

New species of *Erica* (Ericaceae) from the Cape Province

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Keywords: Cape Province, *Erica*, new species, taxonomy

ABSTRACT

Three new species of *Erica* L. (Ericaceae) are described from the southern parts of the Cape Province. *E. amicorum* E.G.H. Oliver, an endemic marsh species from the Langeberg near Riversdale, is one of the most distinctive species in the genus on account of its almost free reflexed petals, reflexed stamens and exserted gynoecium. The mat-forming *E. tegetiformis* E.G.H. Oliver is allied to *E. senilis* Klotzsch ex Benth. and *E. eriophoros* Guth. & Bol., all occurring at high altitudes in the Cold Bokkeveld and Cedarberg. *E. cunoniensis* E.G.H. Oliver is allied to the *E. squarrosa* Salisb./*E. gysbertii* Guth. & Bol. complex and is very localized in the mountains of the western part of the Caledon Division near Rooi Els.

UITTREKSEL

Drie nuwe spesies van *Erica* L. (Ericaceae) van die suidelike dele van die Kaap Provinsie word beskryf. *E. amicorum* E.G.H. Oliver, 'n endemiese moeras-spesies van die Langeberg naby Riversdal, is een van die merkwaardigste spesies in die genus omdat dit byna vry teruggebuigde kroonblare, teruggebuigde meeldrade en 'n ontblote ginesium het. *E. tegetiformis* E.G.H. Oliver, wat groot matte vorm, is naverwant aan *E. senilis* Klotzsch ex Benth. en *E. eriophoros* Guth. & Bol., en al drie kom voor op hoë plekke in die Koue Bokkeveld en Sederberge. *E. cunoniensis* E.G.H. Oliver is naverwant aan die *E. squarrosa* Salisb./*E. gysbertii* Guth. & Bol. kompleks en het 'n beperkte verspreiding in die berge van die westelike gedeelte van die Caledon distrik naby Rooi Els.

INTRODUCTION

The genus *Erica* in southern Africa has recently been increased in size with the inclusion of the 15 species of *Philippia* Klotzsch (Oliver 1987, 1988) and now contains some 654 species. As such it is by far the largest genus in the flora of southern Africa, indeed the continent of Africa. The considerable increase in collections of plants from the region of the Cape Flora during the last three to four decades has produced a wealth of new and interesting records. These include a number of distinct undescribed species of which three are described here.

Erica amicorum E.G.H. Oliver, sp. nov., in genere distinctissima et singularis propter lobos corollae subliberos reflexos stamina erecta deinde reflexa et gynoecium exsertum, sed aspectu typico specierum sectionis Ceramiae.

Fruticulus prostratus repens. Rami ad 1,5 m longi glabri internodis longis cortice irregulari grisei. Folia 3-nata, 5–6 × 4–4,5 mm patentia ovata ad subcircularia apice attenuato marginibus leviter invaginatibus ad subnaviculata, ciliata pilis parvis et pilis crassis glandulosis adaxiale puberula abaxiale pubescentia pilis crispis, petiolo 0,8–1,0 mm longo puberulo. Flores 1–2 in extremis brachyblastorum lateralium absolutorum vel 1–3 in extremis ramulorum; pedicellum 3–5 mm longum ad basim crassum glabrum vel juniores interdum puberulum; bractea 0,5–1,0 mm longa basalis vel submediana anguste ovata vel elliptico-oblonga; bracteolae 2 oppositae subbasales ad submedianae 0,4–0,7 mm longae. Calyx profunde 4-lobatus subliber, lobis 1,7 × 1,5 mm late ovatis initio erectis demum reflexis ciliatis rosellis atrorubrescentibus. Corolla profunde 4-lobata, tubo 0,8 mm longa latissime

cyathiformis, lobis 2,9 × 2,2 mm, late naviculato-ellipticis, patentibus demum reflexis, puberulis ciliatis pilis parvis et 5–6 glandulis, rosellis atrorubrescentibus. Stamina 8 exserta initio erecta demum reflexa; filamenta 2 mm longa subteretia in annulo base conjuncta, glabra apice dentata; antherae erectae dorsales, thecis 1,2 mm longis obtusis parum prognathis scabridulosis muticis, poro theca 3-plo brevior; pollen in tetradis. Ovarium manifestum demum omnino exsertum, depressogloboseum echinoideum pilis brevibus longis glandulosis tectis, disco base; stylus exsertus filiformis 2,8–3,2 mm longus; stigma simplex. Capsula globosa glanduloso-setosa, seminibus ellipsoideis ad subsphaericis reticulatis. Figura 1.

TYPE.—Cape, Riversdale District, the Langeberg, south slopes at head of Valsrivier, 609 m, 12 December 1987, Oliver, Schumann & Kirsten 9054 (STE, holo.; BM, BOL, E, G, K, MO, NBG, NY, P, PRE, S).

Prostrate delicate creeping shrublet. Branches up to 1,5 m long spreading through restioid vegetation, glabrous, brown, with long internodes, side branches often curved, bark irregularly sloughing off in grey portions. Leaves 3-nate, 5–6 × 4–4,5 mm, patent, ovate to subcircular with an attenuate apex and slightly inrolled margins to subnaviculate, ciliate with very short hairs and long stout hairs, sparsely puberulous adaxially when young, sometimes glandular-ciliate along the pseudomargin adaxially, crisped pubescent abaxially and with a few stout gland-tipped hairs along the midrib; petiole 0,8–1,0 mm long, puberulous when young, ciliate. Flowers 1–2-nate at ends of lateral absolute brachyblasts or 1–3-nate at ends of branchlets, sometimes mixed in a synflorescence; pedicel 3–5 mm long tapering to the base, glabrous or sparsely glandular villous, sometimes puberulous when young, dark red; bract 0,5–1,0 mm long, basal, occasionally submedian, narrowly attenuate-ovate or elliptic-oblong, with or without a sulcate tip; bracteoles 2, opposite, subbasal to submedian, 0,4–0,7 mm long elliptic-

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MS. received: 1989/04/03.

