

# The *Eriosema squarrosus* complex (Papilionoideae, Fabaceae) in southern Africa

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**Keywords:** *Eriosema squarrosus* complex, Fabaceae, new combinations, new taxa

### ABSTRACT

*Eriosema squarrosus* (Thunb.) Walp. has traditionally been the dumping ground for all densely pubescent *Eriosema* species in southern Africa. This study clarifies the identity of *E. squarrosus*; recognizes three new taxa: *E. luteopetalum* C. H. Stirton, *E. rossii* C. H. Stirton and *E. umtamvunense* C. H. Stirton; effects the combinations *E. latifolium* (Benth. ex Harv.) C. H. Stirton and *E. acuminatum* (Eckl. & Zeyh.) C. H. Stirton; and reinstates *E. dregei* E. Mey. The species *E. preptum* C. H. Stirton, described earlier, also belongs to this complex. *Rhynchosia barbertonensis* C. H. Stirton is given as a new name for *E. rogersii* Schinz.

### INTRODUCTION

The *Eriosema squarrosus* (Thunb.) Walp. complex remains the only unresolved complex among the *Eriosema* species of southern Africa. As in the *E. cordatum* E. Mey. complex (Stirton 1978, 1981a) it is partly a nomenclatural muddle and partly a taxonomic problem. Once again hybridization has played a prominent role in the development of the complex (Stirton 1981b).

The complex comprises the majority of the densely pubescent *Eriosema* species in southern Africa. Most of these plants have in the past been referred to either *E. zeyheri* E. Mey. or *E. squarrosus*.

Central to the complex is *E. squarrosus*. It was originally described by Thunberg as *Hedysarum squarrosus* (*Prodr.* 132, 1800), and later transferred to *Desmodium* by De Candolle (*Prodr.* 2: 333, 1825). Ecklon & Zeyher (*Enum.*: 251, 1836) accepted *Desmodium squarrosus* (Thunb.) DC. but divided it into 3 varieties: *squarrosus*, *acutifolium* and *acuminatum*. Ernst Meyer, whose *Commentariorum* is predated by Ecklon & Zeyher's *Enumeratio* by a few months, published the binomial *Eriosema zeyheri* E. Mey. for the same taxon (*Comm.* 129, 1836). At the same time he described *E. dregei* E. Mey., a species completely new to science. Here the matter rested until Walpers (*Linnaea* 13: 536, 1839) realized that Thunberg's *Hedysarum squarrosus* was not a *Desmodium*, as De Candolle and Ecklon & Zeyher had thought, but was as Meyer had

noted, really an *Eriosema*. He accordingly effected the new combination, *E. squarrosus* (Thunb.) Walp.

Twenty three years later Harvey (*Fl. Cap.* 2: 260, 1862) re-investigated the genus. He accepted Walper's combination, effected the combination for var. *acuminatum* (Eckl. & Zeyh.) Harv., reduced *E. dregei* to varietal rank and described the new variety *latifolium* Benth. ex Harv. Thirty three years were to pass until Baker (*J. Bot., Lond.* 33: 146, 1895) applied the now disallowed Kew Rule and thereby caused considerable confusion with the attendant combinations. Problems have also arisen from the additional collections that have accumulated since Harvey's and Baker's treatments. Several new taxa have been discovered this century and with the known cases of hybridization in Natal the complex had become quite a muddle by the time this study was initiated in 1974.

This study recognizes eight species in the complex. Firstly *E. squarrosus* (Thunb.) Walp. is retained as a variable species. *E. dregei* E. Mey. is reinstated, whereas Meyer's *E. zeyheri* is placed in synonymy with *E. squarrosus*. Harvey's *E. squarrosus* var. *latifolium* Benth. ex Harv. is raised to specific rank; *E. latifolium* (Benth. ex Harv.) C. H. Stirton. Three new species are described: *E. luteopetalum* C. H. Stirton, *E. umtamvunense* C. H. Stirton and *E. rossii* C. H. Stirton. *E. preptum* C. H. Stirton was described earlier (Stirton 1981c). Ecklon & Zeyher's var. *acuminatum* is raised to specific rank: *E. acuminatum* (Eckl. & Zeyh.) C. H. Stirton.

### KEY TO SPECIES

- 1a Flowers yellow or greenish yellow (drying yellow):
  - 2a Stems and leaves silvery; upper surface of leaflets sparsely appressed pubescent; flower bracts caducous..... 5. *E. dregei*
  - 2b Stems and leaves tawny, especially veins of leaves; upper surface of leaflets densely appressed pubescent; flower bracts persistent:
    - 3a Flowers 9-10 mm long, yellow; wing petals much longer than the keel; flower bract shorter than the flower; pistil 7 mm long..... 7. *E. latifolium*

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- 3b Flowers 12–15 mm long, greenish yellow; wing petals equal in length to the keel; flower bract equal in length to flower; pistil 12 mm long..... 3. *E. luteopetalum*
- 1b Flowers pinkish orange, pale red, or orange with red venation (drying dark):
- 4a Flower bracts persistent, equal to or longer than the flower:
- 5a Lower surface of leaflets pale green, finely pubescent with margins and veins appressed hairy; inflorescence hidden in leaves at anthesis, 30–60-flowered; flowers 12 mm long; fruits 10 mm wide ..... 6. *E. rossii*
- 5b Lower surface of leaflets whitish, densely woolly with yellow appressed hairs along the veins; inflorescence exerted from leaves at anthesis, 20–30-flowered; flowers 8–10 mm long; fruits 7–8 mm wide ..... 2. *E. acuminatum*
- 4b Flower bracts caducous, shorter than the flower:
- 6a Flowers 13–14 mm long; calyx 8 mm long; appendages of standard fused but free from auricles; pistil 11 mm long..... 4. *E. umtamvunense*
- 6b Flowers 6–9 mm long; calyx 4–6 mm long; appendages of the standard fused and extending to the auricles; pistil 6–8 mm long:
- 7a Undersurface of leaflets finely and shortly pubescent; leaflets 15–20 mm wide; racemes 10–20-flowered; flowers 6–7 mm long; seeds black or dark brown; eastern Cape ..... 1. *E. squarrosom*
- 7b Undersurface of leaflets densely woolly with veins distinctly appressed with longer hairs; leaflets 20–30 mm wide; racemes 25–35-flowered; flowers 7–9 mm long; seeds grey or light brown with darker speckles and blotches; Natal ..... 8. *E. preptum*

#### QUICK-SORT CHARACTERS

- Flowers yellow: *luteopetalum*, *latifolium*, *dregei*
- Inflorescence with less than 20 flowers: *squarrosom*
- Flower bracts caducous: *dregei*, *squarrosom*, *umtamvunense*, *preptum*
- Flower bracts equal to or longer than flowers: *acuminatum*, *rossii*
- Calyx teeth shorter than the calyx tube: *dregei*, *latifolium*, *luteopetalum*
- Appendages on front of standard free from the auricles: *acuminatum*, *umtamvunense*
- Wing petals equal in length to the keel petals: *luteopetalum*
- Seeds black: *acuminatum*, *squarrosom*
- Seeds pale chestnut brown: *luteopetalum*
- Seeds grey or brown with speckles and blotches: *preptum*

1. *Eriosema squarrosom* (Thunb.) Walp. in *Linnaea* 13: 536 (1839); Harv. in *Fl. Cap.* 2: 260 (1862). Type: Cape, 'crescit in campis graminosis cis et trans Camtoos-river, prope Galgebosch et alibi', *Thunberg s.n.* (UPS, Herb. 17271, microfiche).

*Hedysarum squarrosom* Thunb., *Prodr.* 132 (1800); *Fl. Cap.* 595 (1823). *Desmodium squarrosom* (Thunb.) DC., *Prodr.* 2: 233 (1825); Eckl. & Zeyh., *Enum.* 251 (1836).

*Crotalaria lineata* Thunb., *Prodr.* 125 (1800); *Fl. Cap.* 573 (1823); non Jacq. (1786). Type: 'e Cap. Bon. Spei', *Thunberg s.n.* (UPS, Herb. 16559, microfiche).

*Desmodium squarrosom* (Thunb.) DC. var. *acutifolium* Eckl. & Zeyh., *Enum.* 251 (1836). Type: Cape, 'in collibus gramineis terrae, Adow', *Ecklon s.n.* (S, holo.; FI; K; P; W, iso.).

*Eriosema zeyheri* E. Mey., *Comm.* 129 (1836); Bak. in *J. Bot., Lond.* 33: 146 (1895). *Rhynchosia zeyheri* (E. Mey.) Steud., *Nom.* 2: 54 (1841). Lectotype: Cape, 'Zwartkopsrivier, ad ipsus ripas, iv.C.c.20', *Drège s.n.* (BM; K; P, isolecto.).

*Eriosema reticulatum* E. Mey. var. *canescens* Meisn. in *J. Bot., Lond.* 2: 80 (1843). Lectotype: 'in solo argillaceo in Zitsikamma', *Krauss 926* (NY). This is marked in some herbaria as *E. ambiguum* Krauss (nom. nud.)

