

Newly Described Species.

By

L. Britten, A. Brueckner, H. B. Christian, R. A. Dyer,
M. D. Henderson, D. J. B. Killick, R. Story,
I. C. Verdoorn and H. Wild.

ASCLEPIADACEAE.

Tavaresia meintjesii R. A. Dyer, sp. nov., affinis *T. angolensi* Welw. corollae tubo brevior lobis longioribusque, coronae exterioris lobis facile distinguitur.

Planta parva, succulenta cactiformis e basi ramosa. *Caules* 8–10 cm. alti, 1.2–1.5 cm. crassi, 6–8-angulati, angulis tuberculatis spinosis, spinis pubescentibus 4–5 mm. longis, plus minusve hastatis setis lateralibus 1.5–2 mm. longis. *Flores* pauci cymis sessilibus ramorum basin versus emittentes; pedicelli 1–2 cm. longi, puberuli. *Sepala* lanceolata vel lineari-lanceolata, 1–1.2 cm. longa, puberula. *Corolla* 7–7.5 cm. longa, infra medium tubulosa tubo obconico 3–3.5 cm. longo 2.5 cm. lato pilis longis induto, lobis triangulari-lanceolatis circiter 4 cm. longis, minutissime pubescentibus, pilis usque 3 mm. longis ciliatis. *Coronae exterioris lobi* basi breviter connati, 9–10 mm. longi profunde 2 vel rariter 3 segmentis linearibus supra medium recurvis divisi. *Coronae interioris lorum* cornu exteriore 2–3 mm. longum, interiore filiforme, 7–8 mm. longum.

TRANSVAAL.—Zoutpansberg Distr.: 40 m. east of Messina near n'Wanedze River, *Meintjes* (ex *Steenkamp*) 523; about 20 east of Messina near n'Jelele River, *Meintjes* (ex *Myburgh*) 663, cult. Johannesburg (type); Pietersburg Distr.: Mariepskop among rocks on koppie, *Lubbe* in Nat. Herb. Pretoria 28520.

PLATE 1.

A tufted dwarf perennial succulent, leafless and spinose. *Stems* branching from near the base, erect, 8–10 cm. tall, 1.25–1.5 cm. thick, glabrous or very minutely pubescent, angled; angles 6–8, tuberculate; young tubercles terminated by an ascending, pubescent, hastate-shaped bristle; bristle with a central lanceolate lobe 4–5 mm. long and with the two sharply pointed lateral lobes 1.5–2 mm. long, with margin and keel thickened. *Flowers* few in sessile cymes from near the base of young branches, developed successively; pedicel 1–2 cm. long, puberulous. *Sepals* lanceolate or linear-lanceolate, 1–1.2 cm. long, puberulous down the central portion of the back. *Corolla* 7–7.5 cm. long, tubular at the base, cream-coloured within with spots and transverse bands of maroon, and maroon on the margins; tube obconical, 3–3.5 cm. long, 2.5 cm. wide at the mouth, long-pubescent, especially towards base; lobes triangular-lanceolate, about 4 cm. long and about 1.5 cm. broad at base, spreading, minutely pubescent on surface with spreading white to red cilia 3 mm. long on margin. *Outer corona* maroon, 9–10 mm. long, united into a tube 2 mm. long at the base, each lobe deeply divided to give 10 linear segments or occasionally one or more of the lobes may produce a third central filiform segment; segments erect from the base and spreading-recurved above and slightly thickened towards apex. *Inner corona* lobes

maroon, united at the base to the tube of the outer corona, 2-horned; outer horn erect-spreading, 2-3 mm. long; inner horn filiform, erect, 7-8 mm. long.

The first record of this species in the National Herbarium dates back to 1943 when Mr. B. Meintjes of Johannesburg submitted a specimen for identification. The flower was so different in its proportions from other species of *Tavaresia* that doubt arose whether the flower was normal or not. Eventually a second specimen was located in the same area and when this too flowered in Mr. Meintjes collection in Johannesburg it proved identical to the first. In addition a specimen, which was received from the Pietersburg district, agrees sufficiently closely to the other two to be included in the same species. The species is remarkable in the genus for the shortness of the corolla tube by comparison with the length of the lobes, and the outer corona lobes, while slightly thickened at the ends, do not have the knob-like tips of the three other known species. In vegetative character it shows a close similarity to *T. angolensis* Welw.

In the type locality in the Limpopo River Valley, east of Messina, Mopane veld [*Colophospermum mopane* (Kirk ex Benth.) Leonard] is dominant. Other succulent plants in the same area include *Stapelia gigantea* N.E.Br., *S. getleffii* Pott, *Caralluma rogersii* Bruce & Dyer and *Monadenium lugardae* N.E.Br.

CHENOPODIACEAE.

Atriplex erosa *Brueckner* and *Verdoorn* sp. nov., ab *A. semibaccatae* annuis foliis valde incisus marginibus involutis bracteis fructiferis latioribus plerumque tuberculatis differt.—*A. rosea* Wright in Fl. Cap. 51, p. 446 quoad Bolus 656, non Linn; *A. tartarica* Paul Aellen Bot. Jahrb. 70, 1940, non Linn.

Herba sub-lignosa, annua, erecta vel decumbens usque ad 50 cm. alta, ramosa; rami angulati furfuracei. *Folia* alterna, subsessilia vel breve petiolata, ovata vel ovato-lanceolata, 0.6-3 cm. longa, 0.4-1.5 cm. lata, supra leviter subtus dense furfuracea, marginibus involutis valde incisus apicibus acutis basibus cuneatis. *Flores* monoici, glomerati; glomeruli axillares et in spicas terminales dispositi (folia subtendentia apicem versus valde reducta); superiores floribus maculinis atque paucibus ad basin femineis, inferiores floribus femineis.

Flores masculi: lobi perianthii membranacei, dorso carnosi, obovati, apice obtusi basi connati c. 0.1 cm. longi; stamina 5, lobis opposita, filamentis brevibus planis basi connatis, antheris dorsifixis. *Flores feminei*: 2-bracteati bracteis sub-carnosis tuberculatis; perianthium nullum; ovarium compresso-globosum; styli 2, filiformes, basi connati; ovulum 1. *Bracteae* fructiferae 2, late rhomboideae vel sub-rhomboideae circiter 4 mm. longae, 3 mm. latae, fere medio connatae, basi cuneatae, apice subrotundae vel late triangulares, margine irregulariter dentatae, dorso leviter pilosae lepidotae distincte tuberculatae. Semen compresso-orbiculatum, circiter 2 mm. longum, circiter 1.7 mm. latum, nitidum, fuscum.

CAPE PROVINCE.—Middelburg Division; Grootfontein, *Gill* 45; Kimberley Division; Wesselton, *Wilman* no num. in McGregor Museum Herb; Alexandersfontein, *Burt Davy* 9561; *Brueckner* 805 (type) and 806; Aliwal North Division: Aliwal North, *Derrington* 2560.