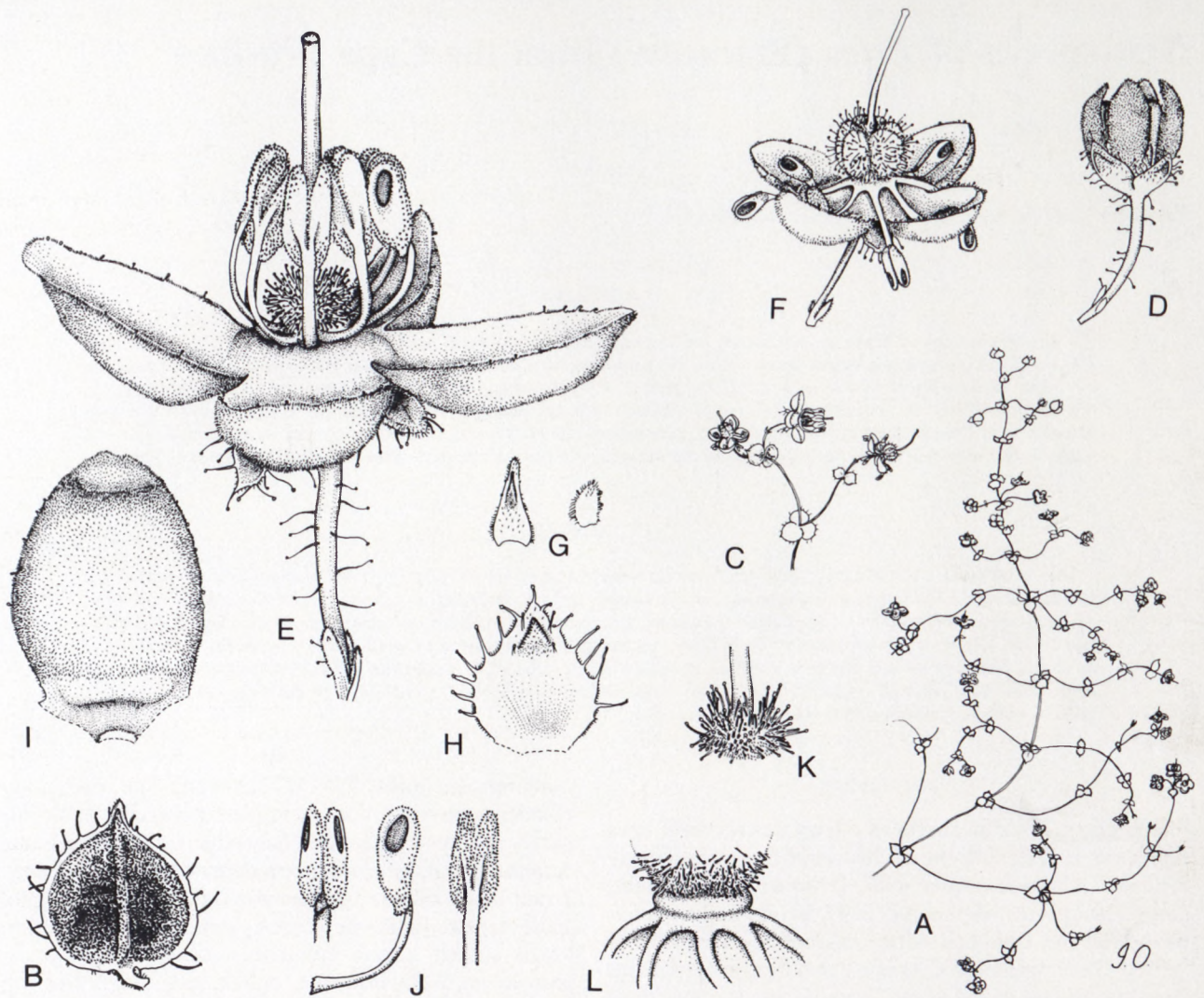


FIGURE 1. — *Erica amicorum*: A, flowering branch, $\times 0,5$; B, leaf, abaxial view, $\times 6$; C, two florescences, $\times 1$; D, bud, $\times 6$; E, flower at anthesis, $\times 12,5$; F, older flower with reflexed stamens, $\times 6$; G, bract and bracteole, $\times 12,5$; H, sepal, $\times 12,5$; I, petal, $\times 12,5$; J, anther, front, side & back views, $\times 12,5$; K, ovary, $\times 12,5$; L, base of mature ovary and stamens, $\times 12,5$; all drawn from the type collection, Oliver, Kirsten & Schumann 9054 (STE).

oblong, acute, ciliate and with sessile glands. *Calyx* deeply 4-lobed, lobes almost free, $1,7 \times 1,5$ mm broadly ovate with a sulcate apex, at first erect becoming reflexed, ciliate with fine hairs and short stout glands, pink becoming dark red. *Corolla* deeply 4-lobed, tube 0,8 mm long, very broadly cyathiform, lobes $2,9 \times 2,2$ mm broadly naviculate-elliptic, obtuse to truncate, spreading, becoming reflexed, finely puberulous and finely ciliate and with 5–6 stout short gland-tipped cilia, pink becoming dark red. *Stamens* 8, exserted, at first erect, becoming reflexed into the reflexed corolla lobes, the alternate stamens reflexed over the interstices; filaments 2 mm long, rather thick, subterete, joined into a thick ring at the base, glabrous with a toothed apex; anthers erect, dark brown dorsally attached near the base, thecae 1,2 mm long, obtuse, slightly prognathous or with downwardly pointing sharp base, scabridulous, pore $\pm \frac{1}{3}$ length of the theca, pollen in tetrads. *Ovary* manifest becoming fully exserted, flattened globose, echinoid, covered with short to long glandular hairs with a slight disk below; style exserted, filiform, 2,8–3,2 mm long; stigma simple. *Capsule* globose, glandular setose; seeds ellipsoid to subspherical, reticulate. Figure 1.

This remarkable new species is unlike any other species in the genus on account of having, in the mature flowers,

almost free corolla lobes which are spreading and then reflexed, with the alternate stamens reflexed between these lobes, and an exserted gynoecium. However, the species appears to be allied to species in the section *Ceramia* because of its habit, habitat preference and small pink flowers and open-backed leaves. In particular it superficially resembles species such as *E. oligantha* and *E. planifolia* L., but is different in a number of unique characters.

The possession of almost free corolla lobes is very rare in the subfamily Ericoideae. It occurs in a few schizopetalous cultivars of European heathers. In southern Africa only four species share such a divided corolla, i.e. *Erica lanuginosa* Andr., *E. occulta* E.G.H. Oliver and *E. bodkinii* Guth. & Bol., but not to the same extent as in *E. amicorum*. Also they do not have the lobes reflexed in the mature flowers. This condition renders the flowers unique in that the complete androecium and gynoecium are exserted, thus giving the impression of an erica flower in which the corolla has been eaten away by some insect. The mature flower is also unique in having those stamens alternating with the corolla lobes totally reflexed between the lobes. The stamens are also rather unusual in being joined together at the base into a thickened collar. Fused

or partially fused stamens are now no longer rare in the genus *Erica* because of the recent inclusion of the genus *Philippia* into *Erica* (Oliver 1987, 1988).

