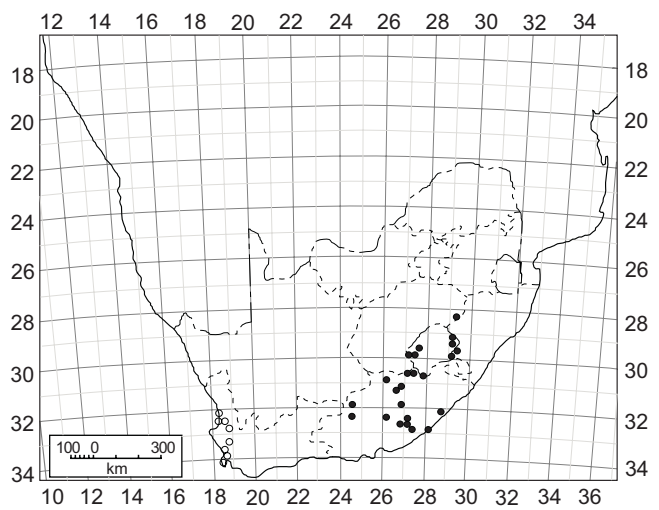
**Figure 41:** *A. pauciflorum*. (A) habit (bar = 20mm); (B) wing (bar = 2mm); (C) keel (bar = 2mm); (D) standard (bar = 2mm); (E) calyx (bar = 2mm). Voucher: *Bowker 58*



**Figure 43:** *A. velutinum*. (A) reproductive branches (bar = 20mm); (B) standard, abaxial surface (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) calyx (bar = 2mm). Voucher: *Bolus 7074*



**Figure 42:** Known distribution of *A. pauciflorum* ○ and *A. humile* ●



**Figure 44:** Known distribution of *A. velutinum* ○ and *A. candicans* ●

near Simonstown, *Ecklon & Zeyher 1313* (P!, lecto. selected here; GRA!, S!, SAM!, isolecto.).

*A. velutinum* is a strand plant of the Western Cape (Figure 44) that seldom produces chasmogamous flowers, and is therefore under-collected. Sessile, multi-flowered inflorescences also occur in *A. filiforme* but its small stature, glabrescent nature and compressed pods distinguish it. The inflated fruits of *A. velutinum* are unique among species from the Western Cape coast (Figure 43).

This coastal species grows in Strandveld vegetation.

#### Selected specimens

–**3218** (Clanwilliam): Nortier Experimental Farm, (–AB), *Boucher 2584* (STE); eastern slopes, Piecknier's Pass, (–DB), *Pearson 5143* (BOL).

–**3318** (Cape Town): Zwartland, Dornhoogde, (–BD), *Zeyher 386* (BM, E, G, P, PRE, SAM).

–**3418** (Simonstown): Simonstown, (–AB), *Ecklon & Zeyher 1313* (GRA, P, S, SAM); Rapenburg, Cape Peninsula, (–AB), *Bolus 7074* (BOL).

**26. *Argyrolobium candicans*** Eckl. & Zeyh., *Enumeratio plantarum africae australis extratropicae* 2: 186 (1836); Walp.: 507 (1839); Walp.: 631 (1843); Benth.: 343 (1844); Harv.: 71 (1862). Type: Eastern Cape, Winterberg, on the mountain sides, *Ecklon & Zeyher 1312* (S!, lecto. selected here; C!, G!, MO!, S!, SAM!, TCD!, isolecto.).

*Chasmone sessiliflora* E. Mey.: 72 (1836); Meisn.: 76 (1843).

*Chasmone sessiliflora* E. Mey. var. *interrupta* E. Mey.: 72 (1836). Type: Eastern Cape, Windvogelberg, *Drège s.n.* (B†; K!, lecto. selected here).

*Chasmone sessiliflora* E. Mey. var. *parvifolia* E. Mey.: 72 (1836). Type: Eastern Cape, Mooypplaats, *Drège s.n.* (B†; K!, lecto. selected here; G!, isolecto.); Eastern Cape, Witbergen, *Drège s.n.* (B†; P!, syn.).

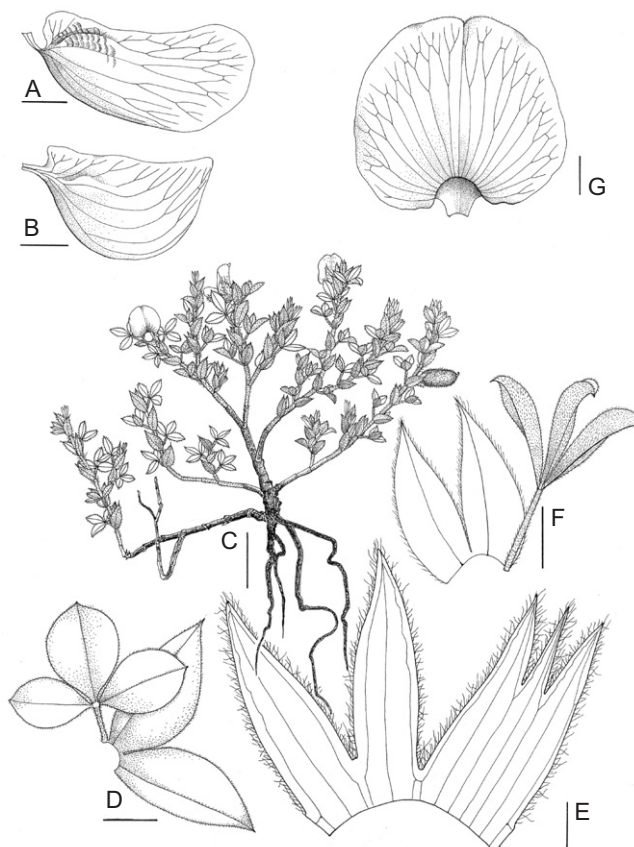
Incorrectly as *Chasmone sessilifolia*, *Drège*: 46 & 51 (1844).

*Argyrolobium summomontanum* Hilliard & Burt: 308 (1983), *synon. nov.* Type: Lesotho-KwaZulu-Natal border, hill slopes behind escarpment south of Sani Pass, *Hilliard & Burt 8871* (E!, holo.; NU!, iso.).

*A. candicans* is a small species primarily of high-altitude grasslands. Its turgid pods, prominent stipules and sessile, solitary flowers are a unique combination of characters within the genus (Figure 45).

Hilliard and Burt (1983) described *A. summomontanum* without viewing material of *A. candicans*, although they suggest an alliance between these species. The diagnostic characters they outlined refer to habit, vestiture and leaflet shape. These are variable in *A. candicans* and do not support the continued recognition of *A. summomontanum*.

Extremes of variation relate to the wide altitudinal range of *A. candicans*. The species occurs mainly in Highland and Dohne Sourveld and Themeda-Festuca Alpine Veld, but extends into Coastal Thornveld (Figure 44). This distributional pattern is similar to *A. stipulaceum*, a close ally. Coastal specimens (*Flanagan 1343*) are larger and have



**Figure 45:** *A. candicans*. (A) wing (bar = 2mm); (B) keel (bar = 2mm); (C) habit (bar = 20mm); (D) leaf of coastal form (bar = 10mm); (E) calyx (bar = 2mm); (F) leaf of high-altitude form (bar = 2mm); (G) standard, abaxial view (bar = 2mm). Vouchers: A, B, C, E, G = *Hilliard & Burt 8871*; D = *Flanagan 1343*; F = *Edwards 728*

weakly conduplicate, broadly obovate leaflets while specimens collected at high altitude are smaller, often with strongly conduplicate leaflets.

#### Selected specimens

–**2829** (Harrismith): Lehaha la Sekonyani, (–AD), *Guillarmod 235* (PRE).

–**2929** (Underberg): Sani Pass, (–CB), *Hilliard & Burt 17297* (E, K, NU, PRE).

–**3026** (Aliwal North): Mooypplaats, (–CC), *Drège s.n.* (K, G).

–**3027** (Lady Grey): Ben MacDhui, (–DB), *Hilliard & Burt* (BOL, E, K, MO, NBG, NU, PRE, S).

–**3226** (Fort Beaufort): Winterberg, (–AD), *Ecklon & Zeyher 1312* (C, G, MO, O, S, SAM, TCD); Nico Malan Pass, Seymour, (–DB), *Edwards 728* (NU).

–**3228** (Butterworth): between Gekau and Basche, (–BA), *Drège s.n.* (S); Kei Mouth, (–CB), *Flanagan 1343* (BOL, GRA, NU, PRE, SAM).

**27. *Argyrolobium stipulaceum*** Eckl. & Zeyh., *Enumeratio plantarum africae australis extratropicae* 2: 187 (1836); Walp.: 507 (1839); Walp.: 631 (1843); Benth.: 343 (1844);

Harv.: 71 (1862); Burt Davy: 393 (1926). Type: Northern Cape, Winterberg near Philipstown, *Ecklon & Zeyher s.n.* (SAM!, lecto., selected here; G!, K!, MO!, OXF!, P!).

*Chasmane verticillata* E. Mey.: 72 (1836). Types: Eastern Cape, Katberg *Drège s.n.* (BM!, lecto. selected here; K!, P!, S!, isolecto.); between Kei and Basche, *Drège s.n.* (P!, syn.).

*A. stipulaceum* is variable in size but consistent in morphology. It is distinguished by its silver indumentum, very large stipules and inflated fruits (Figure 46). The close ally *A. candicans* differs in its diminutive stature, much smaller, solitary, sessile chasmogamous flowers (rarely, chasmogamous flowers are sessile in *A. stipulaceum*) and short internodes. When identifying fruiting specimens, calyx size must be checked because cleistogamous flowers (with diminutive calyces) of *A. stipulaceum* are always sessile.

*A. stipulaceum* occurs in grasslands across a wide altitudinal range. Specimens have been collected mainly in Coastal Thornveld, Dohne and Highland Sourveld and Themeda-Festuca Alpine Veld (Figure 47).

#### Selected specimens

–2630 (Carolina): Mavrierstad, (–CA), *Pott 5068* (PRE, BOL).

–2830 (Dundee): Kranskop, (–DD), *Edwards 459* (NU).

–2930 (Pietermaritzburg): Howick, (–AC), *Moll 1028 & 1169* (NU, PRE); *Wood 5123* (BM, BOL, E, G, MO, SAM, UPS); Camperdown, (–DA), *Edwards 433* (NU); Krantz kloof, (–DD), *Schlechter 3208* (BOL, BR, C, E, GRA, Z).

–3029 (Kokstad): Clydesdale, (–BD), *Tyson 1379 & 2533* (BOL, SAM); Kokstad, (–CB).

–3226 (Fort Beaufort): Katberg, (–DA), *Drège s.n.* (BM, P, S); *Hutton s.n.* (TCD); Seymour, Nico Malan Pass, (–DB), *Edwards 728* (NU).

–3227 (Stutterheim): Windvoegelberg, (–AC), *Drège s.n.* (P, S); Fort Cunynghame, (–AD), *Edwards 728* (NU); Komgha, (–DB), Flanagan 1089 (BOL, GRA, PRE).

–3326 (Grahamstown): Grahamstown, (–BC), *MacOwan 775* (BM, BOL, GRA, TCD).

28. *Argyrobium lotoides* Harv. in Harv. & Sond. Flora Capensis 2: 595 (1862), non *Argyrobium lotoides* Bunge ex Trauv.; Edwards: 77 (1993b). Type: Eastern Cape, Transkei, *Bowker 366* (TCD!, holo.; K!, PRE!, iso.).

*Argyrobium variopile* N.E. Br.: 18 (1906); B.E. van Wyk: 395 (1987). Types: KwaZulu-Natal, Charlestown, *Wood 5693* (BOL!, K!, NH!, PRE!, syn.), *Wood 6355* (K!, lecto.; NH!, PRE!, SAM!, isolecto.).

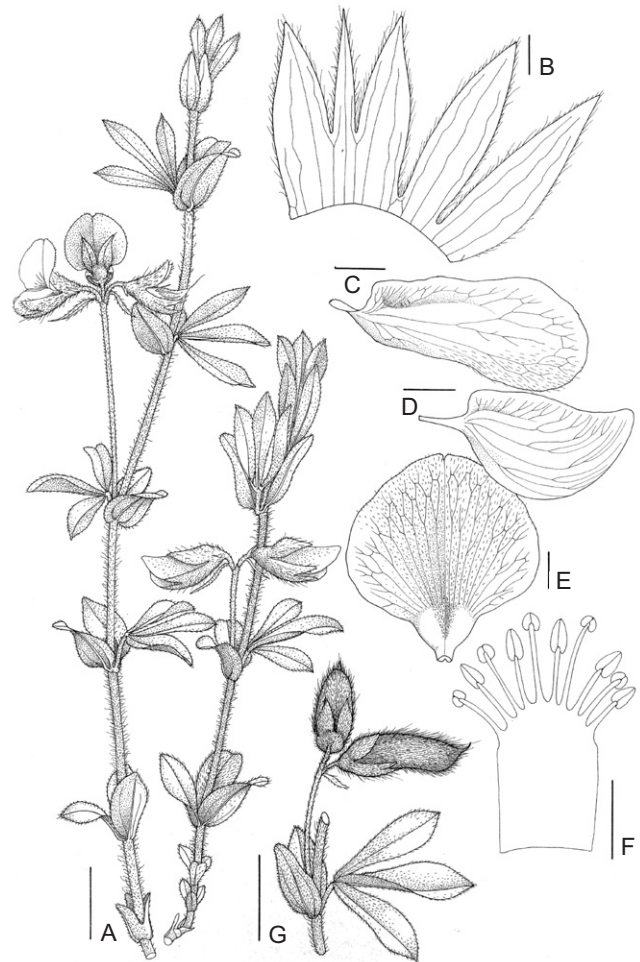
*Argyrobium hirsuticaule* Harms: 179 (1917). Type: Eastern Cape, Transkei, Zuurbergen, *Schlechter 6571* (B†; BOL!, lecto. selected here).