ORANGE FREE STATE.—Bloemfontein Division; Bloemfontein, *Potts* in Herb. Grey University College, 2891; Fauresmith Division; Ventersvlei, *Verdoorn* 1159; Wheeldon, *Henrici*, 2440; Jagersfontein, *Smith* 5171; Knoffelsfontein, *Smith* 5392; *Acocks* 13506.

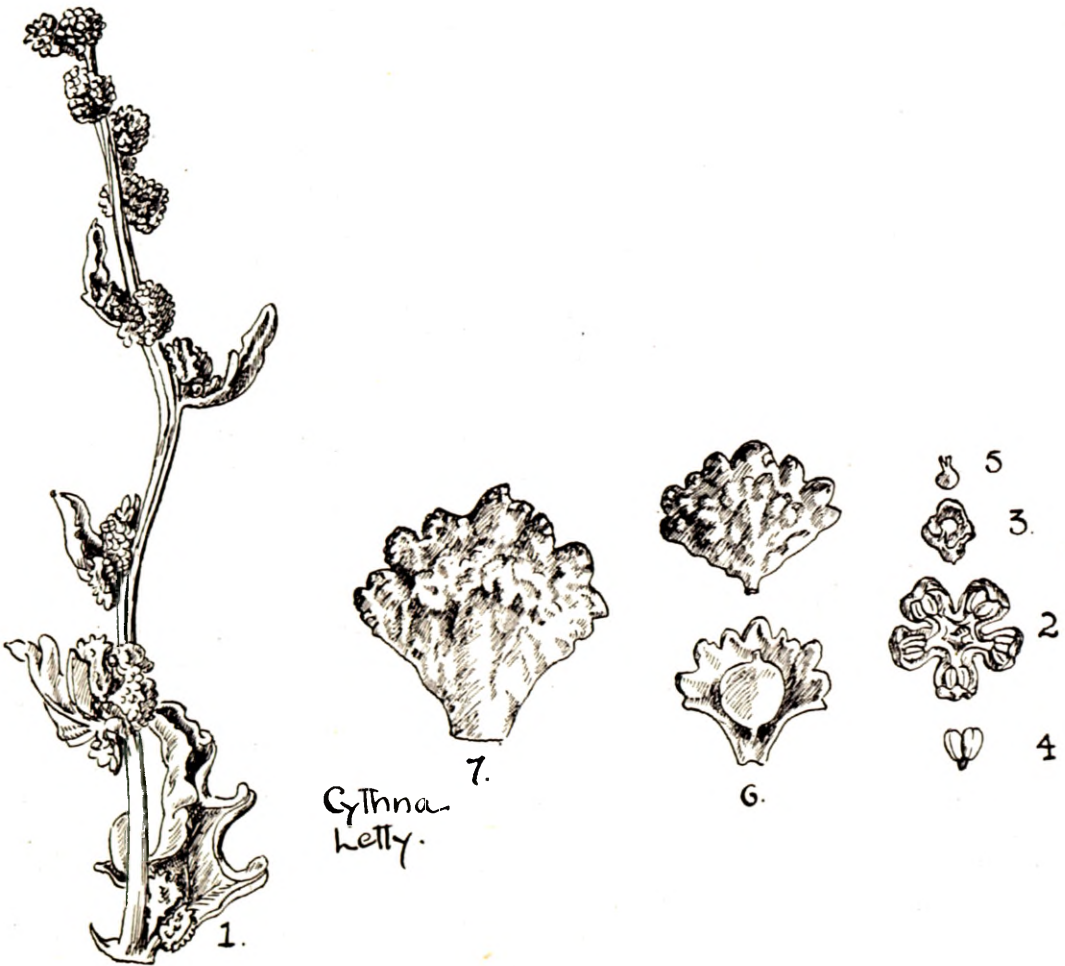


FIG. 1.—*Atriplex erosa* Brueckner and Verdoorn, 1, apical portion of flowering branch; 2, male flower, $\times 5$; 3, rudimentary ovary in base of corolla tube $\times 5$; 4, anther $\times 10$; 5, rudimentary ovary $\times 5$; 6, fruiting bracts separated, the lower showing the seed within, $\times 10$; 7, larger mature fruiting bracts intact, $\times 10$.

Annual herb somewhat lignified, erect or decumbent (erect plants with a single, erect, branched stem up to 50 cm. high; decumbent usually with several decumbent stems radiating from the tap root). *Branches* angular lepidote, greenish-grey to reddish-grey. *Leaves* alternate, subsessile or shortly petioled, ovate to ovate-lanceolate, 0.6–3 cm. long, 0.4–1.5 cm. broad, ashy or mealy lepidote on both surfaces, sparsely so on upper, densely on lower surface, midrib prominent beneath, margins involute and deeply incised, apex acute and base cuneate. *Inflorescence* with flowers clustered into close terminal and axillary glomerules, the subtending leaves much reduced towards the apex; clusters of male flowers, with a few female flowers at the base, in the axils of the upper leaves and female flowers in the lower. *Male flowers* with 5-merous perianth, the lobes membranous, thickened dorsally, obovate, obtuse, more or less 0.1 cm. long, joined at the base into a short tube; stamens 5, opposite the perianth lobes, filaments short, flattened, connate at the base; anthers dorsifixed, shedding

pollen through vertical slits; ovary rudimentary, conical. *Female flowers* with two compressed fleshy, usually tuberculate bracts; perianth 0; ovary globose, compressed; styles 2, filiform, connate at the base; ovule 1, surrounded by a delicate pericarp. *Fruiting bracts* 2, broadly rhomboidal or sub-rhomboid more or less 4 mm. long and 3 mm. broad cuneate at the base, connate for about $\frac{1}{2}$ their length, the free apices semi-orbicular to broadly triangular and irregularly toothed, the outer surfaces slightly pilose-lepidote, with conspicuous wart-like tubercles. *Seed* round, compressed, more or less 2 mm. long and 1.7 mm. broad, smooth, shiny, dark brown.

The distribution of this plant is, according to existing records, limited to portions of the southern Orange Free State and the northern Cape Province where it flourishes in somewhat moist and brackish denuded localities. Its occurrence in restricted patches is evidently on account of it not being relished by stock, so it grows fairly vigorously and is propagated by seeds which are not carried abroad. The nature of its distribution, and the habitat leads us to assume that it is indigenous.

In South Africa the identification of *Atriplex* species has been rendered difficult by the large scale introduction of Australian species as fodder plants in the more arid and saline areas. Some of these have become naturalised and hybridization takes place.

Dr. Paul Aellen in his " *Atriplex und Blackiella in Sudafrika* " Bot. Jahrb. 1940, placed specimens which belong to the species described here under *Atriplex tartarica* L. but recently, on seeing the specimens quoted here, he agreed that they are distinct from the European species and should be described as intended by the present authors. We greatly appreciate Dr. Aellen's help and advice as he is an authority on the world's Chenopodiaceae whereas we know only our local representatives of the family.