Another striking feature of *E. amicum* is the arrangement of the flowers which can be borne in a variety of ways on the branches from simple 1–3-nate terminal florescences to 1-flowered florescences on lateral absolute brachyblasts (Figure 2). These may then all be aggregated together into a loose synflorescence on a lateral branch (Figure 3). When the main branches are long, up to 1 m, they bear numerous lateral branches which themselves bear various combinations of florescences. In some cases the simple 3-flowered terminal florescence can look very similar to a terminal synflorescence. Examination of a florescence will show that flowers alternating with the leaves belong to a simple florescence (Figure 2A) whereas those opposite the leaves are terminal on absolute brachyblasts (Figure 2B).

The species appears to be very restricted in its distribution, occurring only on one mountain complex in the Langeberg range north-east of Riversdale (Figure 4). It is confined to low thick vegetation in moist places alongside streams or in seepage zones. In the type locality it produces matted plants intertwined among other moisture-loving fynbos plants especially tussocks of the restiad, *Platycaulos acutus* Esterhuysen, and therefore the extricating of reasonable flowering branches for herbarium purposes was time-consuming work. One branch disentangled from several restiad clumps was 1,5 m long.

This species is named after my two friends, Dolf Schumann and Gerhard Kirsten, who introduced me to it and with whom the type collection was made.

CAPE.—3321(Ladismith): Romanshoek, 600 m, 8.xii.86 (—CD), Kirsten 1064 (NBG); 1067 (STE); *ibid.* Schumann 492 (PRE; STE); *ibid.* Schumann 596 (STE); Langeberg, south slopes, headwaters of Valsrivier, 609 m, 12.xii.1987 (—CD), Oliver, Kirsten & Schumann 9054 (STE & others as per type); Perdeberg Plateau, 975 m, 6.ix.83 (—CD), Viviers 1100 (STE). 3421 (Riversdale): Gavelbos, 307 m, 2.ix.87 (—AB), De Kock sub Bohnen 8811 (STE).

Erica cunoniensis E.G.H. Oliver, sp. nov., in Sectione *Euryloma* *E. squarrosae* Salisb. et *E. gysbertii* Guth. & Bol. affinis sed ab eis floribus patentioribus, id est corolla tubulocampanulata ad anguste cyathiformi non ovoideo-urceolata ad tubuloconica, antheris adhaerentibus propter pilos intertextos laterales non liberis glabris differt.

Fruticulus sparsus erectus ad 300 mm altus. Rami erecti ad extremis foliosi, glabri sterigmatis infrafoliaceis, rami veteres irregulariter porcati cicatibus foliorum notati. Folia 4-nata arcte disposita patentia ad recurva, 2,5–3,5 mm longa, ciliata pilis longis validis ad apice caespitosus seta unica longa atrorubenti terminali; petiolus 1 mm longus appressus complanatus ciliatus. Flores 3–9 verticillati vel secundi ad extremis ramorum; pedicellus 3,5–5,0 mm longus rubens pilis crispis glandulis subsessilibus parvis; bractea 3 × 0,5 mm linearis ad lineari-spathulata, bracteolae bracteis similes sed graciliores. Calyx 4-lobatus, 5 mm longus, lobis longitudine $\frac{3}{4}$ calycis partes aequantibus, dimidio inferiore ovato ciliato glandulis sessilibus dimidio superiore acuto elongato foliato sulcato ciliato pilis longis glandulis sessilibus in parte inferiore basi. Corolla 6–9 × 3–4 mm variabilis tubulocampanulata ad anguste cyathiformis viscida atrosanguinea; lobis deltoideis longitudine $\frac{1}{6}$ corollae partes aequantibus, erectis ad patentibus ad reflexis. Stamina inclusa; filamenta 5 mm longa apice dilatata et ciliata; anthera adhaerentes propter pilos intertextos, dorsales, thecis anguste ovatis 1,2 mm longis pilis crispis. Ovarium 1,6–2,0 × 1,0–1,2 mm obovoideum plus minusve emarginatum stipite minimo; stylus 6–7 mm longus anguste cylindraceus glaber; stigma plus minusve exserto subcapitato. Fructus anguste obovoideus capsularis stipite parvo; semina subsphaerica papillata. Figura 5.

TYPE.—Cape, Caledon Division, Rooi Els area, Buffelstalberg, ridge running NW from the beacon, 670 m, 5 October 1986, Oliver 8974 (STE, holo.; BM, BOL, E, G, K, MO, NBG, P, PRE, S, W).

Sparse erect woody shrublet up to 300 mm, rarely 500 mm, tall. Branches erect, leafy only towards the ends, glabrous with distinct infrafoliar ridges, bark in older

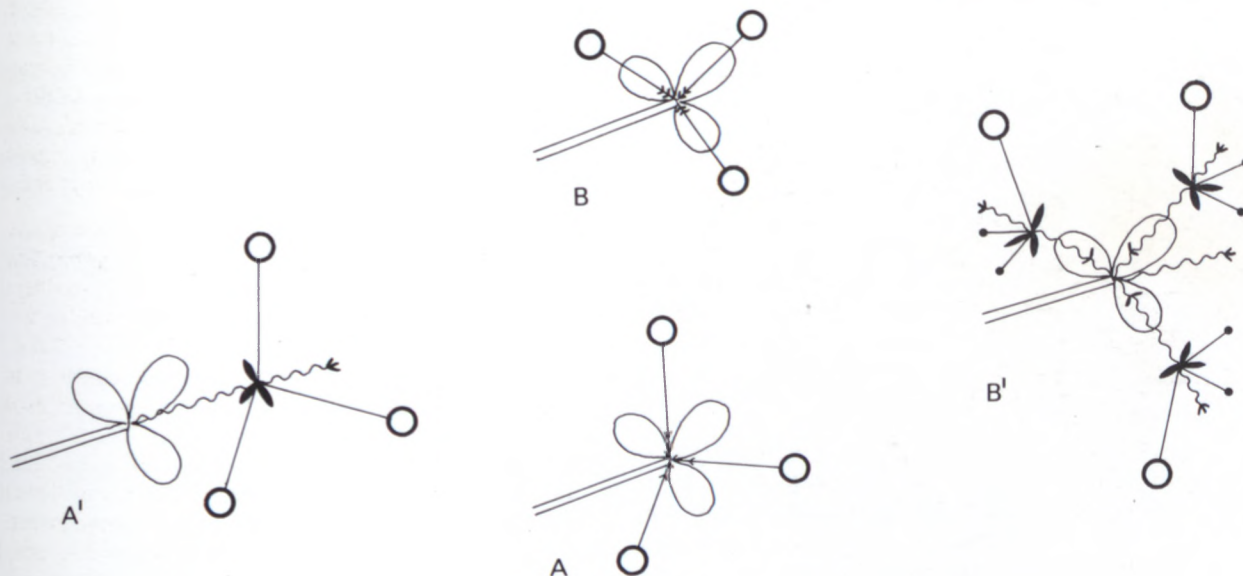


FIGURE 2.—Two similar-looking inflorescences commonly found in *E. amicum*: A, a simple 3-flowered florescence condensed from the schematic diagram A1; B, a compound synflorescence consisting of three 1-flowered florescences (in each florescence there are two aborted flowers) condensed from the schematic diagram in B1. Zigzag lines represent expanded absolute brachyblasts.