Perennial herb up to 300 mm tall. *Stems* ascending, strongly branched from the base, closely clothed with deflexed hairs. *Leaves* trifoliolate, 25–55 × 15–20 mm, elliptic, becoming narrower and longer, grading into lanceolate near the ends of branches, lower leaves often obovate; apex acute, sometimes obtuse, base cuneate, dark green above, whitish beneath, upper surface glabrous to strigillose, lower

surface finely and shortly pubescent, glandular; lateral leaflets smaller, asymmetrical. *Stipules* 7–10 mm long, narrowly lanceolate, free, appressed, persistent, softly pubescent and sparsely covered in glands. *Petioles* 2–3 mm long. *Racemes* axillary, up to 100 mm long, exceeding the leaves; peduncles 26–55 mm long, densely racemose beyond the middle with 10–20 reflexed imbricating flowers. *Flowers* 7–9 mm



FIG. 1. — Representative specimen of *Eriosema squarrosom* (PRE 56220).

long, pinkish orange; bracts caducous, about half the length of the flower. *Calyx* 5–6 mm long, lobes equal; teeth lanceolate, equal to or slightly longer than the tube, softly white pubescent, glandular. *Standard* 8–9 mm long, narrowly obovate, clawed, auriculate; gland-covered and pubescent on back; appendages present, well developed, situated above the auricles and tapering towards them, fused. *Wing petals* 9 × 2 mm, oblong, auriculate, longer than the keel. *Keel petals* 7 mm long, 3 mm wide at maximum, encrusted with yellow glands, distinctly pock-eted. *Staminal sheath* 10 mm long; free stamen geniculate. *Pistil* 8 mm long; ovary 4 mm long, subsessile, densely hairy almost up to point of flexure; height of curvature 3 mm; stigma capitate. *Nectary* present, margin undulate. *Fruit* 11–15 × 8–10 mm, glandular, covered in fine hairs overlain by long stiff yellow hairs. *Seeds* 5 × 3 mm, black or dark brown. FIG. 1.

This species is almost entirely confined to the eastern Cape (Fig. 2) where it is confined to grassveld and sandy flats. It is sympatric with *E. salignum* E. Mey. and in the eastern part of its range with *E. cordatum* E. Mey., *E. dregei* E. Mey. and *E. latifolium* (Harv.) C. H. Stirton. It has been extremely difficult to assign rank to any of the several distinctive localised variants as these overlap and blur into each other. There is however a cline of increasing pubescence, especially on the upper surface of the leaflets as well as a general increase in size as one moves northwards and eastwards.

TRANSKEI.—3129 (Port St Johns): Coffee Bay (–CC), Tyson 22 (PRE). 3227 (Stutterheim): Kabaku Hills (–CB), Acocks 9344 (PRE); near Komgha (–DB), Flanagan 704 (PRE). 3228 (Butterworth): Idutywa (–AB), Schlechter 1377, 6271 (PRE); River Mouth (–BC), Hilner 485 (PRE); Kentani (–CB), Pegler 123 (PRE).

CAPE.—3225 (Somerset East): Selborne (–DA), Smith 3711 (PRE); Boschberg (–DC), Macowan 475 (P); Stockenstrom (–DD), Scully 155 (PRE). 3226 (Fort Beaufort): Katberg (–BC), Moss 15400 (BM). 3227 (Stutterheim): Cathcart (–AC), Kemp s.n. (NGB); Hang River (–BA), Spearman 25 (NGB); west of East London (–BB), Maguire 605 (NGB); Dohne (–CB), Acocks 9381 (K; PRE); Piere (–CC), Sim 4021 (PRE); King William's Town (–CD), Tyson 2942 (NGB; PRE); 1 km from Amabele (–DA), Marais 237 (PRE); Port Alfred (–DB), South s.n. (PRE 56218, 56219). 3228 (Butterworth): 12 km E of East London (–CC), Comins 1256 (PRE). 3322 (Oudtshoorn): George (–CD), Guthrie 4293 (NGB). 3323 (Willowmore): Wynandskraal (–CD), Burchell 5263 (K). 3324 (Steytlerville): Zwartkopsrivier (–DB), Drège s.n. (BM; GBH; K; P; W); Tsitsikamma (–DC), Krauss 926 (NY). 3325 (Port Elizabeth): Zuurbergen (–AD), Drège s.n. (P); Van Stadens Flower Reserve (–CC), Dahlstrand 2533 (PRE; STE); Van Stadens Gorge (–CC), Long 267 (PRE); Van Stadensberg (–CC), MacOwan 475 (BM); Krakakamma (–CD), Burchell 4573 (K); Uitenhage (–CC), Penher 2559 (W); Addo (–DA), Drège s.n. (GBH; K; P; Z); Addo (–DA), Zeyher s.n. (K); Ecklon s.n. (K; P; W); flats near Port Elizabeth (–DC), West 461 (PRE). 3326 (Grahamstown): Rautenbach's Drift (–AC), Burchell 4191 (K); mountains near Grahamstown (–AD), Britten s.n. (PRE 56210); Gane s.n. (PRE); near Alexandria Lombards (–DA), Burchell 4155 (K); near Port Alfred, between Rietfontein and Kowie River (–DB), Burchell 4002 (GBH; K); Port Alfred (–DB), Sonta s.n. (PRE 56218); Kowie (–DB), Tyson s.n. (PRE); 5 km from Port Alfred on road to Kenton-on-Sea (–DB), Germishuizen 1531 (PRE); between Bathurst and Port Alfred (–DB), Stirton 764a; Rietfontein (–DB), Burchell 4042 (K); 3 km NNW of Southwell (–DA), Acocks 12053 (PRE). 3423 (Knysna): Knysna (–AA), Herb. STE 13509 (STE); Breyer s.n. (PRE 23904); Plettenberg Bay (–AB), Zeyher s.n. (NGB). 3424 (Humansdorp): Slang River (–BA), Spearman 25 (PRE); Fourcade 1860 (BOL); Humansdorp (–BB), Fourcade 1727 (BOL). Without precise

locality: Bouvin s.n. (P); Bowie s.n. (BM; K); Bunbury s.n. (BM); Cooper s.n. (NY); Duthie 516 (STE); Drège s.n. (NY); Ecklon s.n. (TCD, W); Fourcade 1939 (BOL); Germishuizen 1745 (PRE); Macowan 475 (P); Masson s.n. (BM); Verreaux s.n. (G; TCD).

This species has been and is easily confused with *E. acuminatum* (below) and *E. preptum* (no. 8). For differences see under the latter species.

*Eriosema squarrosum* is the smallest of all the Cape, Transkeian and Natal species. It flowers from September through to March.

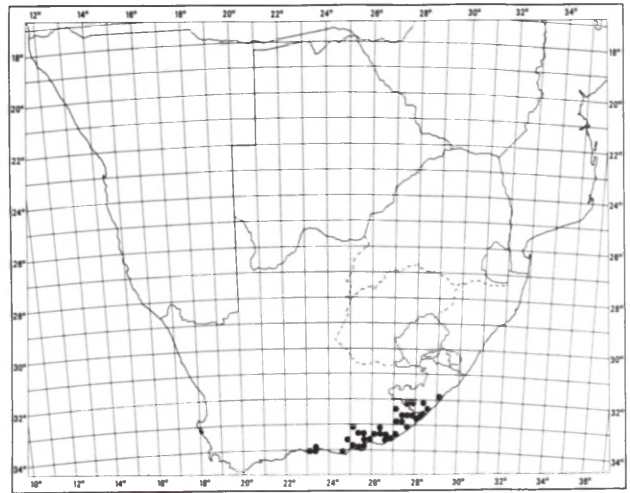


FIG. 2. — Known distribution of *Eriosema squarrosum*.

2. *Eriosema acuminatum* (Eckl. & Zeyh.) C. H. Stirton, comb. et stat. nov. Type: 'In collibus montis Wintersberg prope Phillipstown', Ecklon s.n. (S, holo.!, FI; K; P, iso.!).

*Desmodium squarrosum* (Thunb.) DC. var. *acuminatum* Eckl. & Zeyh., Enum. 251 (1836). *Eriosema squarrosum* (Thunb.) Walp. var. *acuminatum* (Eckl. & Zeyh.) Harv., Fl. Cap. 2: 260 (1862). *E. zeyheri* E. Mey. var. *acuminatum* (Eckl. & Zeyh.) Bak., J. Bot., Lond. 33: 147 (1895).