***Atriplex suberecta* Verdoorn sp. nov., *A. muelleri* affinis sed bracteis in floribus femineis apicibus deltoideis basi pseudo-stipitatis incrassatis foliis non truncatis differt.**

A. muelleri Paul Aellen in Bot. Jahrb. 70, 1940 p. 390 non Benth.

Herba annua vel perennis, basi sub-lignosa, usque 75 cm. alta, plus minusve pilis diaphanis squamuliformibus obiecta; rami decumbente-erecti, usque 1 m. longi. *Folia* oblonga, ovata vel rhomboidea, basi cuneata, breve petiolata, crasse et irregulariter sinuato-dentata vel lobata, 1-5 cm. longa, 0.5-3.5 cm. lata, plus minusve pilis diaphanis, squamiformibus obiecta. *Flores monoici* glomerati; glomeruli axillares, floribus masculinis atque ad basin paucibus femineis in axillis superioribus, femineis in axillis inferioribus dispositis. *Flores masculini*: perianthium breve tubulatum, plerumque 5-lobatum, laete viridum nonnumquam roseum; lobi c. 1.5 mm. longi; stamina plerumque 5 lobis perianthii opposita filamentis basi connatis; antherae apud apicem dorsifixae. *Pistillum* rudimentum. *Flores feminei*: bractee compressae c. 4 mm. longae, 3.5 mm. latae, basi connatae rhomboideae pilis farnaceis obiectae apicibus deltoideis dentatis basi pseudo-stipitatis incrassatis solidis. *Ovarium* compresso-globosum pericarpis membranaceis; styli 2; ovulum 1; testa crustacea. *Fructus* sub-globosus, compressus c. 3.5 mm. longus, 3 mm. latus, basi incrassatus induratus-que aliquantum osseus apicibus deltoideis bractearum persistentibus. *Semen* compresso-orbiculatum nitido-bruneum.

CAPE PROVINCE.—*Oudtshoorn Div.*: Oudtshoorn, *Gill* 37; *du Plessis* no num. Albany Div.: "Lakeside", *Lindstedt* 24; Grahamstown, *Stony* 3741. Fort Beaufort Div.: Fort Beaufort, *Taylor* 1. Graaff Reinets Div.: Graaff Reinets, *Sister Tarcisia* 10. Middelburg Div.: Grootfontein, *Verdoorn* 1739; *Theron* 47, 48, 79. Stutterheim Div.: Bolo, *Acocks* 9699. Tarka Div.: Tarka Conservation Area, *Whitlock* 3. Calvinia Div.: Calvinia, *Smith* 2463; *Schmidt* 398. Hanover Div.: Hanover, Herb. Univ. Witwatersrand 24925. Aliwal North Div.: Aliwal North, *Gerstner* 157B; *Henrici*

3053. Hopetown Div.: Olifantskop, *Blankenburg* 2. Kimberley Div.: Kimberley, *Acocks* 743; *Brueckner* 772. Barkly West Div.: Boetsap, *Pagan* no num. Hay Div.: Postmasburg, *Esterhuysen* 1120. Prieska Div.: Prieska, *Bryant* 206.

ORANGE FREE STATE.—Fauresmith Div.: Fauresmith, Veld Reserve, waste lands, *Henrici* 3854 (type), 3860, 3860, 3855, 3855a; *Verdoorn* 1194; *Breuckner* 812; Schansen, *Verdoorn* 2206; Jagersfontein, *Smith* 5229. Bloemfontein Div.: Glen College, *Mostert* 1, 2, 3, 4, 700.

SOUTH WEST AFRICA.—Luderitz Div.: Luderitz, *Kinges* 2020. Swakopmund Div.: Swakopmund, *Moss* 6967; *Rogers* 29708; *Bradfield* 576; Nonedas, *Bradfield* 472; Palmerhorst, *Wiss* 953. Bulspoort, *Liebenberg* 5122.

TRANSVAAL.—Pretoria Dist.: Pretoria, Skanskop, *Repton* 1098. Benoni Dist.: Benoni, *Bradfield* 293, *Bradfield* 125.



FIG. 2.—*Atriplex suberecta* Verdoorn, 1, apical portion of flowering branch; 2, bracts enclosing female flower, $\times 5$; 3, fruiting bracts beginning to swell and indurate at stipe-like base, $\times 9$; 4, maturing fruit with bracts completely indurated except for toothed apical portion, $\times 9$; 5, one bract removed showing the gynoeceum, $\times 9$.



FIG. 3.—1, Fruiting bracts of *A. semibaccata* R. Br.; 2, fruiting bracts of *A. suberecta* Verdoorn; 3, fruiting bracts of *A. muelleri* Bth.; 4, fruiting bracts of *A. erosa* Brueckner & Verdoorn.

An annual or perennial herb, sub-woody at the base, forming a bushy growth up to 75 cm. tall, more or less scaly with diaphanous swollen-based hairs (which become scale like in dried specimens); branches decumbent erect, up to 1 m. long. *Leaves* very variable in size, shape and dentation, oblong, ovate or rhomboidal, cuneate into a short petiole, coarsely and irregularly sinuate-dentate or lobed, 1–5 cm. long, 0.5–3.5 cm. broad, more or less mealy pubescent on upper surface and scaly on lower surface. *Flowers* monoecious, in glomerules, the males, with a few females at the base, aggregated in the axils of the upper leaves and the females in the axils of the lower leaves. *Male flowers* pale green with a dark green keel (not seen on dried specimens) or occasionally suffused with red (red may be present in some flowers on the same plant); perianth tube short, lobes usually 5, about 1.5 mm. long, cucullate. *Stamens* usually 5, opposite the perianth segments, filaments linear in dried specimens, terete and turgid in fresh, united at the base about 1 mm. long; anthers attached near the apex, the cells free below. *Rudimentary ovary* present in the base of the perianth tube. *Female flowers* bi-bracteate; bracts flat, enclosing the ovule to above the middle, cuneate below and with a stipe-like base which becomes solid and swollen as the fruit matures; apical lobes with a large central deltoid tooth and with 1 or more smaller teeth on each side, pubescent with diaphanous swollen hairs, 3-nerved from the base, nerves disappearing as the fruit matures and the swelling which starts at the stipe-like base spreads upwards; ovary compressed globose with a membranous pericarp; styles 2; ovule 1, testa crustaceous. *Mature fruit* enclosed in the persistent bracts, sub-globose, compressed, becoming swollen and indurated from the stipe-like base until all but the deltoid apex of the bracts becomes smooth and somewhat bone-like, usually 3.5 mm. long and 3 mm. broad. *Seed* compressed globose, brown, shiny.

This species, which is very common in a wide area in South Africa, has for long been identified with *A. rosea* of the Flora Capensis (Vol. 5, p. 44) probably because it runs to that species in the key. In that work, however, the only specimen from South Africa cited by Wright, *Bolus* 656, as represented in the Bolus Herbarium, is the species described above as *A. erosa* Brueckner and Verdoorn (it is certainly not *A. rosea* L.).