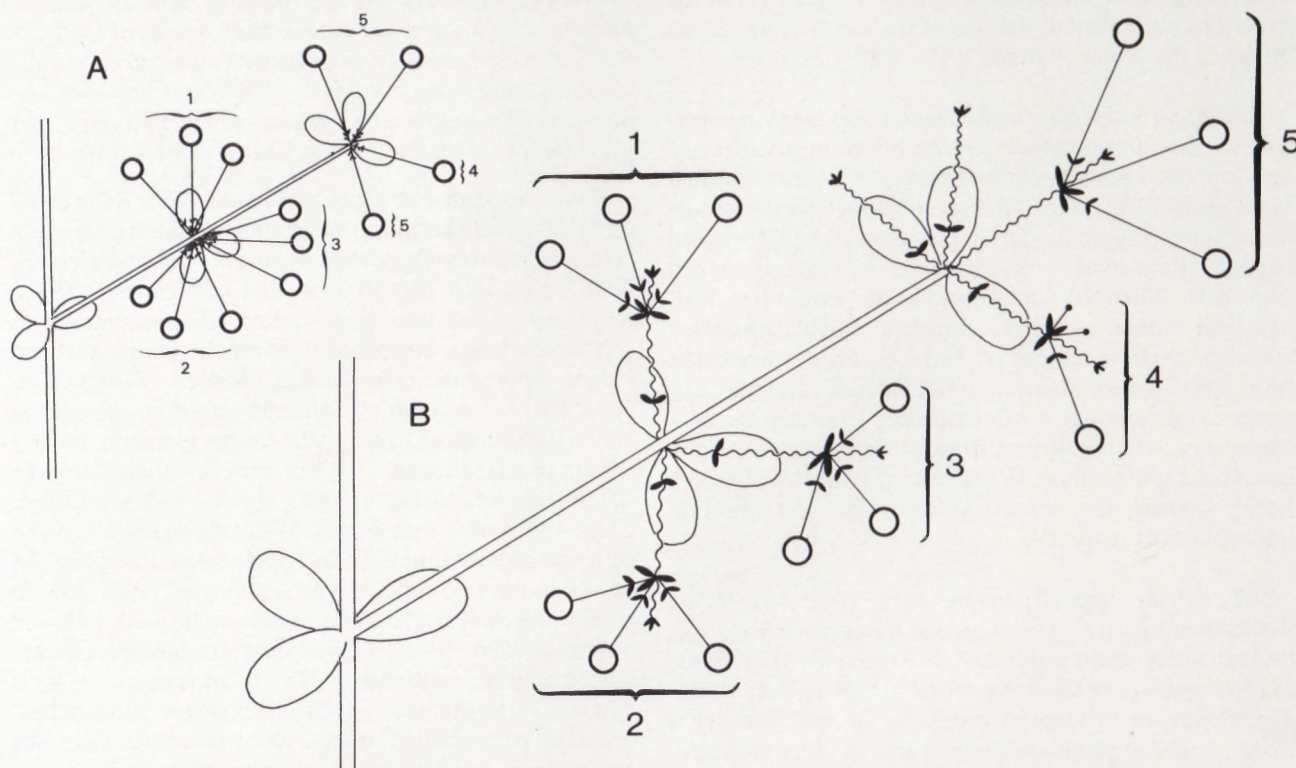


FIGURE 3.—Synflorescence of five florescences on a lateral branch in *E. amicum*: A, the branch as it appears on the plant; B, an enlarged schematic explanation of the branch and five florescences, florescences 1–4 are equal to Figure 2A and florescence 5 to Figure 2B, the apparently single terminal florescence is a synflorescence made up of four flowers from two florescences. Zigzag lines represent expanded absolute brachyblasts.

branches splitting into white infrafoliar flakes, oldest branches red-brown, irregularly ridged with prominent protruding leaf scars. *Leaves* 4-nate, closely arranged, spreading-recurved, 2,5–3,5 mm long, oblong-elliptic, terminated by a long stout dark red seta, ciliate with long stout white hairs tufted towards the apex, setae with puberulous bases; petiole appressed, 1 mm long gradually merging with the lamina, flat, ciliate, occasionally with a few small sessile glands. *Flowers* in a terminal group of 3–9 at the ends of main branches, either verticillate or secund; pedicel 3,5–5,0 mm long, red with crisped hairs and sessile small glands; bract $3 \times 0,5$ mm, linear to linear-spathulate subbasal; bracteoles like the bract but more slender, median. *Calyx* 4-lobed mostly 5 mm long, lobes $\frac{3}{4}$ the length of the calyx, basal half flat, ovate, and ciliate with sessile marginal glands, upper half acute elongate foliar sulcate and ciliate with long hairs, sessile glands on inner surface of the base otherwise glabrous, green to completely red in dark-coloured flowers. *Corolla* 6–9 \times 3–4 mm variable in shape from tubular-campanulate to narrowly campanulate to narrowly cyathiform, shiny viscid oxblood-red sometimes very darkly so; lobes deltoid, $\frac{1}{6}$ the length of the corolla, erect or spreading to reflexed. *Stamens* included; filaments 5 mm long, considerably dilated at the apex, ciliate in the upper half; anthers remaining in a ring around the style due to interlocking lateral hairs, dorsally attached near the base, thecae 1,2 mm long, narrowly ovate, golden brown with back and filament apex dark red-brown, adaxial hairs colourless, lateral and abaxial hairs reddish. *Ovary* 1,6–2,0 \times 1,0–1,2 mm, obovoid slightly emarginate with a short stipe, glabrous green; style 6–7 mm long, narrowly cylindric, glabrous; stigma just exerted, subcapitate. *Fruit*

a narrowly obovoid capsule with a slight stipe and valves splitting to the base; seeds subspherical, papillate. Figure 5.

This species is similar in overall respects to the species of the Section *Euryloma* which is concentrated in the Caledon District of the south-western Cape. However, it is easily recognizable on account of the open, almost cup-shaped flowers which have a dark red colour like freshly dried oxblood.