Perennial herb up to 250 mm tall. *Stems* ascending to erect, branching near the base, densely clothed in golden-brown hairs. *Leaves* trifoliolate, 40–50 × 25–30 (–35) mm, broadly elliptic but becoming narrower and longer towards the ends of branches, lower leaves often obovate; apex acute, base cuneate, appressed pilose above, densely woolly below with yellow appressed hairs massed along the veins, glandular; lateral leaflets smaller, gibbous. *Stipules* 11–16 (–20) mm long, falcate-lanceolate, free, clasping the stem, sparingly appressed pubescent with long hairs interspersed from the centre thickening towards the apex. *Petioles* shorter than 5 mm. *Racemes* axillary, (40–) 60–90 (–140) mm long, exceeding the leaves; peduncles 40–55 mm long, densely racemose beyond the middle and bearing 20–30 flowers. *Flowers* 8–10 mm long, pale red or orange, rarely yellowish; bracts persistent, equal to or exceeding the flower. *Calyx* 6 mm long, lobes equal; teeth narrowly lanceolate, equal to the tube, keel tooth almost acicular, slightly longer than the vexillar and lateral teeth; covered in 3 mm long yellowish brown hairs and a few scattered glands. *Standard* 10 × 5–7 mm, narrowly to broadly obovate, subtended

by a 3 mm long claw, auriculate; appendages present, situated 4 mm from the base of the claw but above the auricles and free of them. *Wing petals* 9–10 mm long, 2, 5–3, 0 mm wide, cultrate, strongly auriculate, upcurving, longer than the keel. *Keel petals* 8 mm long, up to 3,5–4,0 mm wide, covered in yellow glands, distinctly pocketed. *Staminal sheath* 7–9 mm long, free stamen geniculate. *Pistil* 8 mm long; ovary 3 mm long, sessile, densely hairy at least until halfway to the point of flexure of the style; height of curvature 2,5 mm; stigma capitate. *Nectary* present, margin erose. *Fruit* 11–12 × 7–8 mm, glandular, covered in reddish shaggy hairs. *Seeds* 5 × 3 mm, black, oblong. Fig. 3.

*Eriosema acuminatum* occurs mainly in grasslands in the Transkei (Fig. 4). It has not often been collected and is probably more common within its known overall distribution area than its representation in herbaria suggests. According to herbarium labels this species flowers between October and November, but also occasionally in December and January. No ecological data were found on herbarium labels.

NATAL.—2929 (Underberg): Injassuti Heights (–AB), *Thode* 8225 (STE). 3030 (Port Shepstone): Umtamvuna Nature Reserve (–AA), *Abbott* 2195 (NH); Shelley Bay (–CD), *Mogg* 11920 (PRE). 3130 (Port Edward): Port Edward (–AA), *Stirton* 5643, 5672 (PRE); S of Port Edward (–AA), *Germishuizen* 1745 (PRE); *Ngwenya* 215 (NH).



FIG. 3. — Holotype of *Eriosema acuminatum* (Ecklon s.n.)

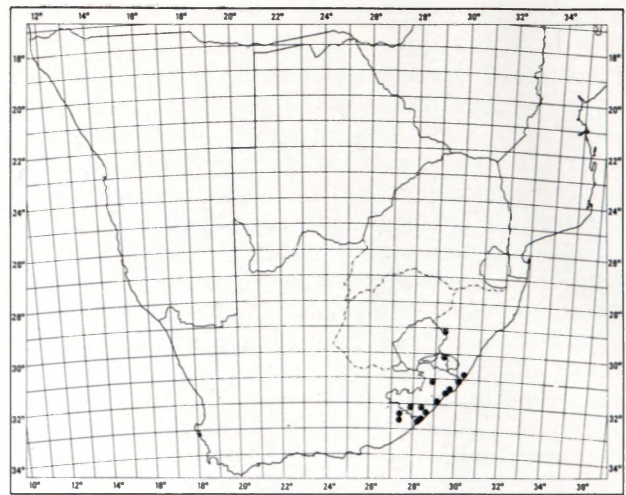


FIG. 4. — Known distribution of *Eriosema acuminatum*.

TRANSKEI.—3029 (Kokstad): Cabane River (–AB), *Tyson* 2653 (NBG). 3128 (Umtata); Umtata (–DB), *Sole* s.n. (NBG); Umtata District (–DB), *Penher* 2610 (W). 3129 (Port St Johns): Ntsubane Forest Station (–BC), *Galpin* 10994 (PRE); 73,2 km from Umtata to Port St Johns (–CB), *Grobbelaar* 2311 (PRU); Coffee Bay (–CC), *Tyson* 22 (PRE; NY); Port St Johns area (–DA), *Swinney & Baker* 14146 (PRE). 3228 (Butterworth): Iduitywa (–AB), *Schlechter* 1377, 6271 (NBG; P; STE); 1 km from Butterworth to Komgha (–AC), *Grobbelaar* 2306 (PRU); Komgha (–CB), *Compton* 17657 (NBG); Kabonqaba (–CB), *Taylor* 3706 (NBG). 3226 (Fort Beaufort): Klipplaats River (–BB), iv.a.2., *Drège* s.n. (K; G; P; W). 3227 (Stutterheim): Fort Cunynghame (–AD), *Taylor* 4239 (NBG); Donga Range (–CB), *Acocks* 9344 (PRE). 3327 (Peddie): Igoda Holiday Camp (–BB), *Steyl* 4 (STE). 3228 (Butterworth): Qora Mouth (–BC), *Hilner* 485 (PRE); Kentani (–CB), *Pegler* 123 (PRE). Without precise locality: *Barber* s.n. (TCD).

*E. acuminatum* can be separated from *E. squarrosus* (above) by its much longer, persistent flower bracts that are equal to or longer than the flowers, by the appendages on the standard being above and well free of the auricles and by the presence of golden or russet pubescence especially on the calyx and the undersurface of the leaflets. In *E. squarrosus* the flower bracts are caducous, shorter than the flower, the pubescence is white and the appendages are better developed extending into the auricles of the standard. From *E. rossii* C. H. Stirton it differs in its much narrower stipules, larger fruits and pubescence of the leaflets.

3. *Eriosema luteopetalum* C. H. Stirton, sp. nov., *E. latifolio* (Harv.) C. H. Stirton affinis, sed floribus maioribus, bracteis longioribus differt.

Suffrutex usque ad 600 mm altus, vere florens. *Folia* trifoliolata, 45–60 × 35–45 mm, lateralibus minora, asymmetrica, obovata vel anguste obovata. *Stipulae* 12–15 mm longae, liberae. *Racemi* axillares, 24–45-flori, folia subtendentia superantes. *Flores* 12–15 mm longi, lutei, bractee 10–15 mm longae, persistentes. *Calyx* lobis aequalibus. *Vexillum* 10–15 × 6–7 mm, obovatum, unguiculatum, reflexum, callis bene evolutis connatis, sursum crispis, supra unguem in auriculas extensis. *Alae* carinam subaequilongae. *Vagina staminalis* 10 mm longa. *Gynoeceum* 10 mm longum; ovarium 5 mm longum, dense pubescens. *Fructus* 14–16 × 8–9 mm, sericeus, tenuiter pubes-



FIG. 5. — Holotype of *Eriosema luteopetalum* (Stirton 5652).

cens. *Semina* 6 mm longa, 4 mm lata, pallide castanea.

**TYPE.**—Natal, 3030 (Port Edward): Roselands (–CD), Stirton 5652 (PRE, holo.; K, iso.).

Suffrutex up to 600 mm tall. *Stems* erect, branching from the base, densely covered with golden deflexed appressed hairs. *Leaves* trifoliolate, 45–60 × 35–45 mm, obovate, inland populations with leaflets becoming narrower, more acute and ovate; strigose above, densely white pubescent below with veins prominently yellowish strigose; lateral leaflets smaller. *Stipules* 12–15 mm long, broadly lanceolate, free, persistent. *Racemes* axillary, 24–45-flowered, greatly exceeding the leaves. *Flowers* greenish yellow, 12–15 mm long with persistent 10–15 mm long, 3 mm wide boat-shaped bracts. *Calyx* lobes equal. *Standard* 10–15 × 6–7 mm, obovate, prominently clawed and auriculate, appendages well developed, fused, upcurled, extending from above the claw into the auricles. *Wing petals* equal in length to the keel, pouched. *Keel petals* pocketed, encrusted with small yellow glands. *Staminal sheath* 10 mm long; free stamens geniculate. *Pistil* 10 mm long; ovary 5 mm long, subsessile, densely hairy, extending halfway along style to point of flexure, height of curvature 4 mm; stigma capitate, exserted beyond stamens. *Nectary* present, margin undulate. *Fruit* 14–16 × 8–9 mm, thickly covered with a mixture of long yellowish

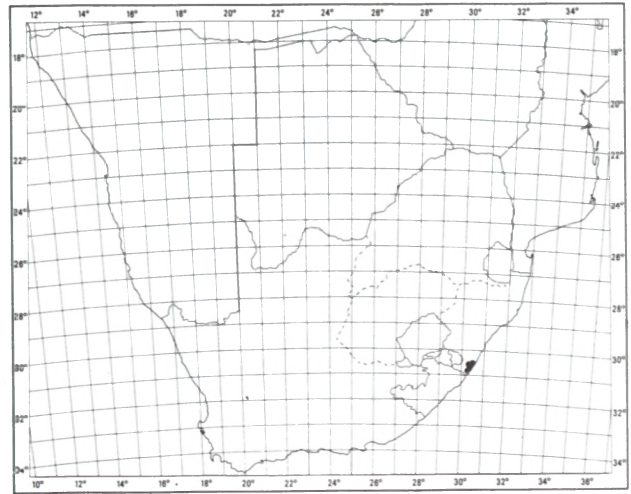


FIG. 6. — Known distribution of *Eriosema luteopetalum*.

hairs and short white pubescence, glandular; upper margin double convex, lower margin convex-concave, beaked. *Seeds* 6 mm long, 4 mm wide, oval, pale chestnut brown; cotyledons well developed, radicle short, barely protruding from apex, plumule exserted. Fig. 5.