In the article "Atriplex und Blackiella in Südafrika", Bot. Jahrb. 1940, Paul Aellen cites several specimens, which are here described as *A. suberecta*, under *A. muelleri* Bth. After seeing a large collection sent to him from the National Herbarium in 1952 Dr. Aellen wrote that he is now convinced that the South African specimens he had placed under *A. muelleri* are distinct from that species and should be described as a new species. He added that the opportunity of seeing the S. African material and notes had made him realize that similar plants occur in Europe and in Australia and that he had considered them to be the juvenile form of *A. muelleri* Bth. (see "Die in Europa wolladventiv beobachteten Australischen Atripliceen" by Paul Aellen in Verh. Naturf. Gesellschaft in Basel Vol. 50 p. 159 (with figure) and "Revision der Australischen und Neuseeländischen Chenopodiaceen" in Bot. Jahrb. 68, p. 369).

Since I have not been able to examine the specimens either from Europe or Australia, only the South African plants are dealt with here. I am grateful to Dr. Aellen for his help and advice and for encouraging us to publish the two new species.

It is hoped that in his future work on the family, as the authority on Chenopdiaceae, he will take the matter further.

The following key should help to distinguish the two new species *A. erosa* and *A. suberecta* from their nearest relatives in South Africa, *A. muelleri* Bth. and *A. semibaccata* R. Br., the Creeping Salt Bush. The two last-mentioned have been introduced into S. Africa in recent times. The group is characterised by the bracts of the female flowers being compressed, more or less rhomboid in outline or at least cuneate at the base and united to about the middle, persisting and thickening with the fruit which is usually about, or under, 5 mm. long. The flowers are in glomerules, those in the axils of the upper leaves consisting of male flowers with a few female flowers at the base and those of the lower leaves purely female. The plants are procumbent or decumbent to sub-erect, usually with many stems radiating from the tap root but in some specimens of *A. erosa* with a single erect stem.

It must be borne in mind that these species hybridise easily and since all but *A. erosa* are relished by stock they become widely spread and the introduced species, or their hybrid progeny, may be met with away from the areas where they were introduced. In this way it is difficult to tell whether a species is indigenous or not.

KEY.

Subtending leaves much reduced towards the apices of the branchlets giving the inflorescence a spike-like appearance; fruiting bracts very broadly sub-rhomboid in outline, usually tuberculate; leaves deeply incised with involute margins.....*A. erosa*.
Subtending leaves not reduced towards the apex of the branchlets, inflorescence distinctly axillary; fruiting bracts never tuberculate:

Plants prostrate; leaves usually under 2 cm. long and 6 mm. broad; fruiting bracts distinctly rhomboid in outline with deltoid apical lobes, usually entire or with 2 small teeth near the base; fruit becoming semi-baccate when ripe and often turning red or orange; female flowers 1 to few in the axils of the lower leaves....*A. semibaccata*.

Plants decumbent-erect or erect; fruit never becoming baccate when ripe but more or less boney; female flowers many in the axils of the lower leaves:

Leaves usually truncate at the apex; fruiting bracts with short, more or less rounded and toothed apical lobes; fruit not stipitate, indurating as a whole.....*A. muelleri*.

Leaves rounded at the apex; fruiting bracts with broadly deltoid apical lobes, toothed, the middle tooth the largest and deltoid; fruit with a stipe-like solid base which is the first to swell and indurate.....*A. suberecta*.

COMPOSITAE.

Helichrysum coactum *M. D. Henderson* sp. nov., affinis *H. umbraculigero* Less, sed caulibus non ramosis tenuioribus, foliis angustis linearibus basi non attenuatis utrinque dense lanatis concoloribus et non fasciculatis differt.

Herba erecta, radicibus fibrosis. *Caules* 40–45 cm. alti non ramosi, graciles, dense albo-lanati, foliati. *Folia* linearia, 3–3.5 cm. longa, 3 mm. lata, basi non attenuata, utrinque dense albo-lanata, concolora. *Capitula* 3–4 mm. longa, homogama, 5-flora, cymis densissimis terminalibus planis usque ad 2 cm. diam. disposita. *Involucri bracteae* nitido-flavae. *Receptaculum* planum. *Flores* hermaphroditi. *Achaenia* glandulosa; setae 1–2.

NATAL.—Bergville Div.: Cathedral Peak Forest Research Station Catchment 1, at 6,050 ft. Jan., *Killick* 1354.

NOTE.—Mr. B. de Winter reports that *Hutchinson* 4551 and 4593 in Kew Herbarium belong to this species.

Herbaceous plants. *Roots* numerous, fine, fibrous. *Stems* 40–45 cms. high, unbranched, slender, erect, several growing together, densely white-woolly especially at the apex, becoming glabrous at the base, leafy. *Leaves* linear, 3–3.5 cm. long, 3 mm. broad, very slightly or not narrowed to the base, amplexicaul, sometimes shortly decurrent; densely whitish-woolly on both surfaces concolorous; midrib conspicuous on undersurface. *Heads* 3–4 mm. long, homogamous, 5-flowered, terminal in very dense flat-topped cymes (up to 2 cms. across); peduncles felted together as in *H. umbraculigerum* Less. *Involucral bracts* bright yellow, few, in 3–4 rows, erect, oblong or more or less spatulate, truncate, longer than the florets. *Receptacle* smooth. *Florets* hermaphrodite, 1.5–2 mm. long; apex of corolla lobes with thickened margins. *Achenes* glandular; pappus of 1–2 caducous bristles.

These plants are to be found growing in vleis on the Drakensberg in Natal and are reported to match two specimens in Kew collected by Hutchinson. The heads are very similar to those of *H. umbraculigerum* Less but the leaves differ considerably, those of *H. umbraculigerum* being more or less ovate and much attenuate to the base, discoloured and sometimes fasciculate, while those of *H. coactum* are linear, not or but very slightly narrowed to the base, concolorous and never fasciculate.

Helichrysum grandibracteatum M. D. Henderson, sp. nov., affinis *H. randio* S. Moore, sed planta tota caniore, capitulis dense corymbosis, pedunculis brevioribus, involucri bracteis acutioribus nitido-albis et floribus multo longioribus differt.

Caules erecti, 15–20 cm. alti, e rhizomate perenni lignes orti, basi dense foliati. *Folia* radicalia et inferiora caulina linearia, acuta, 6–7 cm. longa, 0.3 cm. lata, basi non attenuata, infra prominentia multi-nervosa; folia caulina superiora 2–4 cm. longa, lineari-lanceolata, acuta, sessilia; folia omnia infra albo-lanata, supra viridia (interdum purpurata) et glabra. *Inflorescentia* compacta terminalis corymbosa. *Capitula* late obconica, 1 cm. longa, 1.5–2 cm. lata, homogama, flores flavi. *Involucri bractee* nitido-albae, acutae; bractee interiores flores duplo longiores. *Achaenia* breviter hirsuta. *Pappi setae* numerosae, tenues, liberae, basi pilis patentibus intermixtae.

NATAL.—Bergville Div.: Cathedral Peak Forest Research Station 6,600 ft., Nov., Killick 1149 (Type); Mont-aux-Sources, Nov., Schweickerdt s.n., 8,000 ft., Oct., Sidey 2004.