*Argyrobium leptocladum* Harms: 180 (1917). Type: Eastern Cape, Transkei, Clydesdale, *Tyson 1256* pro parte (B†; BM!, icono.).

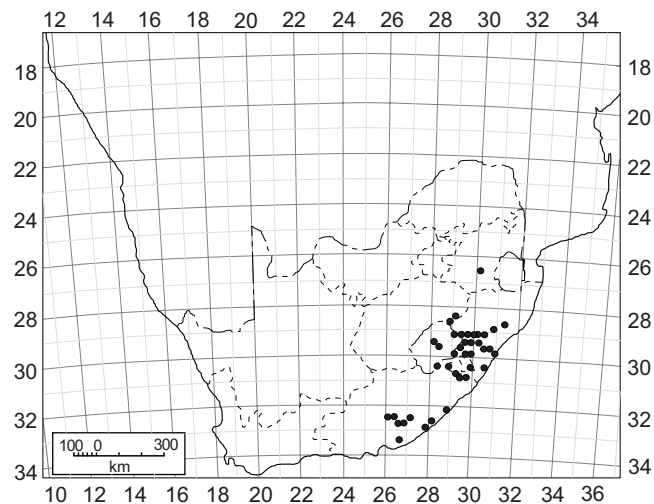
*Argyrobium thodei* Harms: 184 (1917). Type: Free State, Witsieshoek, *Thode 20* (B†; BM!, icono.).

*Lotononis magnistipulata* Dümmer: 299 (1913b). Type: South Africa, Faku's Territory (probably Transkei), *Sutherland s.n.* (K, holo.).

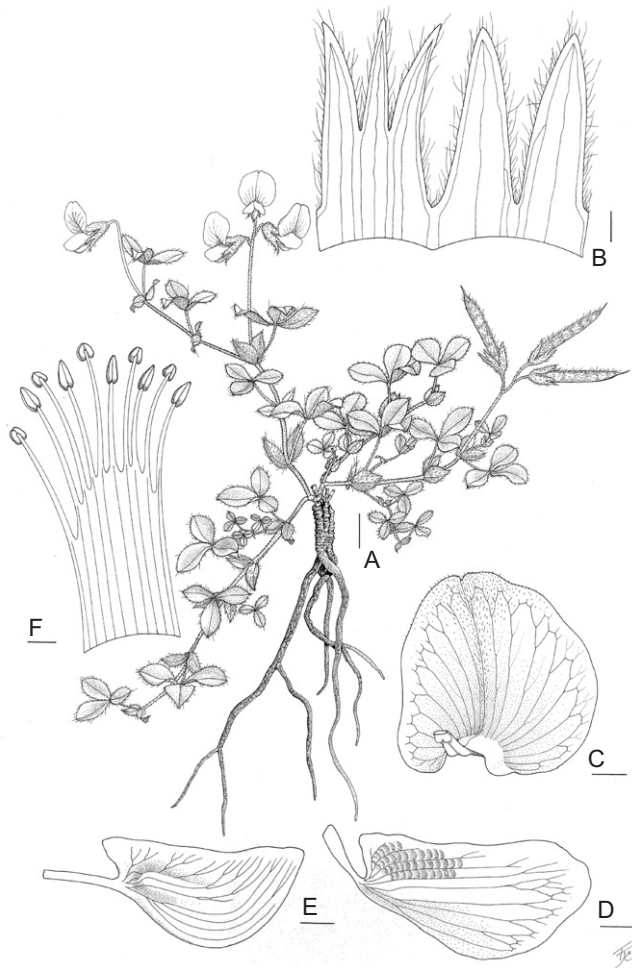
This herbaceous species displays considerable variation but is characterised by its foliaceous, broadly ovate stipules. The species is the most gracile member of the *A.*



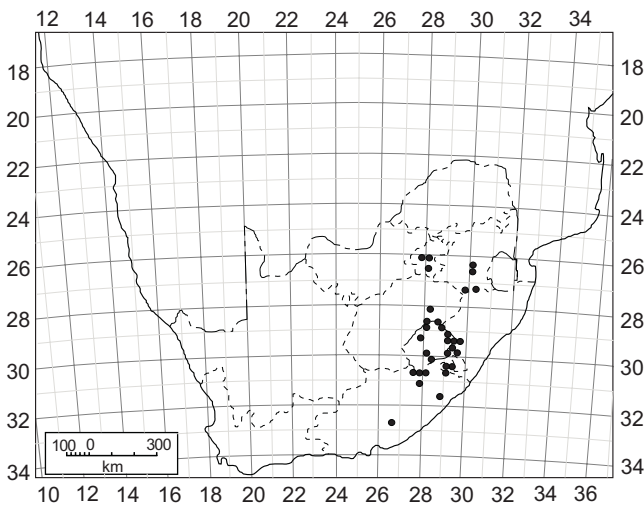
**Figure 46:** *A. stipulaceum*. (A) habit (bar = 20mm); (B) calyx (bar = 2mm); (C) wing (bar = 2mm); (D) keel (bar = 2mm); (E) standard, adaxial surface (bar = 2mm); (F) androecium (bar = 2mm); (G) turgid fruits (bar = 20mm). Voucher: *Edwards 433*



**Figure 47:** Known distribution of *A. stipulaceum*



**Figure 48:** *A. lotoides*. (A) habit (bar = 10mm); (B) calyx, inner surface (bar = 1mm); (C) standard, adaxial surface (bar = 1mm); (D) wing (bar = 1mm); (E) keel (bar = 1mm); (F) androecium (bar = 1mm). Voucher: *Browning 183*



**Figure 49:** Known distribution of *A. lotoides*

*rupestre* complex (Figure 48). The earliest collection was made by Drège (n. 6629) and is housed at P. It bears the name *Chasmosyne pilosissima* E. Mey. but no description could be traced. *A. lotoides* is the oldest published name, predating the commonly used epithet *A. variopile* by nearly 50 years. The former description was published by Harvey in 'Addenda and Corrigenda to the Second Volume' of *Flora Capensis* (1862), and may have been overlooked by subsequent researchers.

*A. hirsuticaule* Harms was described from a Schlechter specimen collected at 'Zuurbergen' near Kokstad, KwaZulu-Natal. The three names published by Harms (1917) were based on differences in vestiture and leaflet dimensions. These highly variable characters form a continuum and are thus unsuitable for delimiting species. The specimens from which *A. leptocladum* and *A. hirsuticaule* were described were destroyed at B but drawings of these specimens are housed at BM (Edwards 1993b). The type of *A. leptocladum* is part of a mixed collection (verified by the drawings at BM) with *A. amplexicaule* (Tyson 1256); unfortunately, only specimens of *A. amplexicaule* remain from this gathering.

The homonym *A. lotoides* Bunge ex Trautv. was published in 1873, 11 years after Harvey's epithet, from material collected in Armenia.

*A. lotoides* occurs at high altitude along the Drakensberg in Mpumalanga, KwaZulu-Natal and Lesotho, and at lower altitudes in the Eastern Cape (Figure 49). Plants commonly occur in Highland and Dohne Sourveld and Themeda-Festuca Alpine Veld.

*Selected specimens*

- 2729 (Volksrust): Charlestown, (–BD), *Wood 5693* (BOL, K, NH, PRE); *Wood 6355* (K, NH).
- 2828 (Bethlehem): Mt Lebanon, (–AB), *Vos 154* (NU); Fouriesburg, Dunelm Farm, (–CA), *Potts 4981* (PRE); Leribe Plateau, (–CC), *Dieterlen 520, 521 & 1110* (PRE).
- 3027 (Lady Grey): Witteberg, farm Beddgelert, (–DA), *Hilliard & Burt 16577* (E, K, MAS, NU, PRE, S).
- 3028 (Matatiele): Qacha's Nek, (–BA), *Gordon Gray 4042 & 4043* (E, NU).
- 3029 (Kokstad): Mount Currie, (–AD), *Tyson 1765* (SAM); Kokstad, (–CB), *Tyson 1254* (BM, G, UPS, W).
- 3226 (Fort Beaufort): Katberg, (–DA), *Young & Moss 15406* (J).

**29. *Argyrolobium marginatum*** H. Bol. in *Journal of the Linnaean Society (Botany)* 25: 161 (1889). Type: KwaZulu-Natal, East Griqualand, Mt Malowe near Clydesdale, *Tyson 2054* (K!, lecto., selected here; BOL!, PRE!, SAM!, isolec- to.); KwaZulu-Natal, Illovo, *Wood 1852* (NH!, PRE!, syn.); Free State, Nelson's Kop, *Cooper 872* (BOL!, syn.).

*Argyrolobium sankeyi* Dümmer: 273 (1912), *synon. nov.* Type: Free State, Harrismith, *Sankey 43* (K!, holo.).

*A. marginatum* is the most robust member of the *A. rupestre* alliance and produces well developed, congested racemes. Partial fusion of the foliaceous stipules is distinctive but is absent in northern specimens. Here, the species approaches *A. rupestre* in form but the stipules are broadly lanceolate and the plants have larger leaves. The type collection of *A. sankeyi* is from these northern limits and this may



explain Dümmer's recognition of a new species. A broad species concept is taken in this revision due to the continuity of the variation in *A. marginatum*. It is most closely allied to *A. sericosemium* and diagnostic characters are discussed under that species.

The species occurs across a range of altitude and vegetation types but is restricted to sourveld (Figure 32).

#### Selected specimens

–2829 (Harrismith): Nelson's Kop, (–AB), *Cooper 872* (BOL, E).

–2929 (Underberg): Bulwer Mountain, (–BC), *Edwards 1091* (NU).

–2930 (Pietermaritzburg): Greytown, (–BA), *Wylie 11* (NH, PRE); Richmond, (–CD), *Schlechter 6719* (BOL, GRA).

–3029 (Kokstad): Mount Currie, (–AD), *Tyson 1431* (BOL, GRA, SAM); Mount Malowe, (–BD), *Tyson 1257* (BM, BOL, G, GRA, PRE, SAM, UPS); Insizwa Mountain, (–CC), *Schlechter 6436* (B, BR, BOL, E, PRE).

–3030 (Port Shepstone): Dumisa, (–AD), *Rudatis 888* (BM, E, G, W).

30. *Argyrobium sericosemium* Harms in *Berichte der Deutschen Botanischen Gesellschaft* 35: 181 (1917). Types: KwaZulu-Natal, Weenen, 1 300–1 700m, *Wood 5453* (B†; BM!, BOL!, EI, PRE! syn.); *Wood 7194* (B†; BM!, lecto. selected here; EI, NBG!, PRE!).

*A. sericosemium* is closely allied to *A. marginatum* but the leaflets are conduplicate and pendant and the inflorescences are few-flowered (Figure 50). Populations on Bulwer Mountain display individuals of this facies mixed with individuals of *A. marginatum*. Staminal fusion of *A. sericosemium* is unstable but tends towards diadelphly, although the vexillary filament is fused basally.

The species is restricted to the KwaZulu-Natal Drakensberg in Highland and Dohne Sourveld (Figure 33).

#### Selected specimens

–2929 (Underberg): Weenen, (–BB), *Wood 5453* (BM, E, PRE, BOL); Bulwer Mountain, (–BC), *Edwards 1092* (NU); Kamberg, Gladstone's Nose, (–BD), *Edwards 747* (NU); Lundy's Hill, (–DD), *Stirton 1143* (PRE, MO).

–2930 (Pietermaritzburg): Umgeni Poort, Lions River, (–AC), *Moll 1387* (NU, PRE); Fort Nottingham Commonage, (–AC), *Edwards 337* (NU).

–3029 (Kokstad): Ngeli Mountain, (–DA), *Balkwill & Cadman 2688* (J).