This species is endemic to southern Natal (Fig. 6) but may yet be discovered in the Transkei. It is common along the coast and seems to grow best on sandy soils in previously burnt grassland. (Fig. 7). The range of this species appears to be extending as a result of roadbuilding activities.



FIG. 7. — Habit and habitat of *Eriosema luteopetalum*.

NATAL.—3030 (Port Shepstone): The Valley, Port Shepstone (–CB), *Martin s.n.* (PRE); Margate (–CD), *Stirton 5660* (K; PRE), 10355 (NU); Shelley Beach (–CD), *Stirton 5664* (K; PRE); Roselands (–CD), *Stirton 5652* (K; PRE); Uvongo (–CD), *Grobelaar 1009* (PRE); near Izotsha turn-off on Ramsgate-Port Shepstone Road (–CD), *Stirton 1407* (PRE). Without precise locality: *Drège s.n.* (L; P; W); *Wood 3139* (K).

*Eriosema luteopetalum* is a very showy shrub worthy of consideration as a garden plant. It produces masses of inflorescences in spring providing a flash of yellow colour, soon to be followed by colourful brown fruits that persist on the plant long after the fruits have explosively scattered their seeds.

The specific epithet *luteopetalum*, was chosen to draw attention to the massed yellow flowers. It seems remarkable that this distinctive and locally abundant species has, until recently, been so rarely collected. This species appears to have been missed by most of the early collectors. Its nearest allies are *E. latifolium* (no. 7) and *E. dregei* (no. 5) from which it differs in its very much larger flowers and distinctive pubescence.

4. *Eriosema umtamvunense* C. H. Stirton, sp. nov., *E. squarroso* (Thunb.) Walp. affinis, sed planta maiora, robustiora, floribus maioribus difert.

Herba perenna usque ad 50 mm alta, vere florens. Folia trifoliolata, 57–70 × 28–40 mm, lateralalia minor asymmetrica, elliptica. Stipulae 13 mm longae,

libri. Racemi axillares, 20–25-florati, folia subtendentia superantes. Flores 13–14 mm longi, rosei flavique; bracteeae 8 mm longae, caducae. Calyx 6 mm longa, lobi tubam subaequant. Vexillum 13 × 9 mm, unguiculatum, reflexum, calli bene evoluti, conferruminati cucullati, ab auriculis liberi. Petala carinae breviora quam alae. Vagina staminalis 10–12 mm longa. Gynoecium 11 mm longum; ovarium 5 mm longum, dense pubescens. Fructus 15–16 mm longus, 10–11 mm latus, molliter flavo-pubescens.

TYPE.—Transkei, 3130 (Port Edward): near Kumanckenbeya, Imizizi location (–AA), *Stirton 5624* (PRE, holo.). Fig. 8a.

Erect perennial shrub up to 500 mm high. Rootstock horizontal, branched. Stems up to 20, branching from lower nodes, densely recurved, appressed fulvous above but less dense towards the base. Leaves trifoliolate, 57–70 × 28–40 mm, length-breadth ratio 1,6–1,9, scalloped, symmetrical, elliptic; laterals smaller, 50–65 × (19–) 24–32 mm, gibbous, length-breadth ratio 1,3–1,9, asymmetrical; finely appressed hirsute above but dull green; tertiary venation visible in fresh leaves if held against the light; lower surface finely woolly grey to white with longer fulvous hairs on the primary veins, small yellow glands visible; both terminal and lateral leaflets have a hairy midrib above; lowest leaves of the plant are obovate, apiculate. Stipules 13 × 6 mm, widest at middle, free, rapidly senescent, semipatent, tip re-

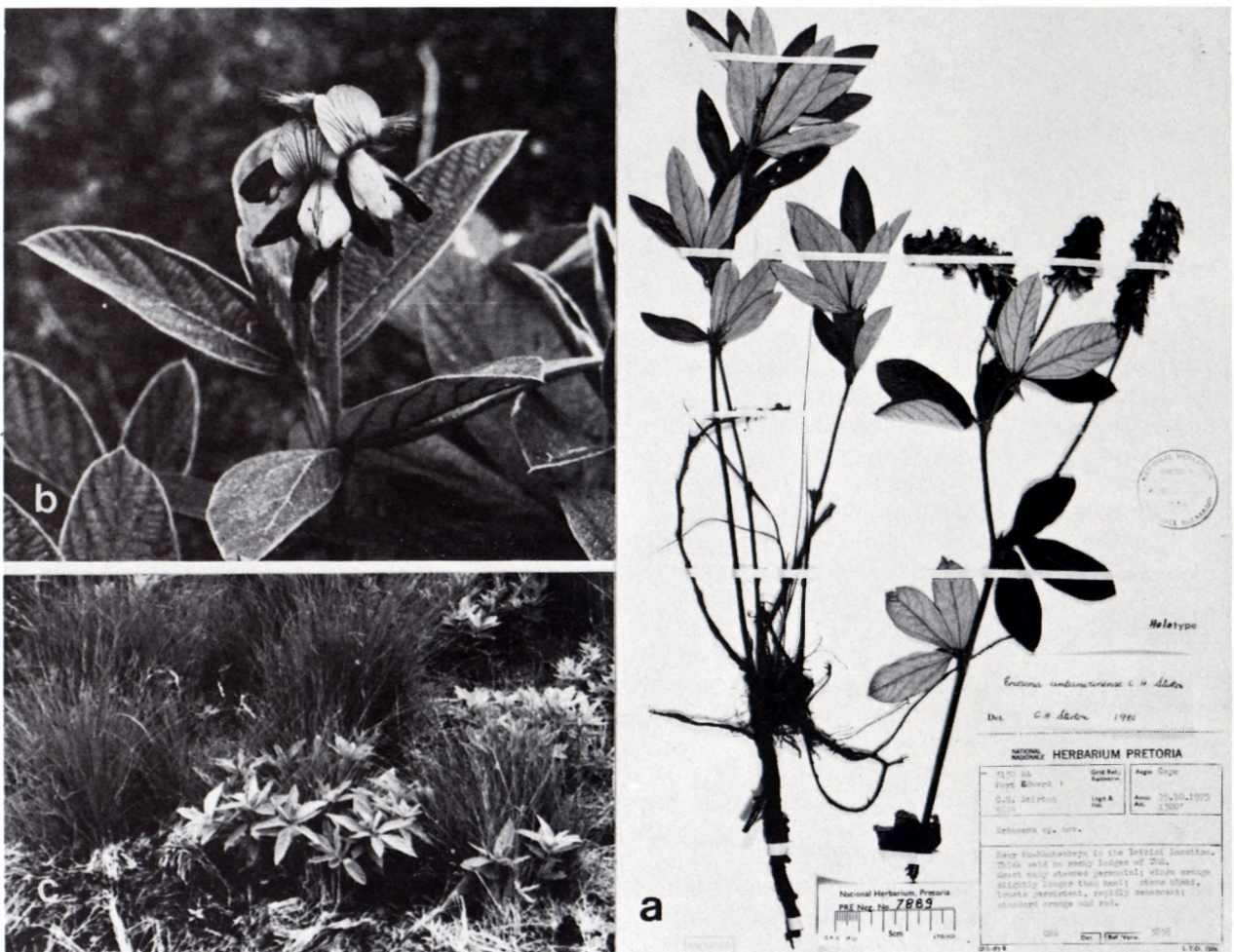


FIG. 8. — *Eriosema umtamvunense* (Stirton 5624): a, holotype; b, inflorescence; c, habit and habitat.

curving, glabrous inside, pubescent outside, hairier along the margin. *Petioles* 3 mm long. *Racemes* up to 125 mm long, floriferous section 55 mm long, elongating with anthesis, 20–25-flowered. *Flowers* 13–14 mm long; red and yellow (Fig. 8b); bracts 8 mm long, caducous. *Calyx* 8 mm long, lobes equal; teeth more or less equal to the tube. *Standard* 13 × 9 mm; claw 3 mm long; emarginate sides recurved; bright brick red on the back, venation black, base above the claw yellow; glands present, yellow; appendages present, hooded, free from auricles. *Wing petals* 13 × 4 mm, cultrate, longer than the keel; orange, suffused with pink. *Keel petals* 12 mm long, 5 mm wide at broadest point, sparsely covered in yellow glands. *Staminal sheath* 10–12 mm long, free stamen geniculate. *Pistil* 11 mm long; ovary 5 mm long; height of curvature 4 mm high; stigma small, exserted. *Nectary* present. *Fruits* 15–16 × 10–11 mm, with 3–4 mm long beak; staminal sheath shrivelled but persistent during fruiting, densely covered in long, golden, appressed hairs. *Seeds* unknown.

*Eriosema umtamvunense* is endemic to the rolling grasslands decking the plateaux on either side of the Umtamvuna Gorge (Fig. 8c). So far it has been recorded only above 300 m. It is restricted, with *E. latifolium*, to Acocks's Pondoland Coastal Plateau Sourveld (Fig. 9). Flowering takes place in November and December.