CAPE.—Mt. Currie, Nov., Goossens 311; Victoria East, 5,500 ft., Nov.–Dec., Dyer 780.

NOTE.—Mr. B. de Winter reports that Baur 541 and McOwan 2091 in Kew Herbarium also belong to this species.

Stems 15–20 cm. long, sometimes shorter, many arising from a perennial, woody, sometimes divided, rootstock, white-woolly, striate, densely leafy at the base. *Leaves* white-woolly on undersurface, green and more or less glabrous on upper surface, many-nerved; nerves prominent on under surface; radical and lower cauline linear, acute, 6–7 cm. long, about 3 mm. broad not narrowed to base; upper cauline similar, 2–4 cm. long, linear-lanceolate, acute, sessile, not narrowed to the base, sometimes purplish on upper surface when dry. *Inflorescence* a compact few-headed terminal corymb. *Heads* shortly pedunculate, homogamous, many-flowered, broadly obconic, 1 cm. long, 1.5–2 cm. wide at the top when pressed. *Involucral bracts* shiny-white, glabrous, in many rows; outer shorter than inner, lanceolate, acute imbricate; inner almost twice as long as florets. *Receptacle* honeycombed with margins of pits shortly produced. *Florets* hermaphrodite and fertile. *Corolla* yellow, 5 mm. long; tube sub-cylindric, very slightly widened upwards, shortly 4–5-lobed. *Achenes* shortly hirsute, angled when young, becoming more or less cylindric when mature. *Pappus* of numerous fine bristles about as long as corolla; bristles free, but with intermingling patent hairs at the base, apex with looped hairs.

The earliest collection in the National Herbarium is that made by R. A. Dyer in 1926 on the main ridge towards The Hogsback in the Victoria East Division. The specimen was labelled "near *H. argentissimum*" from which species, however, it is quite distinct. Subsequent collections were matched with this specimen. The species occurs in grassveld at high altitudes in the mountains of Natal and eastern Cape. Although resembling *H. randii* S. Moore, this species is readily distinguished by the corymbose heads with long acute shiny-white involucre bracts and the more grey colour of the leaves and stems. *H. argentissimum* J. M. Wood has large solitary white heads and densely woolly-tomentose leaves.

Helichrysum scopulosum M. D. Henderson, sp. nov., affinis *H. fulgido* Willd., sed foliis basalibus dense rosulatis molliter et dense lanatis late obovatis differt.

Herba 8–30 cm. alta. *Folia* basalia numerosa, rosulata, sessilia, obovata, obtusa, dense albo-lanata, 1–10 cm. longa, 1–4 cm. lata. *Pedunculi* erecti, graciles, e rosula orti, dense albo-lanati, foliis parvis 2–4 cm. longis et 0.5 cm. latis lanceolatis acutis sessilibus et lanatis interdum foliis inferioribus oblongis. *Capitula* heterogama, multiflora, floribus marginalibus femineis paucis. *Receptaculum* plusminusve planum, alveolatum. *Achaenia* glandulosa. *Pappi setae* paucae liberae.

NATAL.—Bergville Div.: Cathedral Peak Forest Research Stn., Catchment 2, 7,400 ft., Nov., Killick 1554 (Type); Cathedral Peak 8,000–9,000 ft., July, Esterhuysen 10228; 12864; Mont-aux-Sources, Hutchinson, Forbes & Verdoorn 66; Weenen Div.: MnWeni Drakensbergen 8,000–9,000 ft., July, Esterhuysen 14533; National Park Area, Drakensbergen 8,000 ft., July, Esterhuysen 15552, Saddle Rockeries Drakensbergen 8,000 ft., July, Esterhuysen s.n.; Ndedena area, Drakensbergen 8,000 ft., July, Esterhuysen 17346.

Herbaceous plants 10–40 cm. high. *Stem* erect, sparingly branched or simple, densely clothed with leaves at the base, slender above, densely white woolly with wide-spaced leaves. *Leaves* densely and softly, whitish-woolly on both surfaces at the base becoming thinly woolly or setose on the slender part of the stem; basal crowded on the stem to form a cushion-like rosette on the ground, sessile, obovate, obtuse, 1–10 cm. long, 1–4 cm. broad, venation inconspicuous; upper lanceolate, acute, 2–4 cm. long, 0.5 cm. broad, sessile not narrowed to the base. *Heads* large, 3–4 cm. broad, solitary, terminal, heterogamous with a few marginal female florets and numerous hermaphrodite florets. *Involucral bracts* bright yellow, radiating, glossy, lanceolate, acute, inner shorter than median, outermost foliaceous, woolly. *Receptacle* flat or slightly convex, honeycombed. *Style* sometimes with a globose swelling at the base within the corolla tube. *Achenes* glandular. *Pappus* bristles few, free.

This species has been collected only on the Drakensberg of Natal where it is common on steep rock faces with its roots in crevices. Specimens have remained unnamed in the National Herbarium for some time with the exception of the one collected by Hutchinson, Forbes & Verdoorn in 1930 which was at first called *H. fulgidum* Willd, which species the new one most closely resembles. It is, however, readily distinguishable by the soft wolliness and cushion-like habit of the lower rosette of leaves. The heads produced by *H. fulgidum* are usually smaller than those produced by *H. scopulosum*, but are otherwise very similar.

Helichrysum tenax M. D. Henderson sp. nov., affinis specibus Polyplepidaeae, sed foliis inferioribus (30 cm. sub inflorescentia) multo majoribus et foliis superioribus oblongis non lanceolatis differt.

Planta herbacea, basi semi-lignea, 90 cm. alta. *Folia* glanduloso-setosa, utrinque viscida, concolora; inferiora magna, 12–20 cm. longa et 4–8 cm. lata, obovata, sessilia, obtusa, superiora parva, 7 cm. longa et 2 cm. lata infra inflorescentiam ad usque 3 cm. longa, oblonga, sessilia, amplexicaulia. *Inflorescentia* terminalis corymbosa

vel paniculata, pendunculis albo-lanatis, capitula heterogama, discoidea, 1.5–2 cm. diam. *Involucris bracteae* nitido-flavae, splendidissimae. *Achaenia* glandulosa. *Pappi setae* paucae, caducae.

NATAL.—Bergville Div.: Cathedral Peak Forest Research Station, 5,800 ft., Dec., *Killick* 1632 (Type); Dec., *Codd & Dyer* 6249; Cathedral Peak, Nov., *Bayer*; Top of Mont-aux-Sources 11,000 ft., March, *Evans* 542. Estcourt Div.: Cathkin Peak Hostel 6–7,000 ft., *West* 26; Pasture Research Station 4,300 ft., Oct; *Acocks* 9847; Weenen Div.: Draycott Hill, 4,300 ft., June, *Acocks*; Currie Div.: Kokstad, Dec., *Phillips* 3493.

BASUTOLAND.—Maluti Mts.: 7–8,000 ft., *Staples* 86.