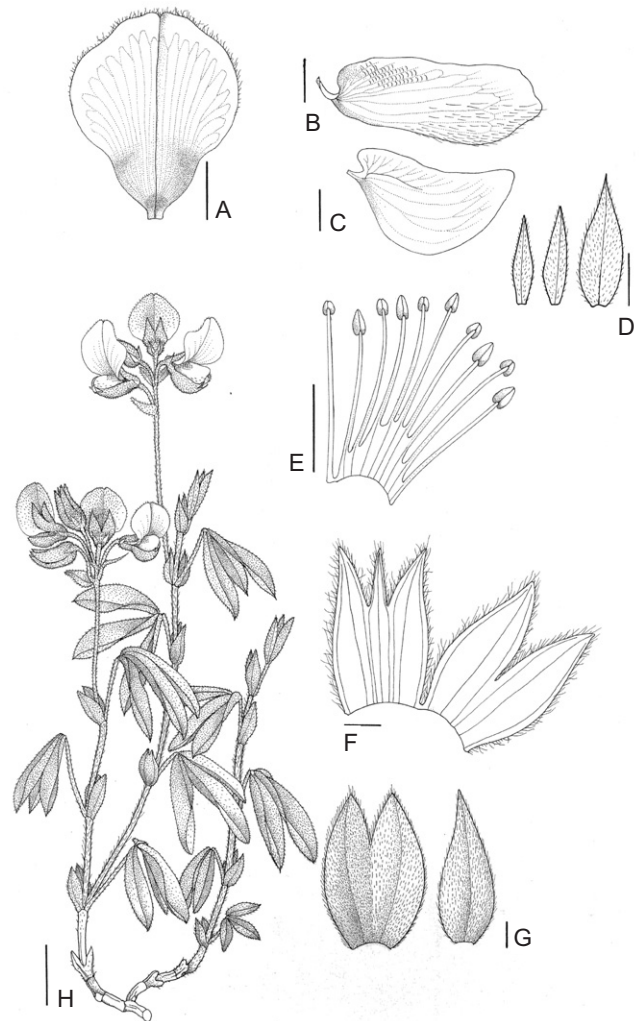
31. *Argyrobium rupestre* (E. Mey.) Walp. subsp. *rupestre* in *Linnaea* 13: 508 (1839); Benth.: 345 (1844); Harv.: 73 (1862); Bak. f.: 63 (1926); Polhill: 157 (1968). Type: Eastern Cape, Stormberg, 5 000–6 000', *Drège s.n.* (K!, lecto.; BM!, K!, isolecto.).

*Chasmona rupestris* E. Mey.: 74 (1836). Type: as above.

*Argyrobium rhodesicum* Bak. f.: 64 (1926). Type: Zimbabwe, Umtali, *Rogers 4029* (K!, holo.; BM!, iso.).

*Argyrobium tysonii* Harms: 181 (1917), *synon. nov.* Type: KwaZulu-Natal, Kokstad, *Tyson 455* (BOL!, holo.; G!, K!, SAM!, UPS!, W!, isolecto.).

*Argyrobium rogersii* N.E. Br. in *Burt Davy*: 394 (1926), *synon. nov.* Type: Northern Transvaal, Polokwane, the



**Figure 50:** *A. sericosemium*. (A) standard (bar = 2mm); (B) wing (bar = 2mm); (C) keel (bar = 2mm); (D) bract and bracteoles (bar = 2mm); (E) androecium (bar = 2mm); (F) calyx, inner surface (bar = 2mm); (G) fused and free stipules (bar = 2mm); (H) flowering plant (bar = 20mm). Voucher: *Edwards 337*

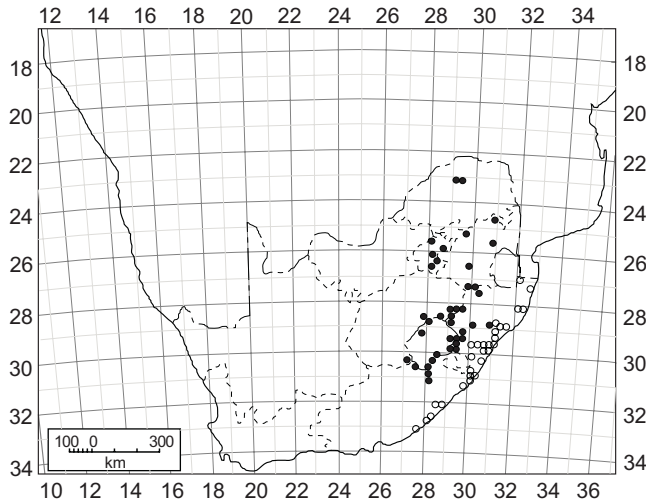
Downs, *Rogers 22061* (K!, lecto. selected here; PRE!, iso.).

*A. rupestre* is widespread and perhaps best treated as a species complex. Polhill (1968), in his revision of *Argyrobium* for tropical Africa, recognised four subspecies. He included all the southern African material within the type subspecies. *A. rupestre* is usually associated with afro-montane vegetation (Figure 51). *A. tysonii* is indistinguishable and is reduced to synonymy.

*A. rupestre* is frequently misidentified as *A. ascendens*, which differs in its upright habit and very short petioles; the stipules are also usually broader than those of *A. rupestre*. In *A. ascendens*, the funicle develops into a prominent symmetrical aril while in *A. rupestre* only an asymmetrical tongue of funicular tissue remains attached to the seed.

#### Selected specimens

–2329 (Polokwane): Blouberg, (–AA), *Vos 222* (NU); Soutpansberg, farm Rustfontein, (–AB), *Schlieben 7647* (B, BR, G).



**Figure 51:** Known distribution of *A. rupestre* ● and *A. rotundifolium* ○

–2528 (Pretoria): Hornsnek, (–CA), *Schlieben 7740* (BR); Beukeushout Kloof, Magaliesberg, (–DC), *Repton 622* (PRE).  
 –2629 (Bethal): Ermelo, Farm Nooitgedacht, (–DB), *Henrici 1120 & 1009* (PRE).  
 –2828 (Bethlehem): Leribe, (–CC), *Dieterlen 652* (BM, NH, PRE, SAM).  
 –2828 (Bethlehem): Bestersvlei, (–DB), *Bolus 8147* (BM, NBG, SAM).  
 –2829 (Harrismith): Queen’s Hill, (–AC), *Jacobsz 1079* (NBG, PRE); Rensburgskop, (–AD), *Jacobsz 264* (NBG, PRE); Cathedral Peak, nDedema Gorge, (–CC), *Edwards 1101* (NU).  
 –3028 (Matatiele): Thaba Chitja, (–AD), *Granger 3692* (PRE); Qacha’s Nek, (–BA), *GordonGray 4044* (NU, PRE).  
 –3029 (Kokstad): Ngeli Mt., (–DA), *Tyson 1099* (BM, GRA, NH, SAM).

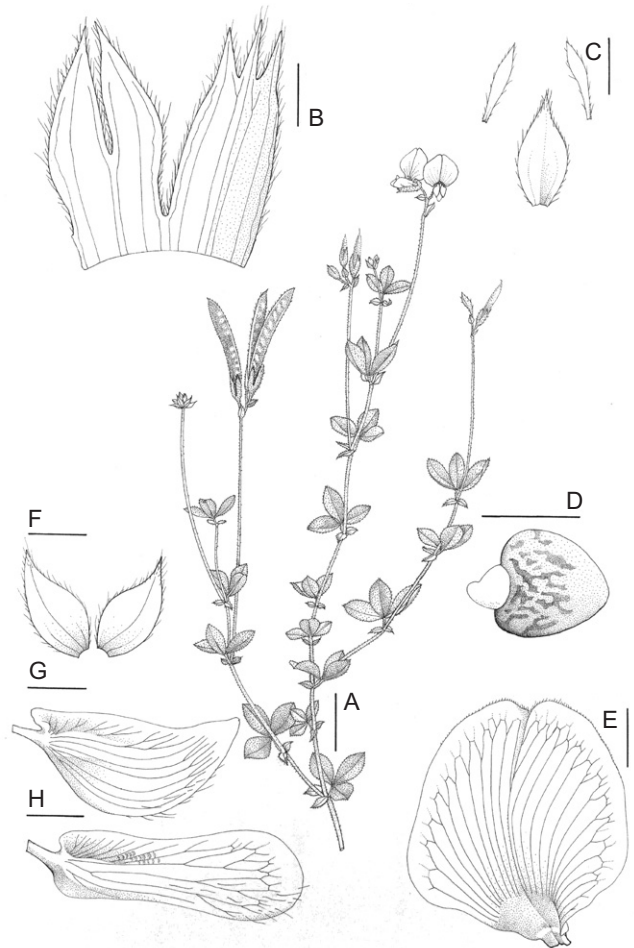
32. *Argyrobium ascendens* (E. Mey.) Walp. in *Linnaea* 13: 507 (1839); Walp.: 631 (1843); Harv.: 75 (1862). Type: KwaZulu-Natal, in grassland, between Omcomas (Nkomanzi River) and Omblas, below 500’, *Drège* (Vc, 24) (K!, lecto. selected here; G!, MO!, PI!, TCD!, S!).

*Chasmone ascendens* E. Mey.: 73 (1836). Type: as above.

*Argyrobium longipes* N.E. Br.: 254 (1897), *synon. nov.* Type: Mpumalanga, Berea Ridge, Barberton, *Galpin 1305* (BOL!, K!, PRE!, *syn.*); KwaZulu-Natal, Tugela, *Gerrard & McKen 1764, 1765* (K!, lecto. selected here; BM!, K!, TCD!, W!).

*A. ascendens* is a decumbent herb distributed from southern KwaZulu-Natal into Mpumalanga. The prominent, symmetrical aril is diagnostic for this species (Figure 52). Plants are slightly variable in leaf size and these differences manifest themselves within single populations. *A. longipes* is reduced to synonymy, as the plants differ only in their slightly smaller size.

*A. ascendens* is closely related to *A. rupestre* and material lacking seed is sometimes difficult to place. The flowers of *A. ascendens* are smaller and are borne atop longer peduncles, its petioles are shorter and its stipules are larger. The leaflets of this species are usually elliptic with acute apices while those of *A. rupestre* are usually obovate with rounded



**Figure 52:** *A. ascendens*. (A) flowering branch (bar = 20mm); (B) calyx, inner surface (bar = 2mm); (C) bracts and bracteoles (bar = 2mm); (D) arillate seed (bar = 2mm); (E) standard, abaxial surface (bar = 2mm); (F) stipules (bar = 2mm); (G) keel (bar = 2mm); (H) wing (bar = 2mm). Voucher: *Edwards 506*

apices. *A. humile* is also commonly confused with *A. ascendens*. It can be distinguished by its fewer, larger flowers, pilose indumentum and larger rounded leaflets. Fruiting material is easily separated because fruits of *A. humile* are broad and pilose and the seeds lack an aril.

*A. ascendens* occurs commonly in Ngongoni Veld but extends into a variety of grassland types (Figure 53).

#### *Selected specimens*

–2530 (Lydenburg): Elandspruitbergen, (–AA), *Schlechter 3839* (B, BOL, BR, C, E, G, PRE).  
 –2831 (Nkandla): Entumeni (Ntumeni), (–CD), *Wood 9336* (E, MO, NU).  
 –2832 (Mtubatuba): Hluhluwe Game Reserve, (–AA), *Hitchins 797* (E, NH, NU).  
 –2930 (Pietermaritzburg): Hela Hela Nature Reserve, (–CC), *Edwards 807* (NU); Inanda, (–DB), *Wood 1369* (BOL, NH, PRE); Drummond, Botha’s Hill, (–DC); Inchanga, Old Main Rd., (–DC), *Edwards 506* (NU).  
 –3030 (Port Shepstone): Ixopo, (–AA), *Schlechter 6675* (B, BOL, BR); Dumisa Station, (–AD), *Rudatis 1350* (BM, E).

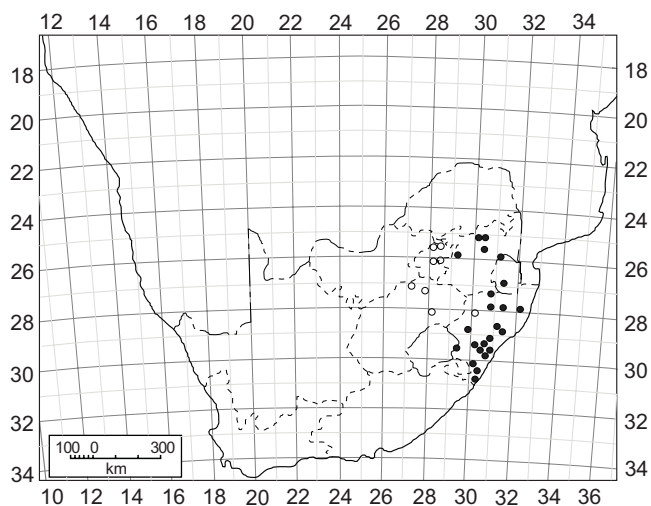


Figure 53: Known distribution of *A. ascendens* ● and *A. campicola* ○

33. *Argyrolobium rotundifolium* T.J. Edwards in *Bothalia* 23: 77 (1993b). Type: KwaZulu-Natal, Pietermaritzburg, between Peacevale and Drummond, *Edwards & Ackermann* 329 (NU!, holo.; K!, E!, PRE!, iso.).

*A. rotundifolium* is allied to *A. rupestre* but is distinguished by its consistently prostrate habit (*A. rupestre* is better described as ascending or decumbent), broadly elliptical to orbicular leaflets, shortly rufous-tomentose indumentum and the lack of sculpturing on its wing petals (Figure 54). This species is predominantly coastal in distribution (Figure 51) while *A. rupestre* is limited to inland areas. In southern KwaZulu-Natal, *A. rupestre* approaches the coast on the high-lying areas around Kokstad and Harding; however, no contact zones with *A. rotundifolium* have been recorded.

#### Selected specimens

–2831 (Nkandla): Eshowe, (–CD), *Grobbelaar* 2328 (PRE); Ngoye, (–DC), *Huntley* 852 (NU).

–2832 (Mtubatuba): Mngqabatheki, (–AB), *Scott-Smith* 41 (NH, NU).