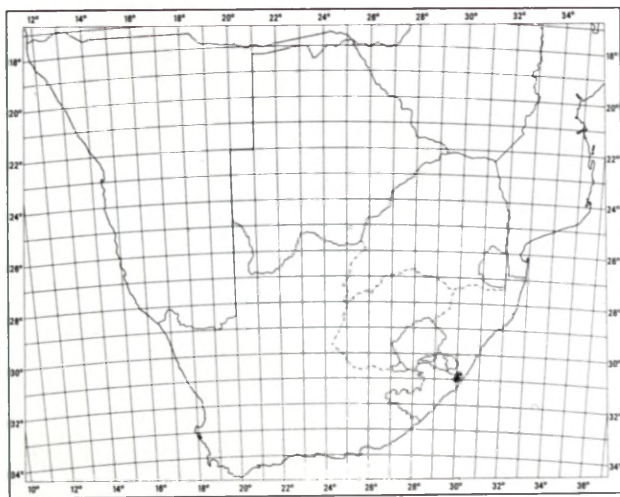


FIG. 9. — Known distribution of *Eriosema umtamvunense*.

TRANSKEI.—3130 (Port Edward): near Ku-Mankenbeya in the Umizizi area (–AA), *Stirton* 5624 (K; PRE).

NATAL.—3030 (Port Shepstone): Blencathra Farm (–AA), *Stirton* 8063 (PRE); Izingolweni Hill (–AA), *Hilliard* 1709 (NU); 7 km from Port Edward to Izingolweni (–AA), *Stirton* 8099 (PRE); 10 km from Izingolweni to Port Edward (–CC), *Stirton* 1389 (K; PRE); Beacon Hill East (–CC), *Strey* 7242 (NU); Skyline Farm (–CC), *Schrire* 320 (NU; NH); Skyline Farm (–CC), *Germishuizen* 1713 (PRE); 15 km from Izingolweni to Port Edward (–CC), *Stirton* 1388, 1391 (PRE); Umtamvuna River (–CC), *Nicholson* 1306 (PRE); Umtamvuna Nature Reserve (–CC), *Van Wyk* 5149 (PRU).

*E. umtamvunense* is a very distinctive, locally abundant *Eriosema*, yet like *E. latifolium* it has been collected rather infrequently. *Strey* 7242, collected as recently as 1967, is the first record of the species.

It seems to have been missed by all the early collectors. This is not surprising as it is distributed on top of the escarpment and generally grows in grassland that would have been largely inaccessible to early explorers. One wonders what other treasures are still to be discovered in the Umtamvuna Gorge and its escarpment.

This species has been consistently lumped with *E. squarrosum* (no. 1), *E. dregei* (below), *E. latifolium* (no. 7) and *E. luteopetalum* (no. 3). It differs from all of these species in its red and yellow flowers and golden-haired calyces; occasional yellow morphs can occur. The latter species all have yellow flowers and silver-haired calyces. From *E. preptum* (no. 8) it can be separated by its much larger flowers and fruits and by the wing petals exceeding the keel petals.

5. *Eriosema dregei* E. Mey., *Comm.* 129 (1836). *Rhynchosia dregei* (E. Mey.) Steud., *Nom.* 2: 454 (1841). *Eriosema squarrosum* (Thunb.) Walp. var. *dregei* Benth. ex Harv., *Fl. Cap.* 1: 260 (1862). *E. zeyheri* E. Mey. var. *dregei* (E. Mey.) Bak. f. in *J. Bot., Lond.* 33: 147 (1895). Lectotype: Natal, Umtamvuna River, *Drège s.n. V.c.* 18 (P; K, isolecto.).

Suffrutex up to 400 mm high. *Stems* 4–10, branched from the base, finely appressed white pubescent. *Leaves* trifoliolate; upper leaflet 60–70 × 30–33 mm, ovate to narrowly ovate; laterals somewhat gibbous, 45–50 × 21–25 mm; finely grey woolly beneath, finely sericeous, greyish green above; rachis channelled. *Stipules* 12 × 4 mm, free, senescing before leaves expand. *Petioles* 3–4 mm long. *Racemes* axillary, up to 67-flowered, exceeding leaves, 55–60 mm long. *Flowers* 14 mm long, yellow; bracts 5 × 2 mm, boat-shaped. *Calyx* 7–8 mm long, lobes equal; teeth 3–4 mm long, shorter than the tube, finely covered in grey hairs and minute yellow glands. *Standard* 14 × 9 mm, obovate, emarginate; claw 3 mm long; auricles present 4 mm apart; back of standard finely pubescent and densely covered in minute yellow glands; appendages present, fused, hooded, extending to auricles. *Wing petals* 13 mm long, up to 3 mm wide, slightly longer than the keel blades, basal part held horizontally, but other edges drooping. *Keel petals* 12,5–13,0 mm long, up to 7 mm wide, densely covered in yellow glands. *Staminal sheath* 11 mm long, tenth stamen free. *Pistil* 11 mm long; ovary 4 mm long; height of curvature 4 mm, style thickened at point of flexure. *Nectary* present, margin erose. *Fruit* 15 × 11 mm, beak 2 mm wide; chestnut-brown covered in soft 2 mm long, red-brown hairs. *Seeds* unknown. Fig. 10.

*Eriosema dregei* is endemic to the low-lying coastal dune and riverine grasslands, below 200 m altitude, and extending from Port Edward in Natal to the Mkambati River Mouth in the Transkei (Fig. 11). The area between these localities and Port St Johns is little explored and this species can be expected to occur there. Flowering takes place between August and October.

NATAL.—3130 (Port Edward): Port Edward (–AA), *Stirton* 5671 (PRE), 8068 (K; PRE; NU); *Germishuizen* 1532, 1740 (PRE); *Ngwenya* 214 (NH).

TRANSKEI.—3129 (Port St Johns): 4 km inland from Port Grosvenor (–BD), *Strey* 8905 (K; PRE); Mkambati (–BD), *Van*

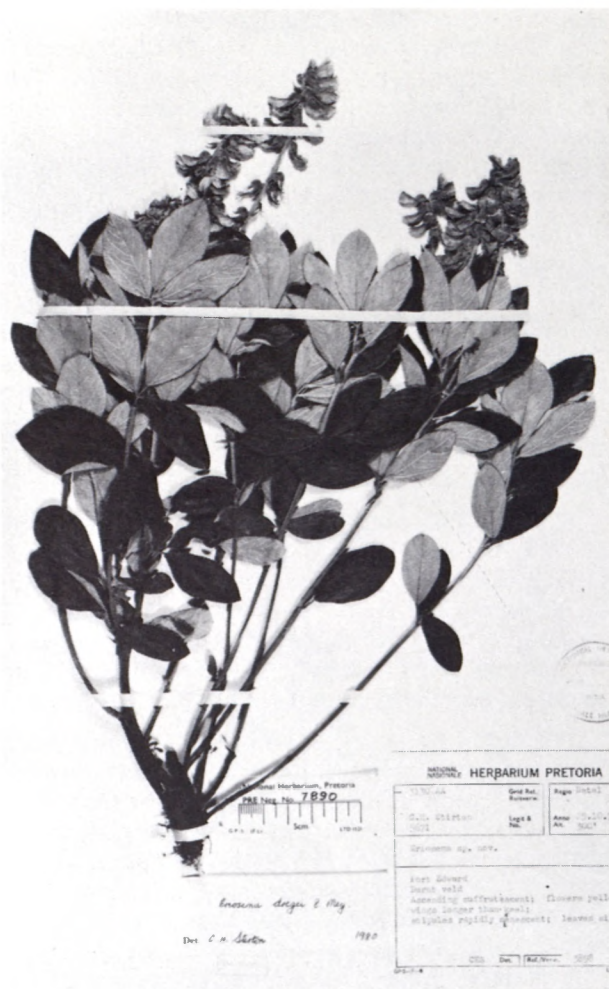


FIG. 10. — Representative specimen of *Eriosema dregei* (Stirton 5671).

Wyk 1551 (PRE); Msikaba River Mouth, Venter & Vorster 204 (PRE). 3130 (Port Edward): Mzamba River Mouth (-AA), Stirton 5604 (K; PRE). Without precise locality: Umzimkulu River, Drège V.c. 18 (K; P).

*Eriosema dregei* is most commonly confused with *E. luteopetalum* (no. 3) from which it differs in its silvery stems and immature leaves, narrower wing and keel petals, smaller caducous flower bracts, and the silvery appressed pubescence of the upper surface of the leaflets. In *E. luteopetalum* the stems and leaves are russet- or golden-brown, the flower bracts are nearly twice as long and wider, and the pubescence on the upper surface of the leaflets is short, appressed and yellowish.

Like *E. luteopetalum* this species is also rather attractive, especially when in full flower. These small silvery plants stand out quite strikingly in the coastal grasslands where they occur. *E. dregei* is sympatric with *E. acuminatum* (no. 2) but is allopatric with *E. luteopetalum* (no. 3) *E. umtamvunense* (no. 4) and *E. latifolium* (no. 7).

*Strey* 8905, collected near Port St Johns, has a very characteristic facies and may turn out to be a new species. This distinctive plant should be searched for and compared with *E. dregei*.