E. cunoniensis is known from only a single mountain peak in the far western portion of the Caledon District near Rooi Els. This area is named after the indigenous rooi els tree, *Cunonia capensis* L., hence the specific epithet. On the same mountain there occur two other species in *Euryloma*, *E. gysbertii* and *E. cygnea* Salter. Both these species flower later in the summer and have

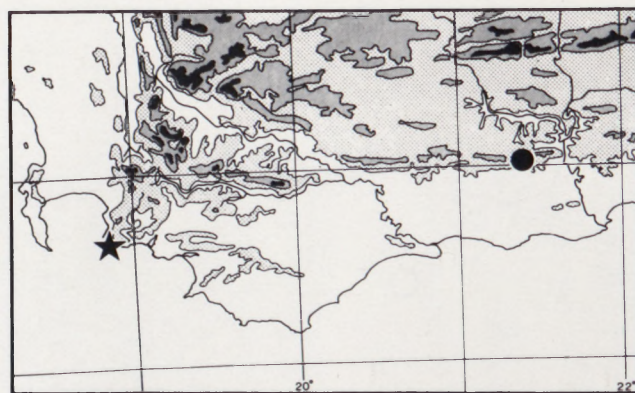


FIGURE 4.—Known distribution of *E. amicum*, ●; and *E. cunoniensis*, ★.

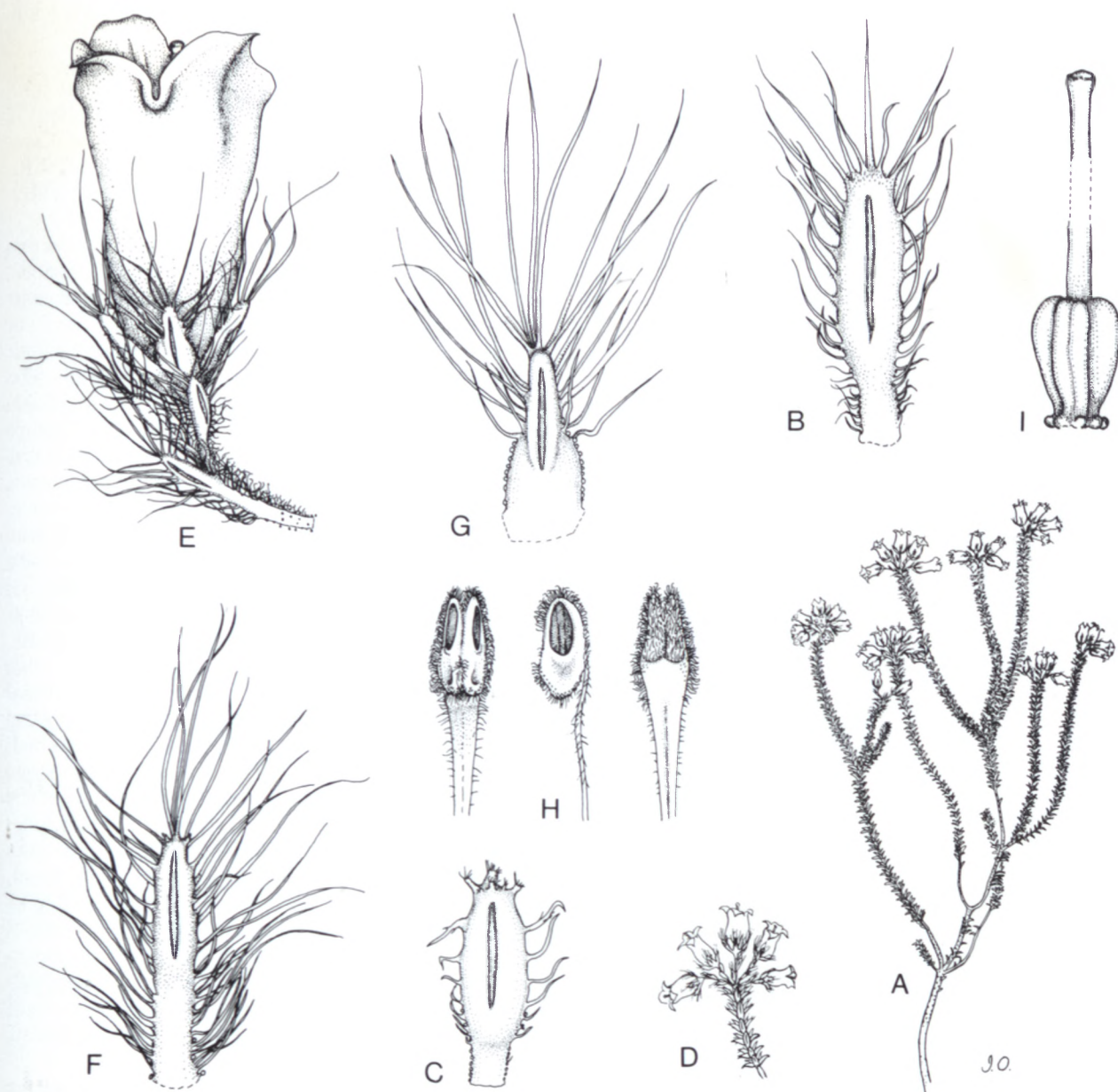


FIGURE 5. —*Erica cunoniensis*: A, flowering branch, $\times 0,5$; B, young leaf from below a florescence, $\times 12,5$; C, old leaf, $\times 12,5$; D, florescence, $\times 1$; E, flower, $\times 12,5$; F, bract, $\times 12,5$; G, sepal, $\times 12,5$; H, anther, front, side & back views, $\times 12,5$; I, gynoecium, $\times 12,5$; all drawn from the type collection, Oliver 8974 (STE).

pale pink, tubular conical flowers with a closed mouth to the corolla. *E. cygnea* is also endemic to Buffelstalberg but is unique in having nodding terminal inflorescences and branches with bends like a swan's neck.

E. cunoniensis also bears some resemblance to material of *E. squarrosa* which does not occur in the same area but further east on the mountains east and north of the Grabouw Basin. Like *E. gysbertii*, *E. squarrosa* has flowers with a closed narrow ovoid-urceolate corolla with spreading lobes. In the latter two species, the basal portion of each flower (pedicel, bract, bracteoles and calyx) is much less hairy than in *E. cunoniensis*. The anthers of *E. cunoniensis* are similar in shape to those of *E. squarrosa*. In contrast to the free glabrous anthers of *E. squarrosa*, however, those of *E. cunoniensis* are united, due to lateral interlocking crisped hairs. *E. gysbertii* has arcuate anthers typical of another group of species in the section. The more open shape of the flowers is also

distinctive and resembles the flowers of *E. lananthera* L. Bol. from the mountains around the mouth of the Palmiet River but this species too has arcuate anthers and very different leaves resembling those of *E. retorta* Montin.

E. cunoniensis was first collected by Thomas Stokoe in 1936. I first saw the species in 1966 as several scattered shrubs on the dry northern slopes of Buffelstalberg. The mountain was visited again in 1969 when a single plant, just past flowering, was all that could be found. At the time it was thought that the plant may have been a hybrid between *E. gysbertii* and *E. massonii* L.f., both common on these slopes but only flowering later in summer. Natural hybrids between very different-looking putative parents have previously been recorded in *Erica* (Oliver 1977, 1986). Lower down the slopes on an earlier occasion I had noted a plant of clearcut hybrid origin between *E. massonii* and *E. cygnea*.