–2930 (Pietermaritzburg): Phoenix, (–CA), *Schlechter* 3128 (B, BR, GRA); Town Hill, (–CB), *Huntley* 87 (E, NU); 35km from Wartbergon, Noodsberg Rd, (–DA), *Edwards* 3000 (NU, PRE); *Edwards & Ackermann* 329 (E, K, NU, PRE); Krantzklouf, (–DD), *Schlechter* 3178 (BM, G, GRA, PRE, SAM).

–3030 (Port Shepstone): Ixopo, (–AA), *Edwards* 689 (NU); Park Rynie, (–BC), *Strey* 6831 (B, J, NU).

–3228 (Butterworth): hill near Kei Mouth, (–CB), *Flanagan* 1070 (BOL, GRA, PRE).

34. *Argyrolobium humile* Phillips in *Annals of the South African Museum* 9: 120 (1913). Type: KwaZulu-Natal, Griqualand East, Mt Malowe, *Tyson* 1259 (BM!, lecto. selected here; BOL!, GI!, UPS!, isolecto.).

*A. humile* is sometimes difficult to distinguish from *A. rupestre* and *A. ascendens*; diagnostic differences are discussed under the latter. The three species are sympatric in parts of KwaZulu-Natal and the Transkei but no evidence of hybridisation has been found. Near Pietermaritzburg, popu-

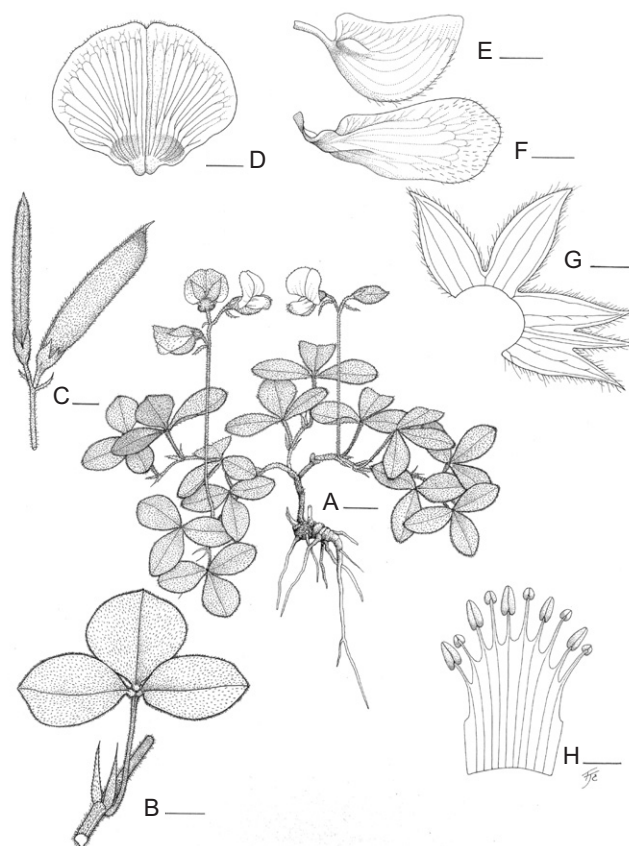


Figure 54: *A. rotundifolium*. (A) habit (bar = 10mm); (B) leaf (bar = 5mm); (C) fruits (bar = 4mm); (D) standard, abaxial surface (bar = 2mm); (E) keel (bar = 2mm); (F) wing (bar = 2mm); (G) calyx (bar = 4mm); (H) androecium (bar = 2mm). Voucher: *Edwards & Ackermann* 329

lations of almost exclusively cleistogamous *A. humile* occur (*Edwards* 696 & 829). The minimal reduction of cleistogamous inflorescences in *A. humile* and its broad, pilose fruits confirm its species status (Figure 55). Cleistogamous flowers of *A. rupestre*, *A. ascendens* and *A. rotundifolium* always have diminutive calyces.

This species is common in moist grassland of the Eastern Cape and KwaZulu-Natal, occurring mainly in Highland and Dohne Sourveld (Figure 42).

#### Selected specimens

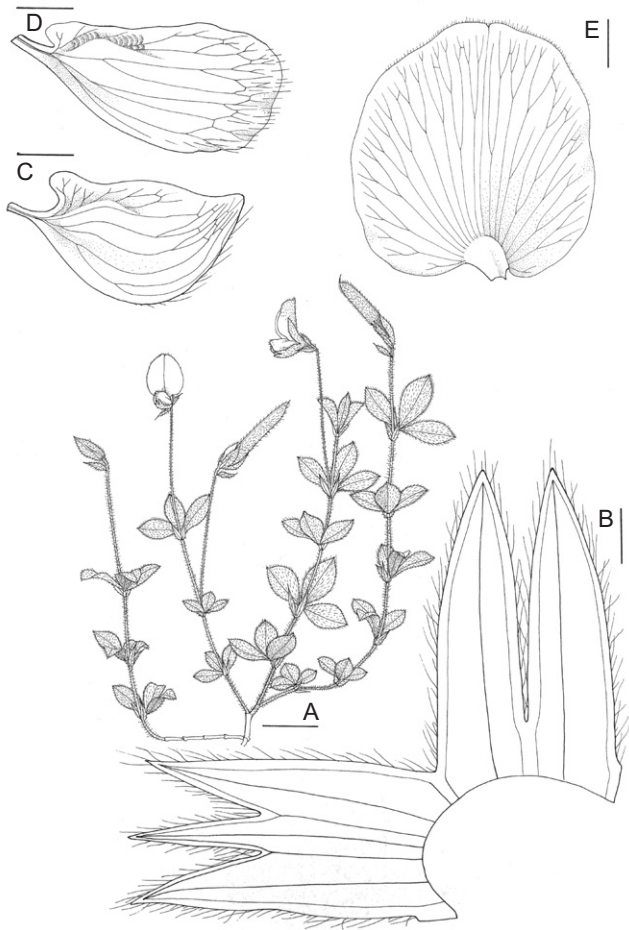
–2831 (Nkandla) Ngoye Forest, (–DC), *Venter* 2365 (PRE).

–2929 (Underberg): Mukangane Ridge above Carter's Nek, (–BC), *Hilliard & Burt* 17640 (E, K, NU); Kamberg, Gladstone's Nose, (–BD), *Edwards* 752 (NU); Mpendle, Tillietudlem, (–DB), *Huntley* 411 (MO, PRE).

–2930 (Pietermaritzburg): Boulder Hill Game Farm, (–CB), *Edwards* 829 & 696 (NU); Euberton, (–DB), *Schlechter* 3229 (B, BOL, BR, C, E, G); Inanda, (–DB), *Wood* 1369 (BOL, NH, PRE).

–3029 (Kokstad): Ngeli Peak, (–DA), *Balkwill & Cadman* 2709 (J, NU); *Stirton* 10420 (NH).

–3030 (Port Shepstone): Mt Malowe, near Umzimkulu, (–CB), *Tyson* 1259 (BM, BOL, G, UPS).



**Figure 55:** *A. humile*. (A) habit (bar = 20mm); (B) calyx, inner surface (bar = 2mm); (C) keel (bar 2mm); (D) wing (bar = 2mm) (E) standard petal (bar = 2mm). Voucher: Hilliard & Burt 19086

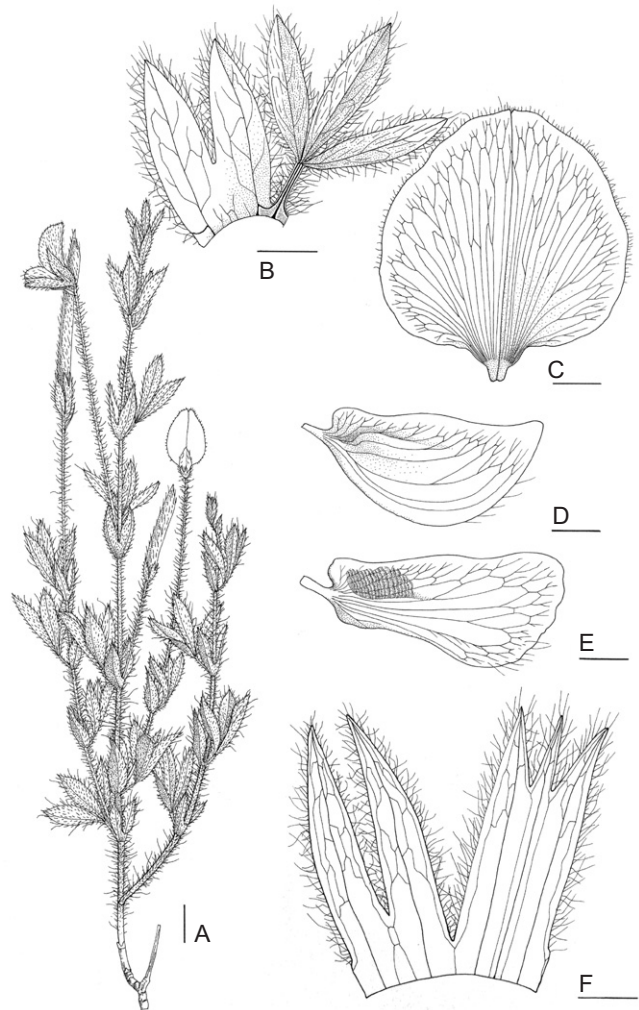
35. ***Argyrolobium campicola*** Harms in Berichte der Deutschen Botanischen Gesellschaft 35: 182 (1917); Edwards: 296 (1993a). Type: Gauteng, highveld between the Drakensberg and Pretoria, *Wilms 271* (B†, holo.; BM!, icono.).

*A. campicola* was described in 1917 but did not receive widespread recognition. The destruction of the type material in Berlin and the relative paucity of collections have probably contributed to this. Collections of *A. campicola* have been confused with *A. pauciflorum* Eckl. & Zeyh. The former is easily distinguished by its large basally connate stipules and short petioles (Figure 56); in *A. pauciflorum*, the stipules are smaller and free and are much shorter than the petioles. In addition, the leaves of *A. pauciflorum* are strongly dimorphic while those of *A. campicola* are fairly uniform.

The species occurs in Highland and Dohne Sourveld (Figure 53).

*Selected specimens*

–2528 (Pretoria): Bronkhorstspuit, Pienaarsriver, (–CA), *De Winter 5978* (PRE); Onderstepoort, (–CA), *Dr. Theiler's Lab. 14819* (PRE); Pretoria University, (–CA), *Kies 344* (BOL, PRE).



**Figure 56:** *A. campicola*. (A) habit (bar = 10mm); (B) leaf and connate stipules, adaxial surface (bar = 3mm); (C) standard, abaxial surface (bar = 2mm); (D) keel (bar = 2mm); (E) wing (bar = 2mm); (F) calyx (bar = 2mm). Voucher: Shirley s.n.

–2628 (Johannesburg): Germiston, Roodekop Station, (–AA), *Codd 3630* (PRE); Geduld, Witwatersrand, (–AB), *Moss 16025* (BM).

–2727 (Kroonstad): Leeuspruit and Vrededorp, (–AB), *Bartlett-Hamilton s.n.* (BM); Heilbron, (–BD), *Wallace s.n.* (GRA).

–2828 (Bethlehem): *Flanagan 2072* (GRA, PRE).

36. ***Argyrolobium aciculare*** Dümmer in Kew Bulletin: 271 (1912). Type: Western Cape, Caledon, on the slopes of Houw Hoek, *Bolus 6934* (BOL!, lecto. selected here; K!, PRE!, isolecto.).

*A. aciculare* belongs to a group of gracile, herbaceous species with linear leaflets (Figure 57). It is closely allied to *A. filiforme* but is distinguished by its monomorphic, glabrous, ericoid leaves and its pedunculate inflorescences with prominent bracts and bracteoles.

*A. aciculare* is limited to Macchia around Caledon. Cleistogamy has not been recorded in this species (Figure 58).

*Selected specimens*

–3418 (Simonstown): Kogelberg Forest Reserve, (–BD), *Boucher* 1782 (STE).

–3419 (Caledon): Houw Hoek, *Bolus* 6934 (BOL, K, PRE); Palmiet River Mouth, (–AA), *Stoke* 56255 & 55964 (SAM); *Esterhuysen* 12559 (BOL, NBG); Kleinmond, (–AC), *De Vos* 463 & 1152 (STE).

37. *Argyrobium filiforme* (Thunb.) Eckl. & Zeyh. *Enumeratio plantarum africae australis extratropicae* 2: 186 (1836); Walp.: 508 (1839); Walp.: 632 (1843); Benth.: 344–345 (1844); Harv.: 73 (1862); Harms: 178 (1917). Type: Western Cape, crests of the Hottentots Holland Mountains, *Thunberg s.n. sub THUNB* 17374 (UPS!, lecto. selected here).

*Galega filiformis* Thunb.: 133 (1800); Thunb.: 600 (1823). Type: as above.

*Argyrobium stenorrhizon* Oliv.: t. 1525 (1886) *synov. nov.* Type: Western Cape, near Rondebosch, *H. Bolus* 7013 (K!, lecto. selected here; BOL!, GI!, NH!, PRE); without precise locality, *Zeyher* 387 (BM!, K!, *syn.*).

*Argyrobium muirii* L. Bol.: 127 (1915), *synov. nov.* Type: Western Cape, Bovenplaats, near Albertinia, *Muir* 1374 (BOL!, lecto. selected here; PRE!).