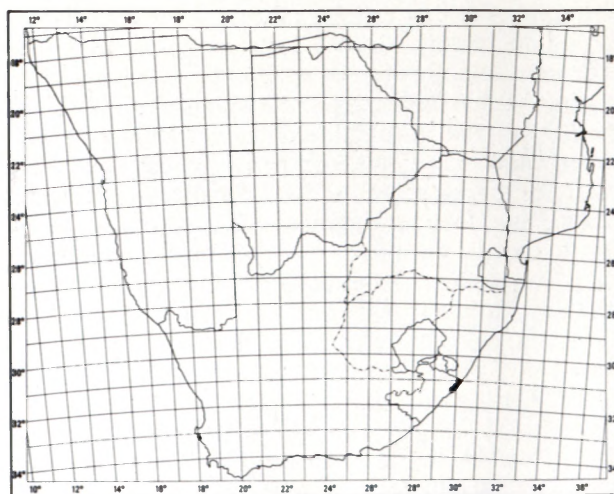


FIG. 11. — Known distribution of *Eriosema dregei*.

6. *Eriosema rossii* C. H. Stirton, sp. nov., affinitate incerta.

Herba perennis ad 350 mm alta, vere florens. *Caules* erecti, basi ramificantes, subtiliter pubescentes pilis reflexis. *Folia* trifoliolata, 45–65 × 25–30 mm, elliptica; lateralia minora asymmetrica. *Stipulae* 15–18 mm longae, liberae. *Racemi* axillares, 30–60-florati ut pseudospicati congesti, foliis aequilongi. *Flores* 12 mm longi, aurantiaci venis rubribus flavique; bracteo ad 12 mm longo. *Calyx* 7 mm longo. *Vexillum* 11 mm longum, 6–7 mm latum, anguste obovatum, auriculatum, reflexum. *Petala carinae* breviora quam alae. *Vagina staminalis* 7 mm longa. *Gynoeceium* 7–8 mm longum; ovarium sericeum. *Fructus* 15 mm longus, 10 mm latus, pilis patentibus, 2–3 mm longis vestitus.

TYPE.—3030 (Port Shepstone): 1 km from Hluta-kungo on road to Highflats (-AD), Stirton 1205 (PRE, holo.; K, iso.).

Erect herb up to 350 mm high, arising from a short vertical rootstock with constricted outline; lateral branches very constricted, horizontal. *Stems* up to 10, covered in semi-patent, downward pointing hairs and short appressed hairs. *Leaves* trifoliolate; terminal leaflet 45–65 × 25–30 mm, elliptic; laterals 38–55 × 16–20(-27) mm, gibbous, length-breadth ratio 1,4–2,0; densely covered in fine erect silky hairs; lower surface covered with numerous small yellow glands, margins and veins appressed hairy, finely pubescent between; upper surface dark green, lower pale green. *Stipules* 15–18 mm long, up to 6–8 mm wide, free, green, erect, clasping the stem. *Racemes* axillary, 30–60-flowered, hidden by the leaves during anthesis but elongating thereafter. *Flowers* 12 mm long, pale orange, equal in length to the subtending bracts. *Calyx* 7 mm long, lobes equal, tube 2 mm long, teeth triangular, covered in golden patent hairs. *Standard* 11 mm long, up to 6–7 mm wide, narrowly obovate, auriculate, clawed, apex truncate; back red with darker venation and packed with yellow glands, inside pale orange with red venation and yellow nectar guide. *Wing petals* 10 × 2,3 mm, claw 3 mm long; auriculate, triangular; exceeding the keel blades; pale pink with red venation and



with a few small yellow glands and hairs along the main vein. *Keel petals* lined with red along the lower margins, densely covered with yellow glands. *Staminal sheath* 7 mm long, tenth stamen free. *Pistil* 7–8 mm long; ovary silky; height of curvature 2 mm; stigma large, capitate. *Fruits* 15 × 10 mm, very shortly beaked, bracts still persistent during fruiting; constricted, clothed in 2–3 mm long reddish hairs. *Seeds* unknown. Fig. 12.

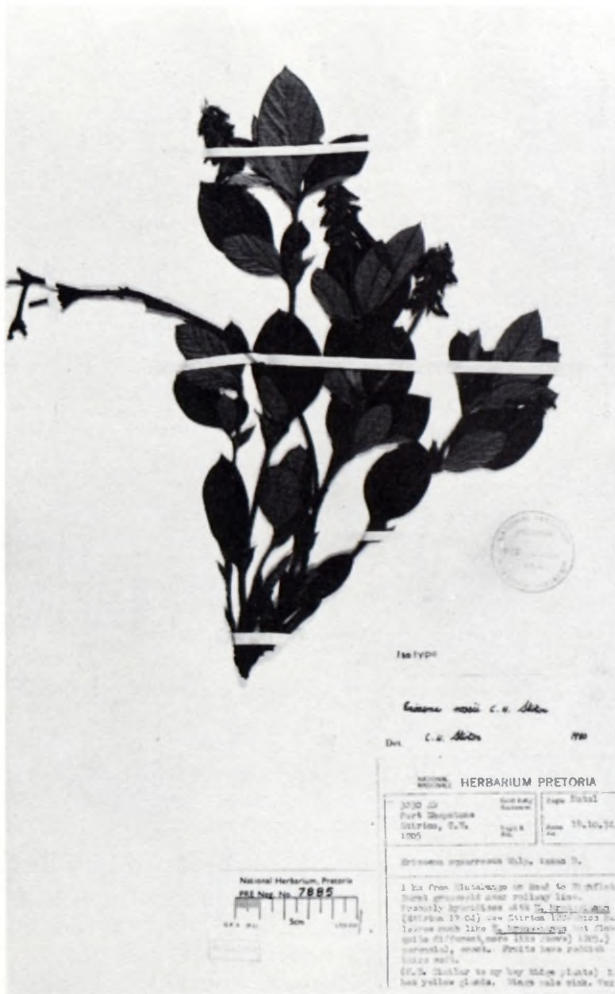


FIG. 12. — Isotype of *Eriosema rossii* (Stirton 1205).

*Eriosema rossii* is restricted to the higher-lying Ngongoni Veld (Acocks's Veldtype 5) of southern Natal and the eastern Transkei (Fig. 13). The Umkomaas River Valley bisects Acocks's Veldtype 5 and it may be significant that many legumes found in the southern portion of this veld type have not been recorded from the area north of the Umkomaas River. Another example in *Eriosema* is *E. populifolium* Harv.

NATAL.—3029 (Kokstad): Ingeli Forest area (-DA), *Stirton* 8113 (PRE). 3030 (Port Shepstone): 10 km from Highflats to Umzinto (-AB), *Stirton* 8202 (PRE); 1 km from Hlutakungo to Highflats (-AD), *Stirton* 1205 (K; PRE); 4 km from Umsawoti to Highflats (-AD), *Stirton* 750, 751 (K; PRE); Hlutakungo (-AD), *Stirton* 5563 (K; PRE); Umtwalumi Falls (-AD), *Stirton* 743 (PRE); Vernon Crookes Nature Reserve (-BC), *Balkwill & Manning* 980, 988 (NU). Umgaye (-BC), *Rudatis* 559 (BM), 717 (BM; STE). Without precise locality *Krauss* 475 (K; BM; US).

TRANSKEI.—3029 (Kokstad): Malowe Mountain (-BD), *Tyson* 2698 (NBG; PRE), 5846 (PRE). 3129 (Port St Johns): 13 km NE of Ludongo Store (-AD), *Acocks* 13425 (PRE); Ntsubane Forestry Station (-BC), *Galpin* 10994 (PRE).

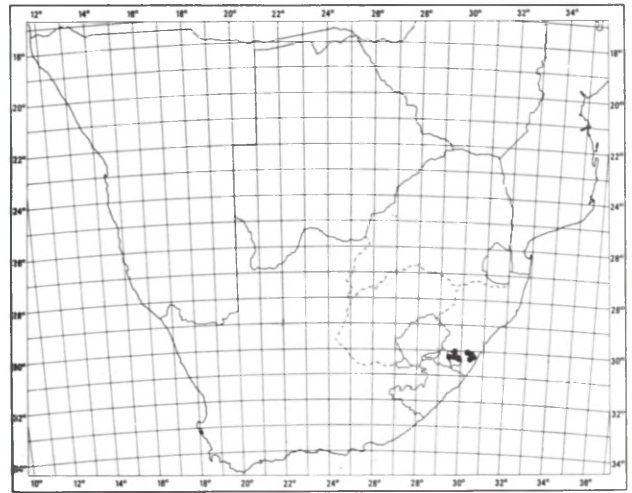


FIG. 13. — Known distribution of *Eriosema rossii*.

*Eriosema rossii* is named in honour of Dr James Ross in recognition of his important contribution to our knowledge of southern African legumes, particularly the subfamilies Caesalpinioideae and Mimosoideae.

Although this species is fairly common within its distribution range, it was until recently poorly represented in herbaria. With its large stipules and small compact inflorescences it is generally easily separated from the other species in the *E. squarrosum* complex.