A herbaceous much branched plant with a semi-woody base, 90 cm. high. *Stem* more or less white woolly pubescent especially in the upper part, ribbed, with a pith in the centre. *Leaves* glandular-setose, viscid on both surfaces, concolorous; lower large, 12–20 cm. long, 4–8 cm. broad on the average, obovate, sessile, apex more or less obtuse, midrib and veins hairy beneath, internodes very short; at approximately 20–30 cm. below the apex leaves abruptly reduced in size from 7 cm. long, 2 cm. broad to less than 3 cm. long under inflorescence, oblong, broadly acute or obtuse, sessile, auriculate, sometimes very shortly decurrent, internodes longer, midrib sometimes slightly woolly at the base beneath. *Inflorescence* a terminal corymb or panicle with very woolly peduncles. *Heads* heterogamous, discoid, 1.5–2 cm. in diameter with one row filiform female florets surrounding very numerous hermaphrodite florets. *Involucral bracts* bright yellow, glossy, radiating, inner shorter than median, outer small, woolly on outside. *Receptacle* honeycombed, flat or slightly convex. *Corolla* of female florets inflated in lower half, upper half narrow cylindrical with spreading triangular lobes; of hermaphrodite florets broader than female corolla, slightly inflated in lower half, upper half gradually widened to the triangular lobes. *Anthers* with long acuminate basal tails, apex with a short obtuse appendage. *Style branches* truncate, glandular at the apex. *Achenes* obscurely angled, glandular. *Pappus* bristles few, caducous.

The first record of this species in the National Herbarium is a specimen collected by M. S. Evans in 1898 at the top of Mont-aux-Sources. It was originally identified as *H. setosum* Harv., which species, in the *Polylepidea* group, it most closely resembles. The new species is readily distinguishable from all members of the above group by the very large sticky leaves on the lower part of the stem and the oblong, not lanceolate, upper leaves. The plants are bushy, reported to be up to seven or more feet high and are common on hillsides in the mountainous regions of Natal, Basutoland and the eastern Cape. Glandular hairs on the leaves trap and hold fast small insects which alight on the surface, hence the specific name. The plants were thought to be insectivorous when the remains of the bodies of these insects were first noticed in 1945 but no further evidence has yet been produced.

***Helichrysum tenuifolium* Killick, sp. nov., affinis *H. trilineato* DC., sed habitu robustiore, foliis longioribus tenuioribus et acutioribus differt.**

Frutex ligneus, 0.9–2 m. altus. *Rami* albo-lanati maxime apicibus. *Folia* patentia, sessilia, linearia, 0.7–1.8 cm. longa, 1–1.5 mm. lata, revoluta, 3-venata; apex acutus, recurvatus, mucronulatus. *Capitula* campanulata, 3.5–5 mm. longa, 3–4.5 mm. lata, apicibus ramorum sub-corymbosa. *Pedunculi* 1–5 mm. longi, albo-lanati. *Bracteae* involucris 5-seriatae, exteriores albae apicibus saepe rubicundae, intimae flavae. *Receptaculum* leviter convexum, fimbriatum. *Flores* 20–30, flavi; marginales ♀ filiformes; interiores ♂ tubulosi, limbo ampliato. *Achaenia* breviter pubescentia.

NATAL.—Bergville District: on the banks of the Mlambonjwa River, Cathedral Peak Area, *Schelpé* 960; on the boulder-bed of the Inhlwasine River, Cathedral Peak Forest Influences Research Station, *Killick* 1438, 1591 (type).

A robust, woody shrub, 0.9–2 m. high. *Branches* white-woolly especially at the ends, older portions rough with persistent leaf bases. *Leaves* patent, sessile, linear, 0.7–1.8 cm. long, 1–1.5 mm. broad, revolute; apex acute, recurved, mucronulate; upper surface with 3 parallel veins, glabrous to sparsely hairy, lower white-woolly. *Capitula* campanulate, 3.5–5 mm. long, 3–4.5 mm. broad, arranged in dense sub-corymbose terminal cymes. *Peduncles* 1–5 mm. long, white-woolly. *Involucral* bracts 5-seriate; the innermost linear-spathulate, reflexed at the tips, yellow, glabrous; the outer successively shorter, lanceolate, white-woolly, often salmon-pink at the tips. *Receptacle* slightly convex, fimbriate. *Florets* 20–30, yellow; marginal ♀ filiform inner $\frac{1}{4}$ tubular, widening above. *Achenes* minutely pubescent.

H. tenuifolium is a robust shrub, 3–6½ ft. high with darkish-green, linear leaves and showy sub-corymbose cymes of yellow heads. It flowers from November to February. Closely related to *H. trilineatum* DC., it differs in its taller habit and in the longer, narrower and acuter leaves.

Senecio brevidentatus *M. D. Henderson*, sp. nov., affinis; *S. tugelensi* Wood & Evans, sed inflorescentia paniculata, caulibus basi pilosis, marginibus foliorum breviter dentatis non tenuiter serratis differt.

Herba erecta, 25 cm. alta; rhizoma fibrosum. *Caules* basi parce pilosi. *Folia* radicalia oblanceolata, obtusa, 6–7 cm. longa, 1–1.5 cm. lata, attenuata, marginibus breviter dentatis; folia inferiora caulina oblonga, obtusa vel plusminusve acuta, 2–5 cm. longa, 0.5–1 cm. lata, sessilia, auriculata, marginibus breviter dentatis et ciliatis; folia suprema parva, lanceolata, ad 2 cm. longa, acuta auriculata, marginibus integris ciliatis. *Inflorescentia* paniculata; capitula radiata, flava ample calyculata; involucri bracteae spice nigrae. *Achaenia* juvenes leviter pilosa.

NATAL.—Bergville Div.: Cathedral Peak Forest Research Station in vlei in Catchment 1, 6,050 ft., Nov., *Killick* 1152 (Type). Note: Mr. De Winter at Kew reports that *Wood* 1010, 391, 162 in Kew Herbarium belong to this species.

Herb about 25 cms. high, erect, simple or branching above the base; rootstock fibrous; roots robust; *Stems* striate, sparsely covered with white hairs at the base, becoming glabrous. *Leaves* glabrous or with ciliate margins; radical oblanceolate, obtuse 6–7 cm. long, 1–1.5 cm. broad, narrowed to the base; margins shallowly dentate; lower cauline oblong, obtuse or more or less acute, sessile, 2–5 cm. long 0.5–1 cm. broad auricled at the base but not stem clasping, margins shallowly dentate, ciliate; upper cauline reduced in size, lanceolate, acute, auricled at the base 2 cm. long, margins entire, ciliate. *Inflorescence* a lax panicle; peduncles elongate bearing minute lanceolate bracts. *Heads* 1 cm. long, radiate. *Involucre* of about 20 linear, glabrous involucral bracts with minute black tips, calyced, with 8–9 linear basal bracts. *Ray florets* 10–12 mm. long, limb longer than tube. *Disc florets* numerous, apices of lobes more or less obtuse with a minute glandular cushion on the outside. *Anthers* with a short obtuse apical appendage. *Achenes* slightly hairy when young. *Pappus* of numerous fine barbellate bristles.