*A. filiforme* and its close ally *A. aciculare* occur in the Western Cape, and are replaced by *A. harveyanum* to the north. The species can be distinguished on inflorescence structure; *A. harveyanum* always has sessile flowers and *A. filiforme* has sessile, multi-flowered fascicles which appear pedunculate, due to tardy apical leaf development (Figure 57). In *A. aciculare* the flower fascicles are often pedunculate. *A. aciculare* is also distinguished from *A. filiforme* by its monomorphic, ericoid leaflets which are usually borne atop reduced petioles (1–3mm). The leaves of *A. filiforme* are usually slightly dimorphic.

Past researchers have included *A. angustissimum* within *A. filiforme*. However, the flowers of the former are large and red-yellow, indicating a stronger alliance with *A. tuberosum*. There are no intermediates which link it to *A. filiforme*, in terms of floral morphology.

*A. filiforme* occurs mainly in Coastal Macchia, but gatherings have also been made in Macchia and False Macchia vegetation types (Figure 59). Summer flowering predominates across herbarium specimens, but this is probably induced by burning.

*Selected specimens*

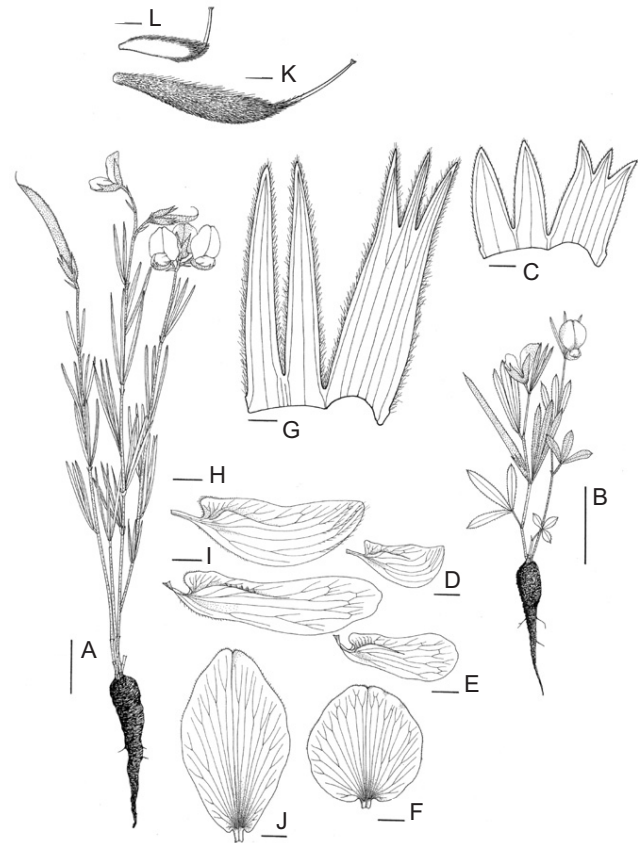
–3219 (Wuppertal): Middelberg, (–AC), *Acocks* 16588 (PRE).

–3318 (Cape Town): Rondebosch, (–CD), *Bolus* 7013 (BOL, G, K, NH, PRE).

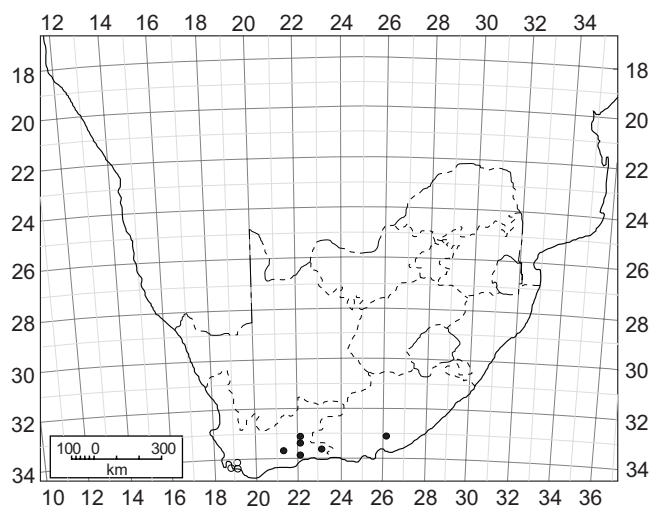
–3319 (Worcester): Romans River, (–AC), *Walgate* 399 (BOL, NBG).

–3419 (Caledon): Franschoek, (–AA), *Phillips* 1093 (SAM); Elgin, Palmiet River, (–AA), *Esterhuysen* 8422 (BOL); Klein Hagelkraal, (–DA), *Hugo* 1713 (STE); Mierkraal, (–DB), *Schlechter* 10508 (E, GRA, PRE).

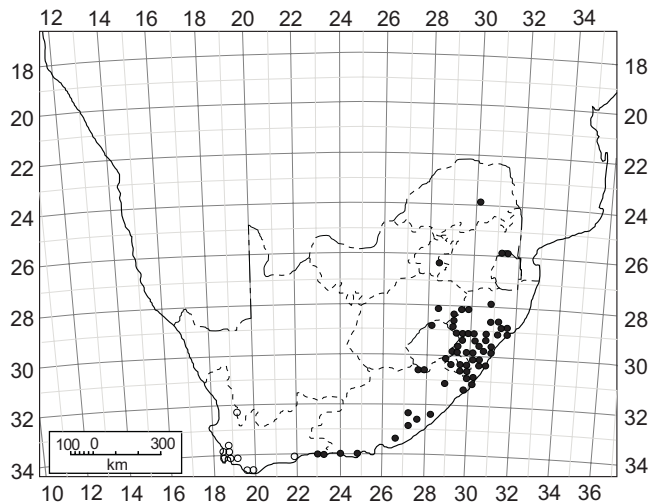
–3421 (Riversdale): Bovenplaats, near Albertinia, (–BA), *Muir* 1374 (BOL, PRE); Botteliersfontein, (–BA), *Muir* 1158 (BOL, PRE).



**Figure 57:** *A. aciculare*, *A. harveyanum*, *A. filiforme* and *A. angustissimum*. (A) habit of *A. aciculare* (bar = 20mm); (B) habit of southern form of *A. harveyanum* (bar = 20mm); (C) calyx of *A. filiforme* (bar = 2mm); (D) keel of *A. filiforme* (bar = 2mm); (E) wing of *A. filiforme* (bar = 2mm); (F) standard of *A. filiforme* (bar = 2mm); (G) calyx of *A. angustissimum* (bar = 2mm); (H) keel of *A. angustissimum* (bar = 2mm); (I) wing of *A. angustissimum* (bar = 2mm); (J) standard of *A. angustissimum* (bar = 2mm); (K) pistil of *A. angustissimum* (bar = 2mm); (L) pistil of *A. filiforme* (bar = 2mm). Vouchers: A = *Stokoe* 61544; B = *Edwards s.n.*; C–F and L = *Walgate* 399; G–K = *Drège* 1419



**Figure 58:** Known distribution of *A. aciculare* ○ and *A. rarum* ●



**Figure 59:** Known distribution of *A. filiforme* ○ and *A. harveyanum* ●

38. ***Argyrolobium harveyanum*** Oliv. in Hook., *Icones plantarum* pl. 16, t. 1525 (1886); Harms: 178–179 (1917); Burt Davy: 393 (1926); Polhill: 152 (1968). Types: KwaZulu-Natal, Berg River, *Zeyher s.n.* (TCD!, syn.); Eastern Cape, Uitenhage, Van Stadenberg, *Zeyher s.n.* (TCD!, syn.); Albany, *Williamson & Barber s.n.* (TCD!, lecto. selected here; K!, isolecto.).

*Argyrolobium uniflorum* Harv.: 72 (1862); non Jaub. & Spach (1843) nom. illegit. Types: as above.

*A. nigrescens* is undoubtedly a close ally of *A. harveyanum*. Plants which fall into the typical concept of *A. harveyanum* are solitary with fairly small tuberous roots and strongly dimorphic leaves. Stems are usually tall (25–30cm) and always gracile (Figure 60).

*A. harveyanum* is widespread, from coastal grasslands of the Eastern Cape, Transkei and KwaZulu-Natal into moist grasslands of central KwaZulu-Natal, Free State, Mpumalanga and the highland border between Mozambique and Zimbabwe (Figure 59). The species is common in Dohne and Highland Sourveld, Ngongoni Sourveld and Themeda-Festuca Alpine Veld. In the south, this species is replaced by *A. filiforme*, which offers in its multi-flowered inflorescence and densely sericeous wing petals.

*Selected specimens*

–2330 (Tzaneen): Woodbush Mountains, (–CC), *Moss 15489* (BM, J).

–2531 (Komatiport): Barberton (–CC), *Muller 2044* (PRE).

–2730 (Vryheid): 18km from Vryheid on the Louwsberg rd, (–DD), *Ross 1213* (NU).

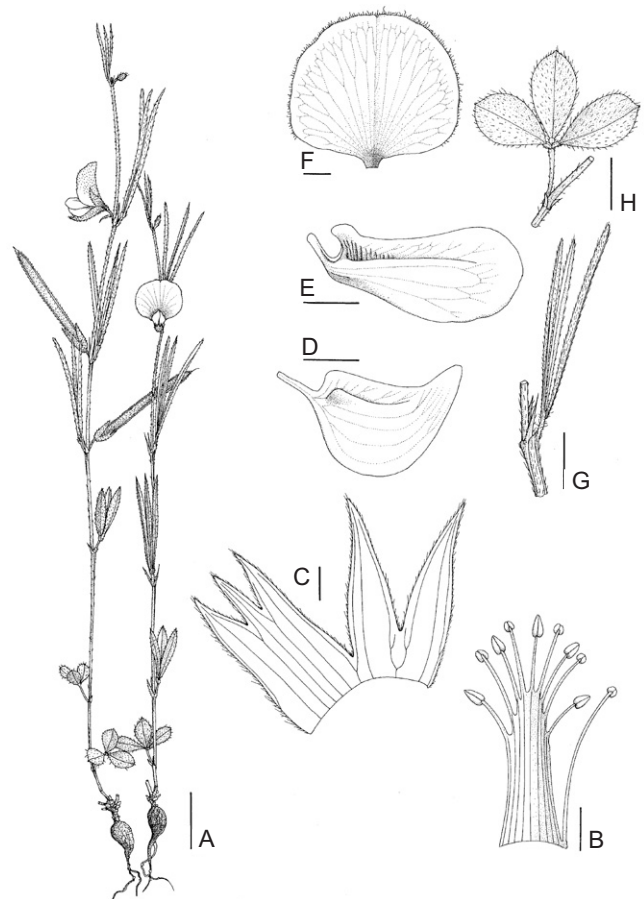
–2930 (Pietermaritzburg): Byrne Valley, (–CC), *Edwards 1145* (NU); Emberton, (–DD), *Schlechter 3227* (B, BR, E, G, GRA, PRE, TCD).

–2931 (Stanger): Thring’s Post, (–AA), *Moll 2235* (NU, PRE).

–3028 (Matatiele): Mafube Mission, (–BB), *Jacottet 70* (G).

–3029 (Kokstad): Clydesdale, (–BD), *Tyson 1296* (GRA, SAM).

–3030 (Port Shepstone): ‘Melbourne’ Dumisa, (–AD), *Rudatis 694* (BM, E, G, W).



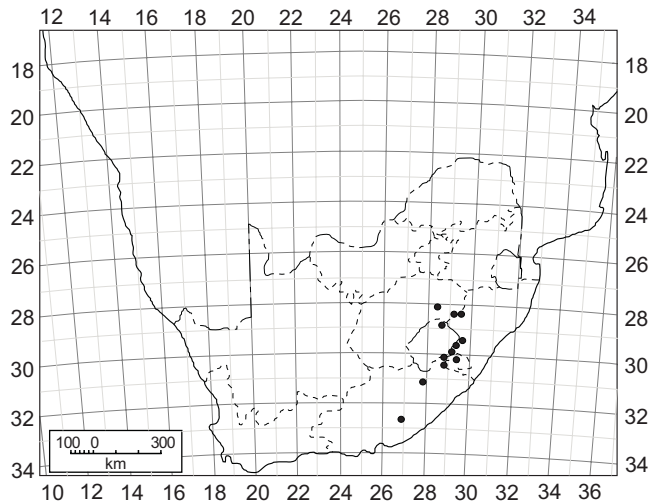
**Figure 60:** *A. harveyanum*. (A) habit (bar = 20mm); (B) androecium (bar = 2mm); (C) calyx (bar = 2mm); (D) keel (bar = 2mm); (E) wing (bar = 2mm); (F) standard, abaxial surface (bar = 2mm); (G) upper leaf (bar = 10mm); (H) lower leaf (bar = 10mm). Voucher: *Edwards 455*

–3326 (Grahamstown): Grahamstown, (–BC), *Baur 527* (BOL); *Mac Owan 615* (BM, BOL); *Schlechter 2752* (B, BR, C, E).

39. ***Argyrolobium nigrescens*** Dümmer in *Kew Bulletin* 272–273 (1912). Types: KwaZulu-Natal, Harrismith, *Sankey 56* (syn., not traced); Basutoland, *Cooper 2179* (K!, syn.); Van Reenen’s Pass, 1 500–1 800m, *Wood 4517* (K!, lecto. selected here; NH!).