There is, however, a group of plants which may form part of this species. I have previously annotated this group in various herbaria as *E. superpositum* mss. It is allopatric with *E. rossii* and is separated from it by its long-peduncled, few-flowered box-like inflorescences held high above the sparsely pubescent subtending leaves. But since the intervening area between the two ranges has not been collected I do not wish to recognize it formally until more is known about the variation present in both groups.

The following brief description may be useful to collectors who might be fortunate to find plants of this unnamed group which grows in small scattered colonies.

Erect perennial arising from a daucate rootstock with side branches arising from just below the stylopodium; younger rootstocks constricted. *Stems* 1–5, branching once or twice near base, densely clothed in 1–1.5 mm long, fulvous, semi-patent, downward pointing hairs with shorter hairs interspersed. *Leaves* trifoliolate, first leaves regularly narrowly ovate and unifoliolate; terminal leaflet 45–70 × 12–20 mm, sparsely covered in short, stiff, semi-erect hyaline hairs, under surface sparingly pubescent with numerous yellow glands present. *Stipules* 9–15 × 3–4 mm. *Racemes* axillary, with up to 12

flowers, box-like, congested at the apex of a long peduncle, greatly overtopping the leaves, 13 × 20 mm; peduncle 40–100 mm long. Flowers 7–9 mm long, longer than the subtending flower bract.

NATAL.—2930 (Pietermaritzburg): Inchange (–DA), *Stirton* 387b (K; PRE); Key Ridge (–DC), *Stirton* 555, 1126, 1365, 5077 (K; PRE); 3 km from Key Ridge to Durban (–DC), *Stirton* 5546 (K; PRE); Botha's Hill (–DC), *Stirton* 542 (K; PRE); near Durban (–DD), *Gerrard* 423 (TCD); Wentworth (–DD) *Ward* 6112 (PRE; NU), 5207 (NU) 6474 (NU); Treasure Beach (–DD), Bluff, *Ellery* 39 (NU). 3030 (Port Shepstone): Umkomaas (–BB), *Stirton* 8044 (PRE). Without precise locality: *Sanderson* 278, 378. (TCD); *Hutton* s.n. (TCD).

This taxon has disappeared rapidly from the area between Durban and Key Ridge and is now found only in a few isolated patches of the natural grassland that has not yet been built on or been destroyed through overgrazing.

7. *Eriosema latifolium* (Benth. ex Harv.) C. H. *Stirton*, comb. et stat. nov.

*Eriosema squarrosum* (Thunb.) Walp. var. *latifolium* Benth. ex Harv., Fl. Cap. 2: 260 (1862). *Eriosema zeyheri* E. Mey. var. *latifolium* Benth. ex Bak. f. in J. Bot., Lond. 33: 147 (1895). Lectotype: Natal, 'in graminosis circa stationem St. Andrews dictam', *Tyson* 2834 (SAM; K, isolecto.).

Erect suffrutex up to 1 m tall. Stems up to 10, branching from the lower nodes, velvety. Leaves trifoliolate, basal leaves unifoliolate, 50–75 × 35–45 mm, symmetrical, obovate but also elliptic; laterals smaller, 45–60 × 20–30 mm, asymmetrical, gibbous, length-breadth ratio 1,3–1,5; densely pubescent above, dull greenish, densely woolly grey-white beneath with fulvous veins; densely glandular below but hidden beneath the hairs. Stipules 8–9(–11) × 5–6 mm, broadly ovate, tip somewhat falcate, free, clasping the stem. Petiole 3–5 mm long. Racemes axillary, 30–45-flowered, 11–22 mm long, held well above foliage; peduncles 30–75 mm long. Flowers (9)10–11 mm long, yellow; bracts 6–7 mm long, 2 mm wide, boat-shaped. Calyx 5,0–5,5 mm long, lobes equal; teeth 2 mm long, equal, shorter than the tube, long tawny-haired becoming appressed on the tube, glandular. Standard 11 mm long, narrowly obovate, clawed, weakly auriculate, glandular and pubescent on the back; appendages weakly developed, fused, thinly ridged, extending on each side downwards to the auricles but ending 1,5 mm away from them. Wing petals 11,0–11,5 × 2,5–3,0 mm, narrowly cultrate, slightly hairy along the base, somewhat pouched near the poorly developed auricle, sparsely glandular, longer than the keel blades. Keel blades 8,5–9,0 mm long, up to 3,5–4,5 mm wide; densely glandular, hairy along the base. Staminal sheath 8 mm long; free stamen geniculate; pollen variable in size. Pistil 7 mm long; ovary 2,8–3,0 mm long, densely pubescent; height of curvature 3–4 mm; stigma capitate. Fruits unknown. Fig. 14.

This species is endemic to southern Natal and the north-eastern Transkei (Fig. 15). It occurs in open grassland, both near riverine and mountain forests. Flowering takes place in October and November.

NATAL.—3030 (Port Shepstone): 18 km from Izingolweni to Port Edward, (–CC), *Stirton* 1385 (K; PRE).

TRANSKEI.—3029 (Kokstad): 86,5 km from Lusikisiki to Port Edward (–DD), *Grobbeelaar* 2321 (PRU); Bizana (–DD), *Stirton* 5599 (PRE; K). 3129 (Port St Johns): St Andrews Station (–BC),



FIG. 14. — Representative specimen of *Eriosema latifolium* (Strey 10132).

*Tyson* 2834 (K; NBG); Goss Point (–BD), *Strey* 10132 (PRE; K). Without precise locality: near Umkwani River, *Tyson* 2633 (NBG); *Anonymous* 559 (W).

Although described by Harvey as long ago as 1862 this species has been collected only rarely. It occupies Acocks's Veld Type 3, his Pondoland Coastal Plateau Sourveld. This veld type has until recently been little explored and I am certain that once a full enumeration has been made of its constituents it will receive the recognition it deserves as an area of endemism.

*Eriosema latifolium* is closely allied to *E. dregei* (no. 5) and *E. luteopetalum* (no. 3), two other yellow-flowered suffrutices from the same general region. It differs from these two species in its much smaller flowers, the appendages on the standard being well-free of the auricles, its shorter stipules and narrowly oblong racemes.

The presence of variably sized pollen grains strongly suggests that this species may be of hybrid origin. It is perhaps significant that this species occurs as scattered individuals or small colonies. The few fruits that have been found contained shrivelled seeds only.

8. *Eriosema preptum* C. H. *Stirton* in *Bothalia* 13:323 (1981). Type: Natal, 2930 (Pietermaritzburg): Scottsville, Pietermaritzburg (–CB), *Stirton* 1242 (PRE, holo.; K, iso.).

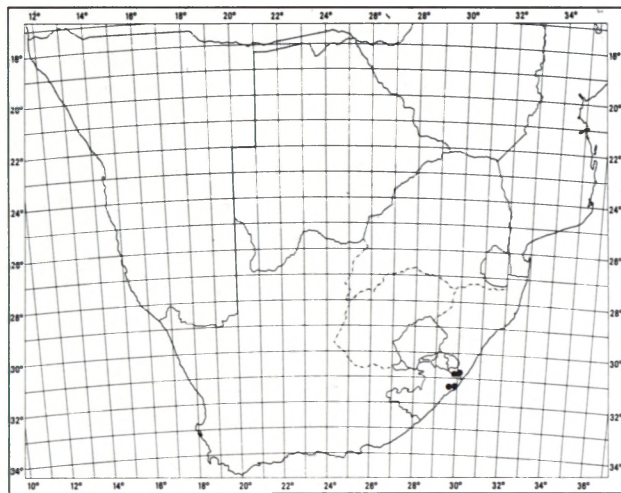


FIG. 15. — Known distribution of *Eriosema latifolium*.

Perennial herb or suffrutex 200–600 mm tall. Stems 1–15, clothed in short white hairs with longer hairs interspersed. Rootstock with long stylopodium, thin and beaded when young, becoming wavy or constricted but finally daucate when mature. Leaves trifoliolate, basal leaves usually unifoliolate, 45–60 × 20–30 mm; laterals smaller, less symmetrical, elliptic to narrowly obovate, if unifoliolate then obo-

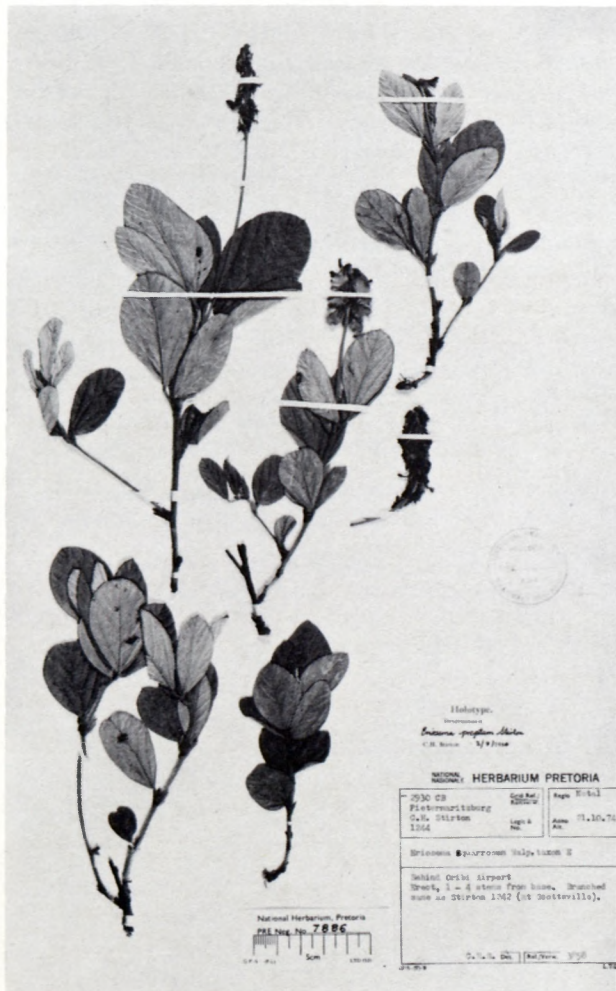


FIG. 16. — Representative specimen of *Eriosema preptum* (Stirton 1244).