A subsequent search failed to locate any plants of the new species until a concerted effort was made together with members of the A Team of the Botanical Society of South Africa. The plants were eventually found on the southern slopes, thus indicating that the original plants had been chance strays. On the southern side of Buffelstalberg the plants were growing in a single population on a cool moist loamy slope with a south-western aspect. Subsequent examination of the pollen showed it to be normal and well developed.

Material of *E. squarrosa* in the British Museum and Kew, which could form part of the type collection by Masson, is similar to that of *E. gysbertii*, but unlike several collections which have been identified as *E. squarrosa* in Cape herbaria. I refer to this latter material as Species A, which has been collected from the Hottentots Holland Mountains between Landrostkop and the Triplets. It has been recorded as a low compact shrublet with flowers 'brilliant shiny crimson, dark at the throat'. In the flower colour Species A is similar to *E. cunoniensis* but it has globose-urceolate corollas with a very narrow mouth and the anthers are glabrous, free and situated at the mouth of the corolla. This, coupled with the open nature of the flowers and semiconnate anthers, would indicate a totally different pollinator for *E. cunoniensis*. However no pollinators were observed by Rebelo and myself on Buffelstalberg. The pollinator for *E. gysbertii* and *E. squarrosa* is a long-proboscid fly giving the rhino-myiophilous pollination syndrome (Rebelo, Siegfried & Oliver 1985).

E. cunoniensis

CAPE.—3418(Simonstown): Hazel Peak (?) near Rooi Els, 600 m, x.1950, (—BD), *D.K. Davis SAM 65410* (SAM); Buffelstalberg near Rooi Els, 670 m, x. 1966 (—BD), *Oliver STE 31926* (PRE, STE); *ibid.* x.1969 (—BD), *Oliver sub Baker 2974* (NBG); *ibid.* 5.x.1986 (—BD), *Oliver 8974* (BM, BOL, E, G, K, MO, NBG, P, PRE, S, STE, W); *ibid.* 18.ix.1987, *Schumann 560* (STE); mountains near Rooi Els, 1 066 m, x.1936 (—BD), *Stokoe 6380* (BOL); *ibid.* *Stokoe SAM 68303* (SAM).

E. squarrosa Salisb. in Transactions of the Linnean Society 6: 380 (1802). Type: Cape, Lange Kloof [?], *Masson s.n.* (possibly BM!).

CAPE.— 3419 (Caledon): Emerald Dome (—AA), *Kruger & Haynes 729* (STE); French Hoek Kloof (—AA), *Niven 151* (BOL, K, SAM); Groenlandberg(—AA), *Oliver 4172* (K, STE). Without precise locality: Rivier Zondereinde (?AA), *Masson 40* (BM, BOL, K). Without locality: *Masson s.n.* (BM).

Species A

CAPE.—3418 (Simonstown): Somerset Sneekop (—BB), *Brenan 14033A* (K, NBG); *Clarke sub NBG 2506/30* (NBG); *Dyke sub Marloth 4359* (BOL); *Esterhuysen 3613, 3614, 31790* (BOL); *Stokoe 6427* (BOL); *Williams 1155* (K, NBG); Triplets (—BB), *Esterhuysen 8238* (BOL); Landrostkop (—BB), *Stokoe sub SAM 54159* (SAM); *Stokoe sub SAM 55177* (SAM); Valley Berg (—BB), *White sub SAM 12743* (SAM). 3419 (Caledon): Victoria Peak (—AA), *Esterhuysen s.n.* (BOL); *Kerfoot 5737* (STE).

E. gysbertii Guth. & Bol. in Flora capensis 4: 90 (1905). Type: Cape, Stellenbosch Div., on the western foot of the Hottentots Holland Mountains, 200 ft., *Guthrie 3654* (BOL!).

CAPE.—3418 (Simonstown): Somersfontein (—BB), *Boucher 1003* (STE); *Oliver 8996* (STE); Pringle Peak (—BD), *Barker 8506* (NBG, STE); Groot Hangklip (—BD), *Boucher 747* (STE); path to Hangklip

(—BD), *B. Guthrie sub F. Guthrie 3654* (BOL); Buffelstalberg (—BD), *Le Maître 421* (STE); Rooi Els (—BD), *Oliver 96* (STE).

Erica tegetiformis E.G.H. Oliver, stat. et nom. nov., *E. senilis* Klotzsch ex Benth. var. *australis* Dulfer: 32 (1963), non *E. australis* L.: 231 (1771). Type: Cape, Worcester Div., Sonklip, N of Matroosberg, 6500 ft., 17.i.1959, *Esterhuysen 28122* (W, holo.!; BOL!, K!, STE!).

Low compact mat-forming shrublet up to 1 m across and 150 mm tall. Branches closely set, mostly prostrate, often partially buried and rooting, with numerous erect branchlets, sparsely and finely puberulous. Leaves 3- or 4-nate, erect, imbricate, 3,4–3,8 mm long, oblong-elliptic obtuse to subacute, sulcate, setose-ciliate with the cilia soon becoming stublike, occasionally with some sessile glands admixed, puberulous all over to almost glabrous; petiole 0,8 mm long, finely and shortly ciliate. Flowers 2–6-nate at the ends of erect lateral mesoblasts; pedicel puberulous, 1,2–2,0 mm long; bract median, 2,5–2,8 mm long, narrowly ovate or ovate-acute, sulcate in the upper $\frac{2}{3}$, with a puberulous base, ciliate with ± 10 long stiff hairs and a longer apical one, white; bracteoles like the bract but narrower, subapproximate. Calyx 4-partite, white; segments $2,7 \times 1,0$ mm, erect-spreading, narrowly ovate, subobtuse, sulcate in upper $\frac{3}{4}$, ciliate with ± 12 long stiff hairs. Corolla 4-lobed, oblate-urceolate with 2 invaginations in the basal half, finely puberulous, lobes broadly deltoid, spreading to reflexed. Stamens manifest to partially exerted; filaments 2,3–0,5 mm long, elongate-oblong, narrowed and subsigmoid below the anther, glabrous or villous; anthers dorsally attached near the base, thecae 1,3 mm long, narrowly ovate-oblong, obtuse, hairy in front sometimes with a few lateral hairs, basally crested, crests short, broad, fimbriate, pore $\frac{2}{3}$ – $\frac{3}{4}$ the length of the theca. Ovary 1,1 \times 1,3 mm, crown-shaped, 8-ridged, emarginate, puberulous sometimes above only; style 4 mm long reducing in thickness upwards, glabrous; stigma exerted, subcapitellate. Fruit shortly subcylindric; capsule sparsely puberulous; seeds 0,8 mm long, irregularly ellipsoid, reticulate. Figure 6.