Although there is only one collection of this species in the National Herbarium it is reported to match three unnamed specimens in Kew collected by Wood, probably also from Natal. It was reported to be fairly common in a vlei on the Drakensberg in Natal. The species most closely resembling *S. brevidentatus* is *S. tugelensis* Wood & Evans which also occurs at high altitudes in Natal, but the two are easily distinguishable by the several headed paniculate inflorescence, the hairiness of the basal part of the stem and the shallowly dentate, sometimes ciliate, margins of the leaves of the new species, opposed to the one or two headed inflorescence, glabrous stem and glabrous serrate margins of the leaves of *S. tugelensis*.

Senecio macroalatus *M. D. Henderson*, sp. nov., affinis *S. decurrenti* DC. et *S. digitatifolio* DC., sed planta omnino glabra, foliis multo profundioribus et acutioribus serratis, capitulis inconspicue calyculatis, involucri bracteis apicibus nigris differt.

Herba erecta, usque ad 67 cm. alta, glabra. *Folia* irregulariter et profunde serrata, apicibus longis acutis; folia radicalia 25 cm. longa, petiolis longis; folia inferiora caulina 17 cm. longa et 3.5 cm. lata, valde decurrentia, alis profunde serratis usque ad 1 cm. latis; folia suprema parva, lanceolata, basi auriculis incisus. *Inflorescentia* paniculata. *Capitula* radiata, flava, inconspicue calyculata. *Involucri bractee*, 7–8 mm. longae, apice nigrae. *Achaenia* glabra, 10-costata, 2 mm. longa.

NATAL.—Bergville: Cathedral Peak Forest Research Station, 9,800 ft., in Organ Pipes' Pass, March, *Killick* 1486.

Herb up to 67 cm. high, glabrous. *Stem* erect, striate leafy, especially at the base. *Leaves* deeply and irregularly serrate on margin, apex long acute, midrib and reticulate venation prominent on undersurface; radical oblanceolate, 25 cm. long, 3 cm. broad, narrowed to a winged, clasping petiole; cauline oblong-lanceolate, 17 cm. long, 3.5 cm. broad, strongly decurrent in deeply serrate stem-wings, up to 1 cm. wide; uppermost small lanceolate with incised basal auricles clasping the stem. *Inflorescence* a dense terminal panicle, with small subulate bracts on the peduncles. *Heads* radiate, ray- and disc-florets yellow. *Involucre* cylindrical to campanulate, 7–8 mm. long; bracts 12, linear-lanceolate, more or less obtuse, with minute black bristly tips and narrow membranous margins; basal bracts few, a third the length of involucre bracts, with black or reddish tips. *Receptacle* honeycombed, margins of pits usually produced on one side only. *Corolla* of ray-florets 16 mm. long, limb 2–3 times as long as tube; of disc-florets 8 mm. long, lobes 1.5 mm. long, thickened and glandular. *Filaments* thickened below anthers. *Achenes* glabrous, 2 mm. long, 10-ribbed. *Pappus* of all florets of fine copious barbellate bristles.

Although common in the *Koeleria-Festuca-Danthonia* grassveld of Organ Pipes' Pass in the Drakensberg this species has not previously been collected for the National Herbarium and is not matched in the Kew Herbarium. The glabrous nature of the whole plant and the inconspicuously calyced heads with black-tipped involucre bracts very readily distinguish it from both *S. decurrens* DC. and *S. digitatifolius* DC., which like *S. macroalatus* have broadly decurrent leaves.

CYCADACEAE.

Encephalartos eximius *Verdoorn* sp. nov., affinis *E. ghellinckii* Lem. sed plantis minoribus valde soboliferis 1- (rariter 2-) strobiliferis foliolis leviter latoribus differt.

Planta humilis valde sobolifera; truncus 25–60 cm. longus, circiter 25 cm. diam. *Folia* c. 65 cm. longa, sub-erecta; petiolus c. 10–20 cm. longus, 6 mm. diam., priori lanuginosus; pulvinus 3–4 cm. longus 2.5–3 cm. latus dense lanuginosus; rachis lanuginosa et nonnunquam villosa, glabrescens; foliola angusto-linearia, usque 9–13 cm. longa, 4–5 mm. lata, ad basin et apicem rachis minora, patentia, apicibus pungentibus, marginibus revolutis, infra prominente 5-nervata; nervi pilosi. *Strobilus masculinus* 1-natus (vel rariter strobili 2-nati), plus minusve cylindricus apicem et basin versus leviter attenuatus, 13–22 cm. longus, 4.5–7 cm. diam., dense lanuginoso-tomentosus; pedunculus 3–11 cm. longus; bractee longae angustae dorso dense tomentosae; squamae c. 2 cm. longae, 1.8 cm. latae, subtus numerosis micro-sporangiis obtectae; facies dense tomentosa, sub-orbicularis vel sub-rhomboida, c. 1.2 cm. × 5–8 mm. × 1–2 mm.; sub-tomentum leviter concava. *Strobilus femineus* 1-natus, dense tomentosus, 20–30 cm. longus, 16–18 cm. diam.; pedunculus c. 3.5 cm. longus, basin 2–3 cm. diam., versus apicem 4 cm. diam., bractee multae, angustae, 2–5 cm. longae, 3–8 mm.

latae, dorso dense tomentosae; squamae c. 3 cm. longae 4 cm. latae, facies plana (sub tomentum leviter concava), plus minusve rhomboidea 4 cm. \times 2.5 cm. \times 1.3 cm. *Semina* citrina pallide salmonea suffusa deinde succineo-brunea.

CAPE PROVINCE.—Bedford Div.: Eildon, *Dyer* 5331. *Story* 4017; 4019 (male cone); 4021 (type, female); Huntly Glen, *Dyer* 5333; *Story* 4014; 4022; 4023; Daggaboersnek, *Story* 4018. Cradock Div.: Cradock Mts. towards Tarkastad, *Marloth* 2151. (Cult in Kirstenbosch Gardens, origin unknown, *Henderson* 1566).

PLATES 2, 3 and 4.