vate, apex subacute, base cuneate; sparsely pubescent above, densely woolly below with veins prominent due to dense covering of longer appressed hairs, glandular. Stipules 8–14 mm long, free. Racemes axillary, (8–)25–35-flowered, overtopping the subtending leaves. Flowers 6–7 mm long, up to 3 mm wide, orange with red veins or yellow-orange; bracts 4–6 mm long, rapidly caducous. Calyx 4 mm long, tube 2 mm long; keel lobe up to 3,5 mm long, teeth triangular. Standard 6–10 × 6 mm, emarginate with well developed downward curving auricles, clawed; back hairy and glandular; appendages present, fused, extending from auricle to auricle just above the apex of the claw. Wing petals 8–9 × 2,0–2,75 mm, auriculate, upcurving, longer than keel. Keel petals 6–7 mm long, up to 3–4 mm wide, pouched, gland-dotted. Staminal sheath 6 mm long; tenth stamen free. Pistil 6–7 mm long; ovary 2,5 mm long, densely hairy; style thickest at point of flexure, hairy for  $\frac{3}{4}$  its length, height of curvature 2 mm. Nectary present, 0,2–0,3 mm high, margin wavy. Fruits 10–13 × 8–10 mm, sericeous. Seeds grey or light brown, with speckles or blotches. Fig. 16.

*Eriosema preptum* is endemic to Natal and extends some 100 km inland from the coastal belt (Fig. 17). It occurs in Acocks's Coastal Forest and Thornveld (VT1), Ngongoni Veld (VT5) and his Zululand Thornveld (VT6). It favours sandy, well drained sites along roadsides and ditches but is also commonly found in regularly burned grassland. Flowering extends from September to February but occurs mainly in October.

NATAL.—2830 (Dundee): Scottspoor (–CC), Thode 4418 (STE). 2831 (Nkandla): 6 km S of Hlabisa (–BB), Codd 2003 (K; PRE); 10 km from Eshowe to Gingindlovu (–CD), Stirton 5349 (PRE). 2930 (Pietermaritzburg): Scottsville (–CB), Stirton 1242, 1410, 5516 (K; PRE); Goossens 126 (G); behind Oribi Aerodrome (–CB), Stirton 1244 (K; PRE); Camperdown (–DA), Stirton 5542 (PRE); 5 km from Table Mountain to Pietermaritzburg (–DA), Stirton 1032 (K; PRE). 2931 (Stanger): 43 km from Stanger to Mtunzini (–AB), Stirton 407, 1001 (K; PRE); Tugela Monument (–AB), Grobbelaar 1810 (PRU); Umhlali (–AD), Meebold 13364 (NY); 10 km from Durban to Stanger (–AD), Stirton 1254 (K; PRE); Gingindlovu (–BA), Stirton 1256 (K; PRE); near Compensation (–BA), Stirton 1160 (K; PRE); Kanyile Monument (–CD), Grobbelaar 2325 (PRU). 3030 (Port Shepstone): Pumula (–BB), Stirton 10343 (NU); Clydesdale (–BD), Tyson s.n. (NBG); 8 km from Eston to Winklespruit (–BB), Stirton 1122 (K; PRE); 19 km from turn-off to Oribi Gorge Hotel on road to Paddock (–CA), Germishuizen 1690 (PRE); Southbroom (–CB), Schrire 318 (NU); 3 km from Port Shepstone to Margate (–CD), Stirton 8050 (PRE).

*Eriosema preptum* hybridizes with *E. cordatum* E. Mey. and *E. salignum* E. Mey. (Stirton 1981b). The hybrid progeny are rather robust and are well represented in herbaria. Their presence in herbaria has however obscured the boundaries of what are three quite distinct species.

This species is related to *E. rossii* (no. 6) and its variants but is separated by its fewer-flowered well exerted racemes, much smaller, rapidly caducous flower bracts, smaller flowers and more woolly leaflets.

#### SPECIES EXCLUDED FROM THE COMPLEX

During the course of this study I have come across several specific epithets which have been attributed

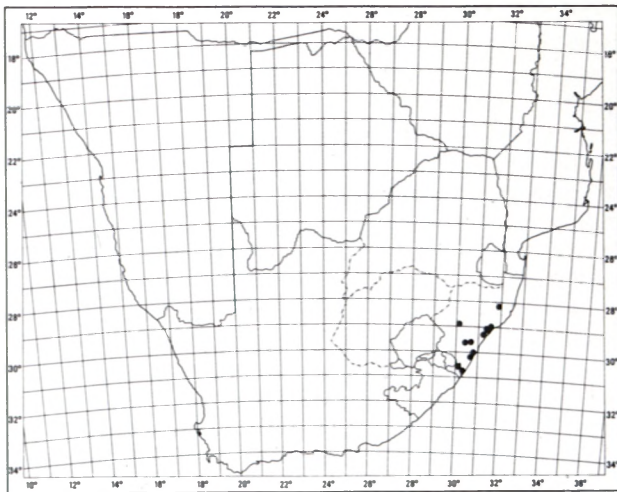


FIG. 17. — Known distribution of *Eriosema preptum*.

to the *E. squarrosum* complex. I have not been able to verify the identity of all of these names. The following notes should however clarify the position of some of them.

1. *Eriosema dregei* Meissn., in Krauss (*Flora* 27: 357, 1844), nomen. Krauss never published this name but used it to identify material he saw of *Eriosema parviflorum* E. Mey.

2. *Eriosema puberulum* Eckl. & Zeyh. (*Enum.* 256, 1836) = *Rhynchosia puberula* (Eckl. & Zeyh.) Steud.

3. *Eriosema reticulatum* E. Mey. (*Comm.* 129, 1836) = *Rhynchosia* sp. There is a specimen of *E. salignum* E. Mey. in P, collected by Drège, which is annotated by E. Meyer as *E. reticulatum* E. Mey. This is clearly a misidentification as the specimen does not match the protologue of *E. reticulatum*.

4. *Eriosema rogersii* Schinz = *Rhynchosia barbertonensis* C. H. Stirton, nom. nov. *Eriosema rogersii* Schinz in *Vjschr. naturf. Ges. Zürich* 71: 138 (1926); non *R. rogersii* Schinz in *Vjschr. naturf. Ges. Zürich* 71: 137 (1926). Type: Transvaal, Barberton, Thorncroft leg. Rogers 19157 (Z, holo.; BM, fragment).

5. *Eriosema sericeum* Eckl. & Zeyh. (*Enum.* 256, 1836). = *Rhynchosia* sp.

6. *Eriosema transvaalense* Moss ex P. Glover (*S. Afr. J. Sci.* 34: 247, 1937), nomen.

7. *Eriosema trinerve* E. Mey. (*Comm.* 130, 1836). I have seen only one specimen annotated as such by E. Meyer. This specimen is not an *Eriosema*. Dr. R. M. Harley (Kew) has kindly named it as *Micromeria* sp. (Lamiaceae). There is a note written by the late Dr J. Raynal in the Paris Herbarium (27-6-1963) to suggest that 'this is probably an incorrectly labelled plant'. The protologue of this species is too vague and as it could be applied to any of a number of species it cannot be applied until a specimen so named is found.

8. *Eriosema villosum* (Meissn.) C. A. Sm. ex Burt Davy (*Fl. Transv.* 2: 413, 1932). = *Rhynchosia villosa* (Meissn.) Druce.

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#### UITTREKSEL

*Alle digbehaarde Suider-Afrikaanse spesies van Eriosema is oor die jare gewoonweg onder E. squarrosum (Thunb.) Walp. geplaas. Hierdie studie klaar die identiteit van E. squarrosum op; drie nuwe taksons word erken: E. luteopetalum C. H. Stirton, E. rossii C. H. Stirton en E. umtamvunense C. H. Stirton; twee nuwe kombinasies word gemaak: E. latifolium (Benth. ex Harv.) C. H. Stirton en E. acuminatum (Eckl. & Zeyh.) C. H. Stirton; en E. dregei E. Mey. word herstel. Die spesie E. preptum C. H. Stirton, wat reeds beskryf is, behoort ook tot hierdie kompleks. Rhynchosia barbertonensis C. H. Stirton word as nuwe naam vir E. rogersii Schinz gegee.*

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