The unspecialized inflorescence, dense mat-forming habit, globose urceolate flowers with lanceolate sepals and distinctly visible corolla and the dark brown anthers serve to distinguish *E. tegetiformis*.

This taxon was originally described by Dulfer (1964) as a variety of the Cedarberg species, *E. senilis* Klotzsch ex Benth., based on the single collection of *Esterhuysen 28122* from Sonklip near Matroosberg. However, material recently collected and sent to me for identification, looked so different from *E. senilis* that I did not link the material with that species at the time and regarded it as a distinct undescribed species. Only when checking on possible alliances within the Section *Chromostegia*, particularly *E. senilis* and *E. eriophoros* Guth. & Bol. did I realise that Dulfer's variety was in fact this new species and that it bears only a superficial resemblance to *E. senilis*.

E. tegetiformis undoubtedly belongs in the Section *Chromostegia* because of the prostrate habit and the compact heads of flowers even though in the new species this latter character is not very pronounced as is the case in *E. senilis* in which the leaves below the inflorescence as well as the bract and bracteoles, are enlarged and coloured giving an involucrate appearance to the inflorescence. This feature is

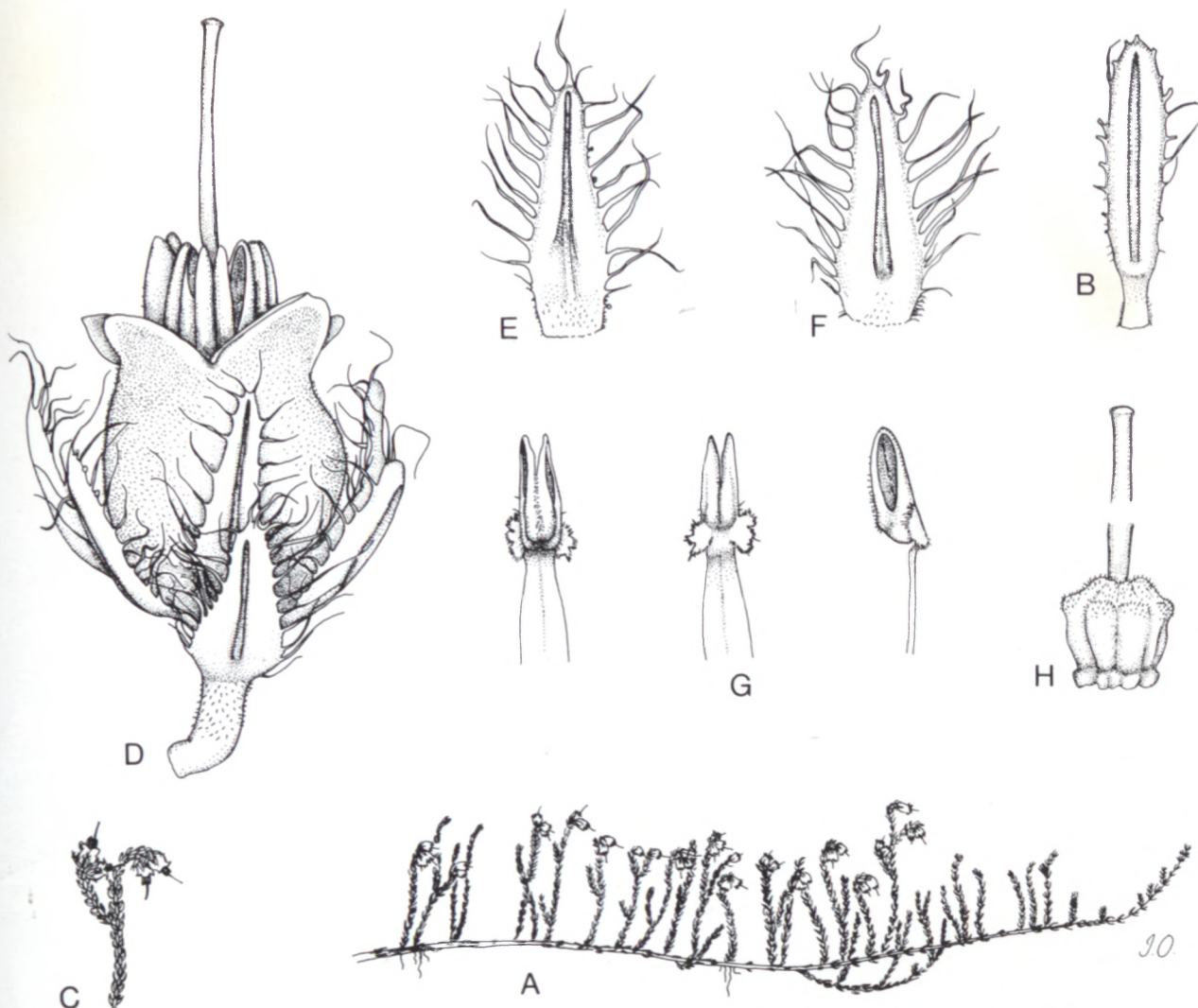


FIGURE 6. — *Erica tegetiformis*: A, flowering branch, $\times 0,5$; B, leaf, $\times 12,5$; C, two florescences, $\times 1$; D, flower, $\times 12,5$; E, bract, $\times 12,5$; F, sepal, $\times 12,5$; G, anther, front, side & back views, $\times 12,5$; H, gynoecium, $\times 12,5$; all drawn from Oliver 9074 (STE).

far less developed in *E. eriophoros* and hardly so in *E. tegetiformis*. Table 1 lists the characters showing differences between the three species. Similarities with *E. senilis* are not close, perhaps only in the relative size and shape of the anther. There is more affinity with *E. eriophoros*, but this in turn shows a closer affinity with *E. senilis* in many characters.

Populations of this species were visited on Rocklands Peak north of Ceres. Here the plants were growing among very short restiads on open dry stony slopes at an altitude of 1 440 m. At this altitude the plants must be subjected to considerable cold in winter and even a heavy covering of snow. In this regard they were effectively adapted by being very low-growing and forming extensive compact mats, hence the specific epithet. The long prostrate branches frequently produce adventitious roots at intervals along their length. From other collections the notes give some indication of the habit and habitat: *Stokoe 4518*—'straggling over sq. yds of bare ground'; *Esterhuysen 24328*—'rocky summit, sprawling amongst rocks'; *Esterhuysen 29853*—'trailing in habit sometimes colonizing after a fire'. Figure 7.