*Argyrolobium nanum* Walp. ex Harms in *Ber. Deutsch. Bot. Ges.* 35: 183 (1917) non Burt Davy: 393 (1932), *synon. nov.* Types: KwaZulu-Natal, Van Reenen’s Pass 1 700–2 000m, *Wood 5875* (BOL!, lecto. selected here; E!, PRE!) & 6602 (E!, syn.).

*A. nigrescens* is a short, stoloniferous species with robust tap roots. Plants form low density, clonal patches up to a metre in diameter. It is a montane species (Figure 61) and has weakly dimorphic, oblanceolate leaflets which are usually erect and glabrescent (Figure 62). The stems of this species are erect and robust. Dried specimens usually turn black, hence the specific epithet; however, this is not a reliable character.



**Figure 61:** Known distribution of *A. nigrescens*

The species is sometimes confused with *A. harveyanum*, which is undoubtedly its closest ally. *A. harveyanum* is solitary, slender and has very dimorphic leaves; its lower leaflets are broadly ovate to suborbicular and its upper leaflets are narrowly linear.

*A. nanum sensu* Walp. ex Harms shows no morphological or distributional distinction from *A. nigrescens* and is therefore reduced to synonymy.

#### Selected specimens

–2828 (Bethlehem): Bethlehem, Kestall Rd. (–AB), Scheepers 1406 (PRE).

–2829 (Harrismith): Drakensberg Gardens (–AC), Jacobsz 2003 (PRE), Van Reenen's Pass (–AD), Wood 5875 (BOL, E, PRE).

–2929 (Underberg): Kamberg, Gladstone's Nose (–BC), Edwards 751 (NU).

–3028 (Matatiele): Mafube Mission (–BB), Covievon s.n. (K).

–3226 (Fort Beaufort): Amatole Basin (–DB), Acocks 15720 (PRE).

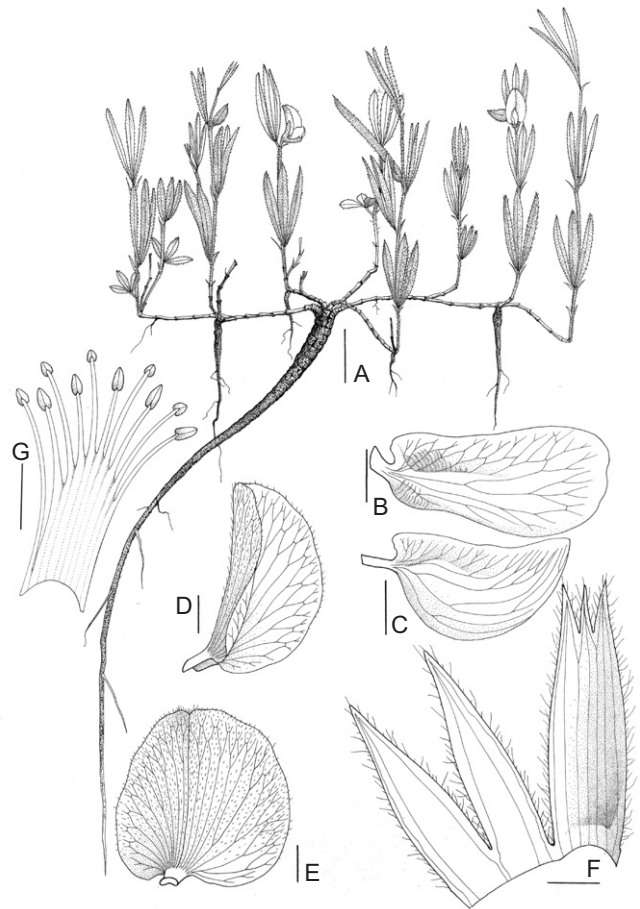
40. *Argyrobium rarum* Dümmer in Kew Bulletin: 273 (1912). Type: Western Cape, Oudtshoorn, Avontuur, Uniondale, Fourcade 2985 (BOL!, neo. selected here). [Original type: Grahamstown, Hellpoort (Helspoort), MacOwan 946.]

This herbaceous species is closely allied to *A. harveyanum* but is distinguished by its long petioles and monomorphic, linear leaflets (Figure 63). In *A. harveyanum* the upper leaves are always sessile and the lower leaves are always petiolate with broad leaflets. The long petioles and linear leaflets are similar to terete forms of *A. lunare*; however, the sessile, solitary flowers with keel petals lacking a ciliate upper margin, and the occurrence of cleistogamy in *A. rarum*, clearly distinguish it.

The species occurs in False Macchia and the disjunctions of this vegetation type are reflected in its distribution (Figure 58).

#### Selected specimens

–3321 (Ladismith): Rooiberg, Mt Ararat, (–CB), Vlok 2087 (PRE).



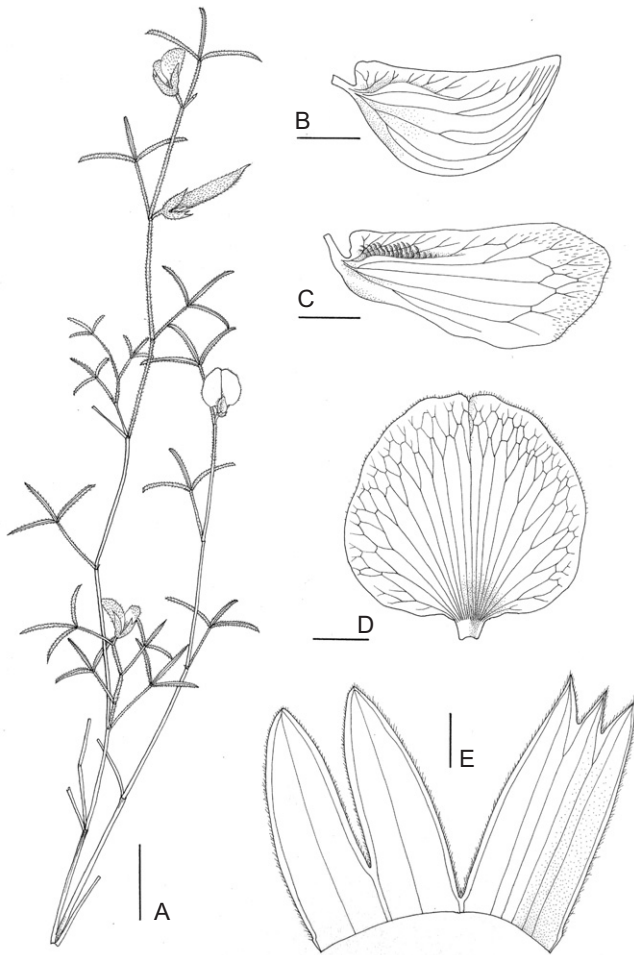
**Figure 62:** *A. nigrescens*. (A) habit (bar = 20mm); (B) wing (bar = 2mm); (C) keel (bar = 2mm); (D) standard, lateral view (bar = 2mm); (E) standard, adaxial surface (bar = 2mm); (F) calyx (bar = 2mm); (G) androecium (bar = 2mm). Voucher: Jacobsz 2003

–3322 (Oudtshoorn): Swartberg, northern slopes of Wabooms, (–AC), Thompson 2764 (STE); Summit of Robinson's Pass, (–CC), Bolus s.n. (BOL).

–3323 (Willowmore): Avontuur, Uniondale, (–CA), Fourcade 2985 (BOL).

41. *Argyrobium pseudotuberosum* T.J. Edwards in South African Journal of Botany 60(1): 40 (1994). Type: Mpumalanga, Lydenburg, Buffelskloof Nat. Res., in seepage grasslands above the kloof, near the ranger's homestead, Edwards & Burrows 1019 (NU!, holo.).

*A. pseudotuberosum* is a delicate, unbranched, erect herb with underground tubers (Figure 64). Herbarium specimens of *A. pseudotuberosum* are easily mistaken for *A. tuberosum* because flower colour is not preserved in pressings. The flower colour of *A. tuberosum* is anomalous within the genus; the adaxial surface of the standard is russet while the abaxial surface is creamy yellow. The wing petals are pale yellow basally but are russet distally and the keel is creamy yellow. Flowers of *A. pseudotuberosum* are consistently lemon-yellow with black medial flecks on the standard. While the distributional range of *A. tuberosum* overlaps with that of this species, mixed populations have never been recorded.



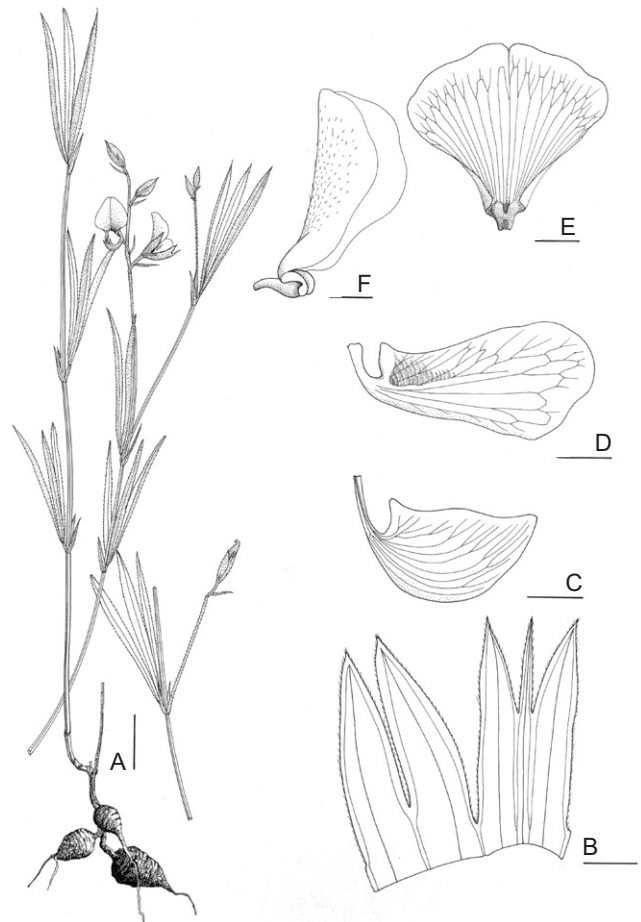
**Figure 63:** *A. rarum*. (A) flowering branch (bar = 20mm); (B) keel (bar = 2mm); (C) wing (bar = 2mm); (D) standard, abaxial surface (bar = 2mm); (E) calyx, inner surface (bar = 2mm). Voucher: *Vlok 2087*

All populations of *A. pseudotuberosum* have been recorded from hygrophilous grassland, mainly in North-Eastern Mountain Sourveld or Dohne and Highland Sourveld (Figure 65). *A. tuberosum* is common in drier habitats.

*Selected specimens*

- 2430 (Pilgrim’s Rest): Stanley Bush Kop, (–DD), *Raal 1063* (TPA).
- 2530 (Lydenburg): Lydenburg, (–AB), *Wilms 294* (BM); Buffelskloof Nature Reserve, (–AD), *Edwards & Burrows 1019* (NU).
- 2729 (Volksrust): Charlestown, (–BD), *Wood 5161* (BOL).
- 2730 (Vryheid): Naauwhoek, Utrecht, (–AD), *Devenish 1305* (PRE).
- 2829 (Harrismith): Qudeni Forest, (–DC), *Edwards 445* (NU).
- 2930 (Pietermaritzburg): Richmond, Arnold’s Hill, (–CD), *Wylie s.n.* (NH).

42. ***Argyrobium tuberosum*** Eckl. & Zeyh., *Enumeratio plantarum africanae australis extratropicae* 2: 188 (1836); Walp.: 508 (1839); Walp.: 632 (1843); Meisn.: 73 (1843); Benth.: 341 (1844); Harv.: 69 (1862); Burt Davy: 393 (1926); Polhill: 152



**Figure 64:** *A. pseudotuberosum*. (A) habit (bar = 20mm); (B) calyx, inner surface (bar = 2mm); (C) keel (bar = 2mm); (D) wing (bar = 2mm); (E) standard, abaxial surface (bar = 2mm); (F) standard, lateral view (bar = 2mm). Voucher: *Edwards & Burrow 1019*

(1968). Type: Eastern Cape; Uitenhage, Krakamma, *Ecklon & Zeyher 1322* (B†; K!, lecto. selected here).

*A. angustifolium* Eckl. & Zeyh.: 188 (1836); Walp.: 506 (1839); Walp.: 630 (1843). Type: Eastern Cape, Winterberg, *Ecklon & Zeyher s.n.* (B†; TCD!, lecto. selected here).

*Chasmona tuberosa* Meisn.: 73 (1843). Type: as above.

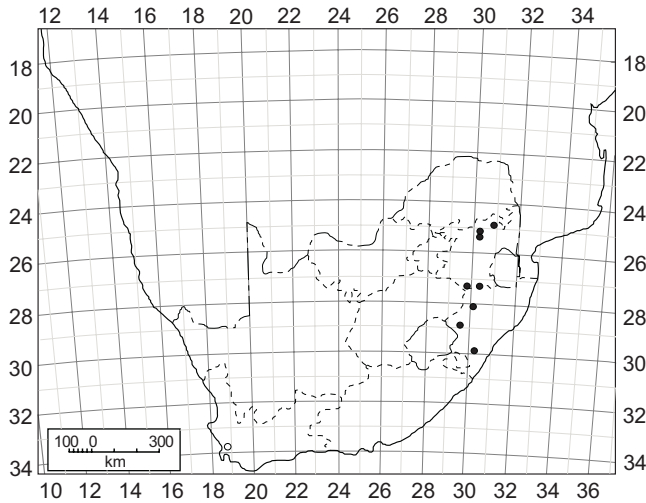
*Argyrobium woodii* Dümmer: 274 (1912), *synon. nov.* Type: KwaZulu-Natal, Liddesdale, *Wood 3937* (K!, lecto. selected here).

*Argyrobium lydenburgense* Harms: 183 (1917), *synon. nov.* Type: Mpumalanga, between Lydenburg and Spitzkop, *Wilms 291* (BM!, lecto. selected here; E!, G!).

*Argyrobium glaucum* Schinz: 225 (1921), *synon. nov.* Type: Mpumalanga, Elandspruitberg, *Schlechter 3841* (BOL!, lecto. selected here; B!, BR!, GRA!, PRE!).

*A. tuberosum* is widespread (Figure 66) but easily distinguished from sympatric species by its multi-coloured flowers. There is considerable variation in vegetative and floral characters; however, no means of discerning more than one species could be found. The flowers of *A. angustissimum* are similar in colour to those of *A. tuberosum* but differ in size and morphology. *A. woodii* was incorrectly compared





**Figure 65:** Known distribution of *A. pseudotuberosum* ● and *A. angustissimum* ○

to *A. nigrescens* for validation, and *A. lydenburgense* was incorrectly compared to *A. longifolium* in its diagnosis. Both are clearly *A. tuberosum*.

#### Selected specimens

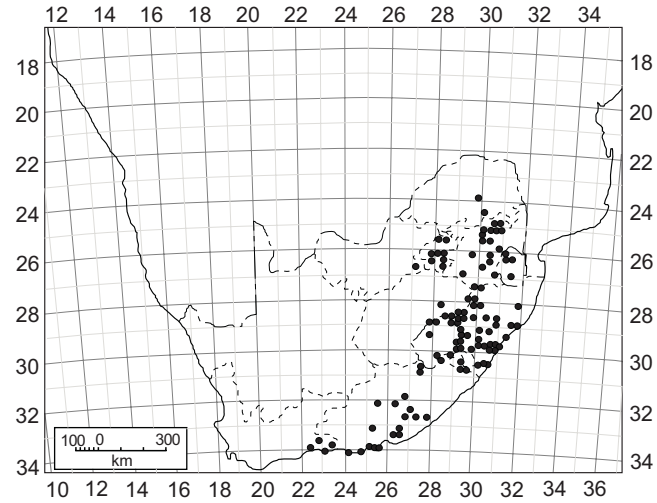
- 2530 (Lydenburg): Elandspruitberg, (–AA), *Schlechter 3836* (B, BOL, C, E, G, NH); Lydenburg, (–AB), *Wilms 294* (E, G); Machadadorp, (–CB), *Galpin 12957* (BOL, NY, PRE).
- 2829 (Harrismith): Drakensberg Botanic Gardens, (–AC), *Jacobsz 2187* (NBG, PRE); Bester's Vlei Harrismith, (–AC), *Bolus 8146* (BM, BOL, NBG).
- 2929 (Underberg): Giant's Castle Game Reserve, (–AB), *Bruyns Haylett 39* (E, MO); Gladstone's Nose, Kamberg, (–BC), *Edwards 760 & 778* (NU); Drakensberg Garden Forest Reserve, (–CD), *Lambinon & Reekmans 82* (BR, MO, PRE).
- 2930 (Pietermaritzburg): Inanda, (–DB), *Wood 1159* (BM, GRA, NBG); Botha's Hill, (–DC), *McOwan 479* (BM, TCD).
- 3030 (Port Shepstone): Dumisa, (–AD), *Rudatis 1470* (BM, E, G).
- 3325 (Port Elizabeth): Zuurberg, (–AB), *Long 1245* (GRA, PRE); Sydenham, (–DC), *Wood 10708* (E, MO, NU).

43. ***Argyrolobium angustissimum*** (E. Mey.) T.J. Edwards in *Bothalia* 26: 45 (1996). Type: Western Cape, Paarlberg, 1 000–2 000', *Drège s.n.* (G!, lecto. selected here; BM!, E!, MO!, OXF!, P!, S!, W!).

*Chasmone angustissima* E. Mey.: 75 (1836). Type: as above.

*A. angustissimum* was formally recognised on the basis of its robust habit and large distinctive flowers (Figure 57). It is closely allied to *A. tuberosum*, which has similar leaf morphology and flower colour but differs in the size and morphology of the flowers. The species are allopatric, and *A. angustissimum* is known from a single Drège collection. It occurs in Macchia vegetation of the Paarlberg, but is probably extinct (Figure 65).

44. ***Argyrolobium longifolium*** (Meisn.) Walp., *Repertorium botanices systematicae* 2: 844 (1843); Harv.:



**Figure 66:** Known distribution of *A. tuberosum*

69 (1862); Edwards: 42 (1994). Type: KwaZulu-Natal, summit of Table Mountain, *Krauss 214* (TCD!, lecto. selected here; G!, K!, MO!, PRE!, W!, isolecto.).

*Chasmone longifolia* Meisn.: 74 (1843). Type: as above.

*Argyrolobium natalense* Dümmer: 272 (1912). Type: KwaZulu-Natal, *Wood 861* (K!, lecto. selected here; BOL!, K!, PRE!, SAM!).

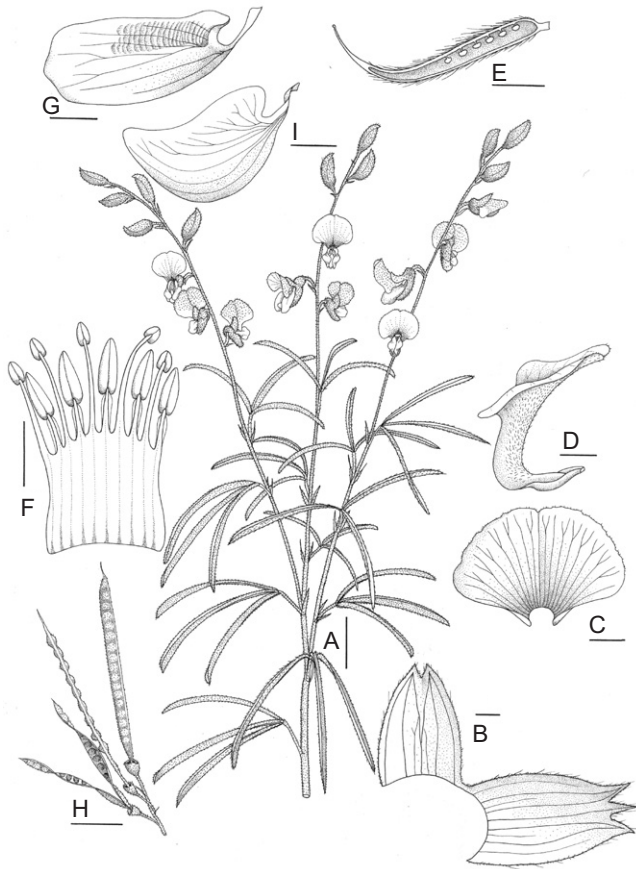
Meisner (1843) overlooked the occurrence of dimorphic anthers in his original description of this species. This, together with habit and unusual inrolling of the standard base, indicates a close alliance with *A. baptisioides* Eckl. & Zeyh.; on drying these species turn black.

Dümmer's (1912) description of *A. natalense* has led to confusion. His species concept is based on the 'glabrescent character and more slender racemes' of *A. natalense*. Raceme stature depends on the part of the plant from which the collection was made; axillary racemes are frequently slender, while terminal racemes tend to be robust. Vestiture in this species is also variable: young growth is invariably hairy, but mature growth tends to be glabrescent. For these reasons, *A. natalense* was reduced to synonymy (Edwards 1994). Examination of herbarium material shows that *A. longifolium* and *A. tuberosum* are frequently confused. Live material is easily distinguished on the basis of flower colour and habit. The combination of russet and yellow in fresh flowers of *A. tuberosum* (discussed under *A. pseudotuberosum*) is unique within the genus. In addition, *A. tuberosum* is a slender, poorly branched herb seldom exceeding 500mm in height, while *A. longifolium* (Figure 67) is a suffrutex up to 1.3m tall with prolific branching in the upper third. Unfortunately, herbarium specimens of *A. longifolium* are often derived from simple axillary branches which superficially resemble whole plants of *A. tuberosum*.

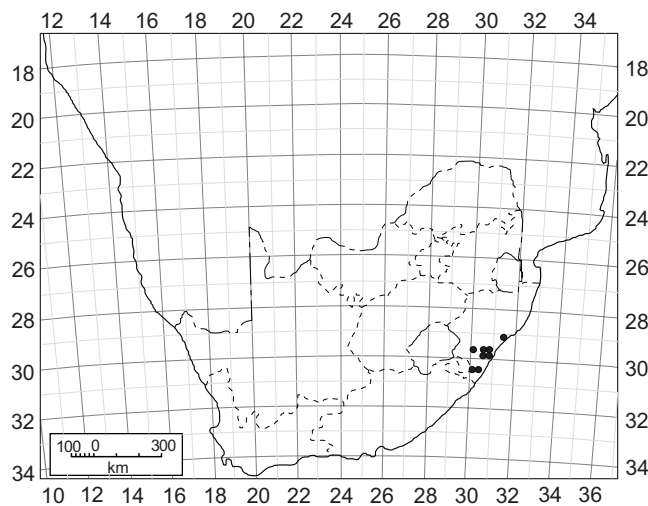
*A. longifolium* is usually encountered in Ngongoni Veld, Highland Sourveld and Dohne Sourveld (Figure 68).

#### Selected specimens

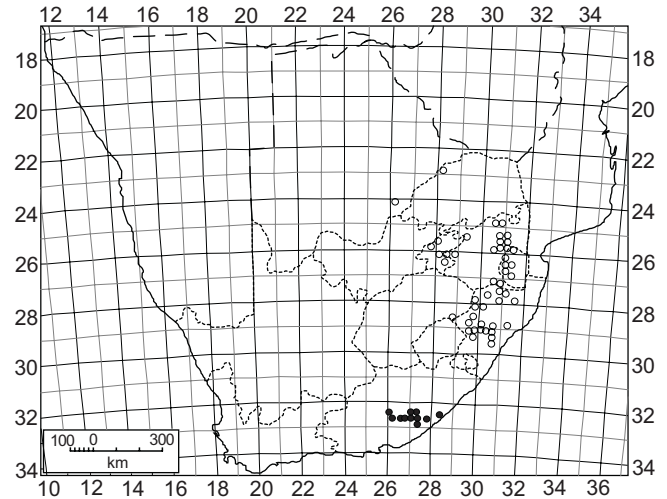
- 2930 (Pietermaritzburg): Dargle, (–CA), *Wood 11620* (BOL); between Camperdown and Maritzburg, (–DA),



**Figure 67:** *A. longifolium*. (A) flowering branch (bar = 20mm); (B) calyx, inner surface (bar = 2mm); (C) standard, abaxial surface (bar = 2mm); (D) standard, lateral view (bar = 2mm); (E) pistil, longitudinal section (bar = 2mm); (F) androecium (bar = 2mm); (G) wing (bar = 2mm); (H) fruits (bar = 20mm); (I) = keel (bar = 2mm). Voucher: Edwards 402



**Figure 68:** Known distribution of *A. longifolium*



**Figure 69:** Known distribution of *A. speciosum* ● and *A. robustum* ○

Edwards 353, 402 & 827 (NU); Tafelberg, (–DA), Krauss 214 (BM, G, K, MO, PRE, TCD, W; Itafamasi, (–DB), Wood 861 (BOL, PRE, SAM).

–2931 (Stanger): Tugela, (–BA), Gerrard & McKen 1760 (TCD).

–3030 (Port Shepstone): Fairfield, (–AC), Bayer 391 (NU); Highflats, (–AD), Schrire 440 (NH); Acocks 13303 (PRE); Germishuizen 1805 (PRE); Dumisa, (–AD), Rudatis 809 (E).

45. *Argyrolobium speciosum* Eckl. & Zeyh., Enumeratio plantarum africae australis extratropicae 2: 187 (1836); Walp.: 506 (1839); Walp.: 630 (1843); Harv.: 68 (1862). Type: Eastern Cape, Winterberg near Phillipstown, Ecklon & Zeyher 1320 (K!, lecto. selected here; C!, G!, MO!, NY!, O!, P!, S!, TCD!, isolecto.).

*Chasmona diversifolia* E. Mey.: 71 (1836). Types: Eastern Cape, in grassland, Katberg 3 000–3 500', Drège s.n. (P!, lecto. selected here; G!, PRE!, S!, TCD!, isolecto.); between Zandplaat and Komga 2 400', Drège s.n. (P!, syn.).

*Chasmona heterophylla* sensu Harv.: 68 (1862).

*A. speciosum* is from the Eastern Cape and is closely allied to the allopatric *A. robustum*. The former is distinguished by its smaller habit with short, lower stem internodes, causing the leaves to cluster basally. The leaflets are both shorter and narrower than their northern relatives. A correlated trend occurs in the peduncle development which is accentuated in this species, allowing the flowers to be held above the surrounding vegetation despite the reduced vegetative stature of the plants (Edwards 1997). A stronger tendency towards leaf dimorphism is also apparent in *A. speciosum*, with broad lower leaflets and narrow upper leaflets.