E. senilis, which occurs to the north, does not produce dense mats. It has prostrate as well as erect branches

forming a spreading shrub up to 300 mm tall and grows in amongst denser ericoid/restioid vegetation. *E. eriophoros* is rather rare. Until recently it was known only from the type collection made at the end of last century on Gydoberg in the southern Cold Bokkeveld. Recent collections were made on Gideonskop in the southern Cedarberg. From these few collections it is difficult to assess the habit of the species. Plants growing in the National Botanical Garden, Kirstenbosch, were originally small, compact and erect, but have begun to form lateral creeping branches. Mr Kotze, horticulturist at Kirstenbosch, informs me that the plants on Gideonskop were prostrate and mat-forming on a sandy open plateau.

E. tegetiformis appears to grow at slightly higher altitudes and occurs south of the other two species, hence Dulfer's choice of epithet, which cannot now be adopted at species level because of the European species, *E. australis* L. The locality from Naudesberg in the westernmost part of the Langeberg range is somewhat unusual for species associated with the Cedarberg/Bokkeveld region.

CAPE.—3319 (Worcester): Rocklands Peak, vi.1955 (—AB), *Esterhuysen 24328* (BOL); *ibid.*, 1 440 m, 19.xii.1987 (—AB), *Oliver 9074* (BM, BOL, K, MO, NBG, PRE, STE); Baviaansberg, 2.i.1942 (—BA), *Compton 12838* (BOL); *ibid.*, 1 676 m, 4.xi.1962, *Esterhuysen*

TABLE 1.—Characters distinguishing between *Erica senilis*, *E. eriophoros* and *E. tegetiformis*

	<i>E. senilis</i>	<i>E. eriophoros</i>	<i>E. tegetiformis</i>
Leaves	densely setose ciliate puberulous abaxially setae straight	densely setose ciliate puberulous abaxially setae crisped	sparsely setose ciliate marginal only setae crisped
Floral leaves, bract, bracteoles	much enlarged white not forming an involucre	slightly enlarged white not forming an involucre	very slightly enlarged whitish not forming an involucre
Calyx	linear spatulate setae all over setae straight	linear subspathulate setae all over setae mostly crisped	lanceolate setae marginal setae crisped
Corolla	broad cyathiform not visible lobed ² / ₃ copiously ciliate	cyathiform visible lobed ¹ / ₄ sparsely ciliate	globose urceolate visible lobed ¹ / ₄ eciliate
Anthers	white pore large, ³ / ₄ of the theca large crests	pale brown pore small, ¹ / ₅ of the theca very small awns	dark brown pore large, ³ / ₄ of the theca small crests
Ovary	glandular	glandular	eglandular

29853 (BOL, K); *ibid.*, i.1937, *Stokoe* 4518 (BOL); *ibid.*, 1 828 m, 12.i.1956, *Stokoe in SAM* 68303 (BOL, SAM, STE); Sonklip, north of Matroosberg, 1 980 m, 17.i.1959 (–BC), *Esterhuysen* 28122 (BOL, K, STE, W); Conical Peak, xii.1940 (–BC), *Stokoe* 7832 (BOL); *ibid.* i.1941, *Stokoe SAM* 55290 (SAM); Naudesberg, 13.xi.80 (–DB), *Van Jaarsveld & Bean* 5819 (BOL, NBG, PRE, STE).

E. senilis Klotzsch ex Benth. in DC., *Prodromus* 7: 617 (1839); Guth. & Bol.: 235 (1905). Type: Cape, Cederbergen, *Drège* 2966 (B†, holo.!, K!, SAM!, W!).

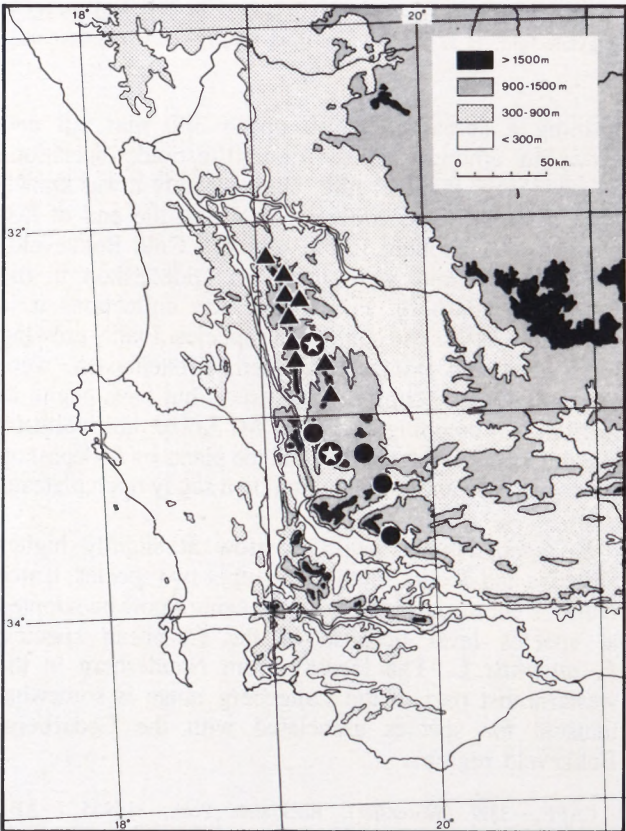


FIGURE 7.—Known distribution of *E. tegetiformis*, ●; *E. senilis*, ▲; and *E. eriophoros*, ●.

CAPE.—3219 (Wuppertal): Sneeukop (–AA), *Bolus* 8627 (BOL, STE); Heuningvlei (–AA), *Emdon* 146 (K, STE); Krakadouw (–AA), *Pocock* 498, 593 (STE); Heuningvlei (–AA), *Taylor* 8548, 10475 (STE); Hoogvertoon (–AC), *Forsyth* 39 (STE); Wolffberg to Gabriel's Pass (–AC), *Kruger* 926 (STE); Sneeuberg (–AC), *Pocock* 401 (STE); *Taylor* 6163 (STE); Middelberg Pass (–CA), *Oliver* 4016 (STE); Gideonskop (–CB), *Rourke* 664 (NBG, STE); Bloukop (–CB), *Williams* 2123 (NBG, STE); Tweefontein (–CC), *Schlechter* 10129 (BM, BOL, K); Heiveld in Cold Bokkeveld (–CD), *Hanekom* 1212 (STE); Cederberg, without precise locality, *Drège* 2966 (K, SAM).

E. eriophoros Guth. & Bol. in *Flora capensis* 4: 234 (1905). Type: Cape, Ceres Div., Gydouw Mountain in Cold Bokkeveld, 6000 ft, *Schlechter* 10240 (BOL, holo.!, K!, PRE!, SAM!).

CAPE.—3219 (Wuppertal): Gideonskop (–CB), *Williams* 990 (NBG); *ibid.* *Kotze* 787 (hort. NBG). 3319 (Worcester): Gydouw (–AB), *Schlechter* 10240 (BOL, K, SAM).

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