The species occurs mainly in Highland and Dohne Sourveld (Figure 69).

**Selected specimens**

–3226 (Fort Beaufort): Winterberg, not far from Phillipstown, (–AC), Ecklon & Zeyher 1320 (C, G, MO, NY, O, P, S, SAM, TCD); Katberg, (–DA), Drège s.n. (BM, G, P, PRE, S, SAM, TCD); Hutchinson 1676 (BM, BOL, PRE); Gaika's Kop, (–DB), Phillipson & Hutchings 50 (KEI, MO, PRE, UFH).

–3227 (Stutterheim): Happy Valley, Cathcart, (–AC), Barker

900 (BOL, NBG); Pirie Forest, King William's Town, (–CD), *Flanagan 2198* (GRA, MO, PRE, SAM).

–3228 (Butterworth): Kentani, (–AD), *Pegler 121* (PRE).

46. ***Argyrobium robustum*** T.J. Edwards in *South African Journal of Botany* 63: 271 (1997). Type: Mpumalanga, Barberton, *Thorncroft 19158* (PRE, holo.; BOL!, CI!, GRA!, J!, MI!, SAM!, UPS!, iso.).

*A. robustum* is a large plant with basal leaves up to 500mm long. Plants dry black and are occasionally misidentified as *A. speciosum*, which is its closest ally. The species are allopatric and diagnostic differences are discussed under *A. speciosum*. The erect, many-flowered racemes are produced in spring and early summer. Its large leaves and prominent infructescences with erect black fruit make this a very distinctive species (Figure 70). Some forms of *A. baptisioides* approach *A. robustum* in general facies but the former produces small, lanceolate stipules while the stipules of *A. robustum* are large and ovate. In addition, the standard petals of *A. robustum* are suborbicular while those of *A. baptisioides* are obovate with cuneate bases.

*A. robustum* is very common in Mpumalanga and KwaZulu-Natal (Figure 69) and occurs in Highland Sourveld, Dohne Sourveld and Ngongoni Veld.

#### Selected specimens

–2228 (Maasstrom): Magaliesberg, Crocodile River, (–CC), *Zeyher 360* (BM, G, P, SAM).

–2528 (Pretoria): Pretoria, (–CA), *McLea 3078* (BM, BOL, MO, SAM).

–2531 (Komatipoort): Sabie, (–AC), *Stirton 1750* (MO, PRE); *Thorncroft 19158* (BOL, C, GRA, J, M, PRE, SAM, UPS).

–2631 (Mbabane): Forbes Reef, (–AA), *Prosser 1961* (PRE); Ukutula, (–AA), *Compton 24619* (PRE, SAM); Mbabane, (–AC), *Bayliss 1770* (G, MO, SAM).

–2731 (Louwsberg): Nongoma, (–DC), *Gerstner 4658* (PRE, SAM).

–2830 (Dundee): hill above Dundee Reservoir, (–AA), *Edwards 1087* (NU).

–2929 (Underberg): Tabamhlope, (–BA), *Wylie s.n.* (BM, MO, PRE).

–2930 (Pietermaritzburg): New Hanover, (–BC), *Moll 1964* (NU, PRE).

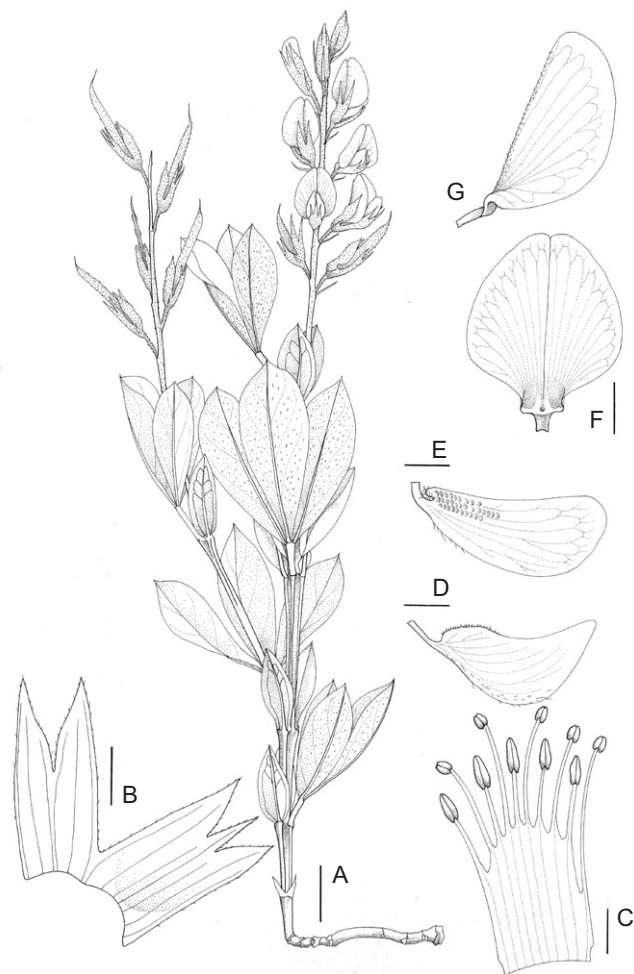
47. ***Argyrobium baptisioides*** (E. Mey.) Walp. in *Linnaea* 13: 506 (1839); Walp.: 630 (1843); Harv.: 69 (1862). Type: Eastern Cape, Katberg, in grassland, 3 500–4 000', *Drège s.n.* (P!, lecto. selected here; BM!, KI!, GI!, MO!, OXF!, SI!, TCD!, isolecto.).

*Chasmona baptisioides* E. Mey.: 71 (1836); Meisner: 73 (1843).

*Argyrobium speciosum* Eckl. & Zeyh. var. *glaberrimum* Harv.: 594 (1862), *synon. nov.* Type: Eastern Cape, Kreili's Country, *H. Bowker 280* (TCD!, lecto. selected here).

*Argyrobium comanthum* Vogel ex Steud.: 129 (1840) nom. non rite public. mss. in *Hb. Reg. Berol.*

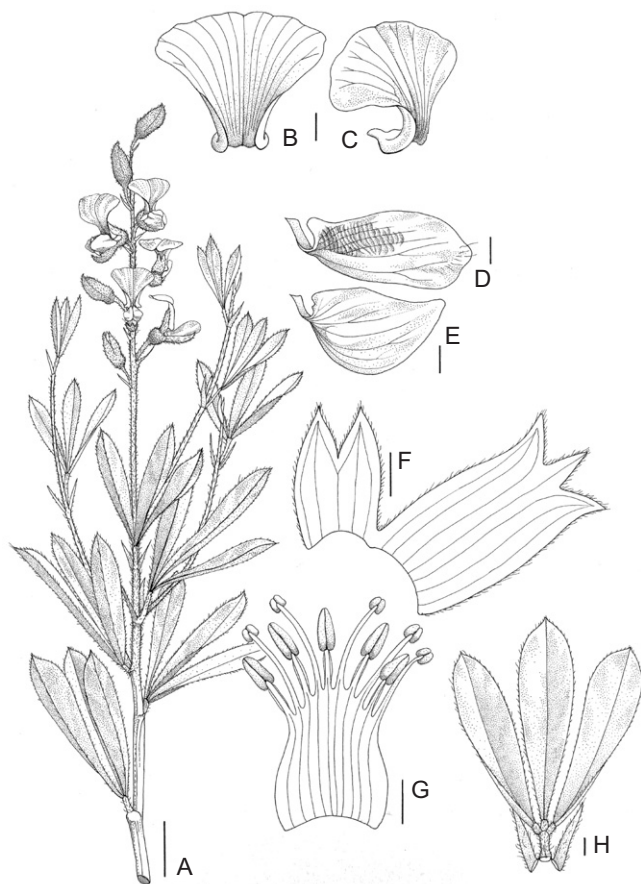
*Argyrobium sandersonii* Harv.: 594 (1862), *synon. nov.*; Wood: 228 (1902). Type: KwaZulu-Natal, flats between Field's and Botha's Hills, *J. Sanderson 99* (TCD!, lecto. selected here; KI!, PRE!, isolecto.).



**Figure 70:** *A. robustum*. (A) habit (bar = 20mm); (B) calyx (bar = 3mm); (C) androecium (bar = 3mm); (D) keel (bar = 3mm); (E) wing (bar = 3mm); (F) standard (bar = 3mm); (G) standard, lateral view (bar = 3mm). Voucher: *Edwards 575*

*Argyrobium sutherlandii* Harv.: 594 (1862), *synon. nov.* Type: KwaZulu-Natal, near Pietermaritzburg, 2 000–3 000', *Dr. Sutherland s.n.* (TCD!, lecto.; KI!, isolecto.).

*A. baptisioides* was described from specimens collected in the Eastern Cape (Katberg) by Meyer. Meisner's (1843) nomenclatural note is based on material collected on the sides of Table Mountain near Pietermaritzburg, KwaZulu-Natal. The latter material was to be reclassified by Harvey (1862) into *A. sutherlandii* and *A. sandersonii*, based on highly mutable characters. *A. baptisioides* (Figure 71) is variable in habit, indumentum and leaf shape. Extensive field work reveals that populations often include broad-leaved, glabrescent and narrow-leaved, pilose individuals. In populations of the Eastern Cape, the narrow-leaved, pilose forms predominate and the inflorescences are generally far more floriferous. Flowering of the morphs is simultaneous and considerable floral variation exists within populations, especially with reference to the width of the standard. Occasional specimens (*Flanagan 569* & *Scully 135*) display peculiar inflorescence structure where the terminal racemes



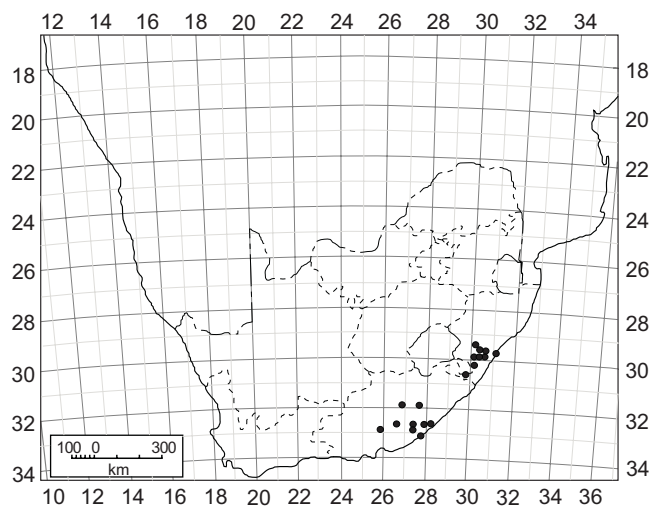
**Figure 71:** *A. baptisioides*. (A) flowering branch (bar = 20mm); (B) standard, abaxial surface (bar = 2mm); (C) standard, lateral view (bar = 2mm); (D) wing (bar = 2mm); (E) keel (bar = 2mm); (F) calyx (bar = 2mm); (G) androecium (bar = 2mm); (H) leaf (bar = 2mm). Voucher: *Edwards 434*

resume vegetative growth at their apices. Although the Eastern Cape and KwaZulu-Natal forms overlap morphologically, the predominant facies of these areas are different. This, in combination with the distributional disjunction, may warrant the recognition of two subspecies.

Around Camperdown mixed populations of *A. baptisioides* and *A. longifolium* occur and here putative hybrids have been recorded (*Edwards 586*). The contracted flowering period of *A. baptisioides* begins in early spring and only late flowering individuals hybridise with *A. longifolium*, which flowers throughout summer. *A. baptisioides* inhabits sourveld areas (Figure 72) where grass cover is sparse, while *A. longifolium* often occurs where grass cover is dense. Both occur in Ngongoni Veld, Highland Sourveld and Dohne Sourveld (Acocks 1975).

#### Selected specimens

–**2930** (Pietermaritzburg): Fort Nottingham Commonage, Lion's River, (–AC), *Wright 1621* (E, NU); Krantzklouf, (–CC), *Schlechter 3207* (B, BR, BOL, C, E, G, GRA, PRE); 15km from Thornville to Eston, (–CD), *Stirton 5439* (MO, PRE); Umlaas Rd, (–DA), *Edwards 434* (NU); Baynesfield, Oldfield's Farm, (–DA), *Edwards 616* (NU); Camperdown,



**Figure 72:** Known distribution of *A. baptisioides*

(–DA), *Wood 5004* (BM, E, G, MO); Field's Hill, (–DC), *Wood 3303* (E, MO, NH, PRE, SAM).

–**3030** (Port Shepstone): 11km from Ixopo to Umzimkulu, road cutting, (AA), *Stirton 5587* (MO, PRE).

–**3126** (Queenstown): Queenstown, (–DD), *Cooper 349* (BOL, TCD).

–**3127** (Lady Frere): Tsomo River, (–DC), *Bowker & Bowker 803* (GRA, TCD).

–**3226** (Fort Beaufort): Katberg, (–DA), *Drège* (BM, K, G, MO, OXF, P, S, TCD); *Hutton s.n.* (TCD); *Sim 19467* (PRE).

–**3227** (Stutterheim): Pirie, (–CB), *Flanagan 2141* (MO, SAM); Komgha, (–DB), *Flanagan 569* (BOL, G, GRA, PRE, SAM).

–**3327** (Peddie): East London, (–BB), *Rattray 682* (GRA).

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