Plants dwarf, suckering freely at the base, stems above ground level usually 25–60 cm. long and about 25 cm. diam., leaf-scars variable, the average diagonal measurements 3×1.5 cm.; remains of bracts grey, smooth, indurated, about 3 cm. long and 2.5 cm. broad at the base. *Leaves* about 65 cm. long, more or less erect, sometimes rather spirally twisted; petiole 10–20 cm. long, bluntly three-angled, woolly pubescent in parts when young, sometimes with long straight hairs as well, about 6 mm. diam., widening slightly towards the base where it is about 9 mm. broad just above the pulvinus; pulvinus about 3–4 cm. long, and 2.5–3 cm. broad in the middle, densely lanuginose; rhachis woolly pubescent in parts with curly and sometimes straight grey hairs, becoming glabrous, rounded below and flatly rounded above, sometimes with a rather faint ridge down both surfaces; leaflets narrowly linear, the median about 9–13 cm. long, 4–5 cm. broad, reducing gradually in size towards base and apex of rhachis, entire with revolute margins and 5 prominent, sparsely pilose nerves on the lower surface, pungent at the tip, narrowing very slightly at base before widening into the foot-like connective to the rhachis, spreading or forming a wide V, not overlapping. *Male cones* 1- or rarely 2-nate, more or less cylindrical, tapering slightly to base and apex or rounded at the apex, 13–22 cm. long, 4.5–7 cm. diam. with scales in about 17 oblique rows; peduncle 3–11 cm. long with long, narrow, dorsally tomentose bracts; median scales removed from the cone about 2 cm. long, 1.8 cm. broad, the lower surface completely covered by numerous microsporangia; scale faces densely felted with tawny tomentum, appearing sub-circular to sub-rhomboid in outline, varying in size, about 1–2 cm. by 5–8 mm. and only 1–2 mm. thick (when tomentum is removed), flattish, with a central depression, hidden by the tomentum. *Female cones* solitary (in all specimens seen), densely lanuginose with tawny or off-white tomentum, 20–30 cm. long, 16–18 cm. diam., scales in about 9 oblique rows, peduncle about 3.5 cm. long, 2.5 cm. diam. at base, up to 4 cm. diam. at top; bracts many, narrow, 2–5 cm. long, 3–8 mm. broad, dorsally densely tawny tomentose; median scale removed from the cone, 3 cm. long (from base of stipe to exposed surface) and 4 cm. broad at greatest width; stipe and sinus arms yellowish; scale faces more or less flat (not prominent), with a shallow concave rhomboid umbilicus hidden by tomentum, sub-rhomboid in shape, diagonal measurements up to 4 cm. by 2.5 cm. and about 1.3 cm. thick. *Seed* pale orange-yellow through salmon suffused orange to amberbrown.

In the article "Materials for a Revision of the South African Species of *Encephalartos*", Journ. of S.A. Bot. Jan. 1945, page 62, M. R. Henderson described a plant growing in Kirstenbosch Gardens of which the place of origin was unknown. All efforts by interested botanists to find the species in the veld failed until 1951. In April of that year Dr. R. Story, Botanical Survey Officer, stationed at Grahamstown located a group of cycads in the mountains N.E. of Bedford. They were growing in very little soil on dolerite and seemed in poor condition. Being unable to match it with any species in the Albany Museum and suspecting it to be an undescribed species Dr. Story sent material to the National Herbarium, Pretoria, where it was recognised as being the same species as the Kirstenbosch plant mentioned above.

It was found to be closely related to *E. ghellinckii* Lem. of the Drakensberg and in some respects like *E. cycadifolius* Lehm. which occurs on koppies in the grassveld of Queenstown District. It is similar to these species in that the leaflets are narrow

and entire, the cones densely and thickly felted tomentose and the seeds yellow-orange to brown, never scarlet. It differs in being smaller than both these species, suckering more freely at the base, and in the cones being borne singly and only rarely with 2 male cones on a plant. Besides these 3 differences it may be distinguished from the nearer neighbour, *E. cycadifolius*, in that the leaflets are narrower and more spreading, that is the pairs are not arranged V-wise along the axis like those of *E. cycadifolius*.

In comparison with *E. ghellinckii*, which occurs on the eastern slopes of the Drakensberg range and as far south as near Flagstaff in the Cape Province, the leaflets of *E. eximius* are slightly broader. They do not have the margins as strongly inrolled as *E. ghellinckii* and the prominent nerves of the undersurface are therefore obvious. In our species too, these nerves are sparsely pubescent with long curly hairs. The pubescence in general on these two species is rather similar but on the whole *E. ghellinckii* is more generally woolly-villous, having curly and straight hairs. Straight hairs are, however, sometimes found on the new species.

From existing revisions on the genus one might be led to assume that the early travellers and botanists overlooked this species completely. But since this seemed doubtful old records and likely descriptions and specimens were combed for possible clues. One definite find was a specimen in the Marloth Herbarium, Marloth 2151, collected in the "Cradock Mts. towards Tarkastad altitude 1200 m., Oct. 1895" which was obviously the same as our species. It had been confused with *E. Friderici-Guilielmi*, that is *E. cycadifolius* Lehm. Another case of possible confusion of our species is the record of *E. lehmannii*, the Karoo cycad, from Bedford (see Fl. Cap. Vol. 5, sect. 2, page 36). In all probability this is our species but since the record is not supported by a specimen among the citations proof of this is lacking.

ERICACEAE.

Erica gazensis H. Wild sp. nov., *E. lanceoliferae* S. Moore affinis, pilis glandulosis distinguenda; ab *E. milanjana* Bolus antheris appendiculatis differt.

Suffrutex ad 60 cm. altus, adscendens vel erectus, pilis eglandulosis brevibus et glandulis stipitatis longioribus paucioribusque indutus. *Ramuli* numerosi, recti vel flexuosi, rubro-brunnei, diametro circa 1 mm., teretes; internodiis 2-7 mm. longis. *Folia* quaterna; petiolus 0.2 mm. longus, complanatus, brevis pubescens; lamina oblongo-lanceolata, subacuta, revoluta, griseo-iridibus, minima 2.6 mm. longa, 0.8 mm. lata, maxima 4 mm. longa, 1.5 mm. lata, supra minute muricata, pilis brevibus eglandulosis et principue ad marginem pilis longis glandulosis sparsim vestita, subtus pallidior, dense eglanduloso-puberula, pilis glandulosis breviter stipitatis admixtis, nervo mediano prominente. *Inflorescentia* ad ramulorum ultimorum apices in umbellas subglobosas disposita. *Flores* quaque umbellae 8-12; pedicelli tenues, 2-4 mm. longi; bractea 1, aliquando deessens, pedicelli dimidio superior vel inferior, oblongo-linearis, brevis eglanduloso-pilosa et margine stipitato-glandulosa, 0.2 mm.-0.8 mm. longa, 0.15 mm.-0.8 mm. lata; bracteolae 2, saepe deessentes, prope calycem, oppositae vel sub-oppositae, bractee similes sed minores, ca. 0.2 mm. longae; calyx quadripartitus, segmentis lanceolatis vel ovato-lanceolatis, 1 mm. longis, basi 0.6 mm. latis, uninervatis, membranaceis, pilis brevibus eglandulosis et glandulis marginalibus longistipitatis vestitis; corolla roseo-punicea, campanulata vel paulo urceolato-campanulata, glabra vel sparsim pilis minutis eglandulosis marginata, 1.7-2.1 mm. longa, 1.7-2.1 mm. lata, lobis 4 apice rotundatis, erectis vel leviter recurvis, 0.75 mm. longis; stamina 7-8, inter disci lobos emergentes, filamentis complanatis, 1.2 mm. longis, antheris breviter exsertis, oblongis, 0.75-0.9 mm. longis, purpureo-fuscis, scabridis, bi-appendiculatis, appendiculis supra basin dorsifixis, deflexis, lamelliformibus, basi latis, 0.35-0.5 mm. longis, secundum marginem paulo scabrido-pubescentibus; ovarium depresso-globosum, villosum, eglandulosum, altitudine 0.38-0.8 mm. diametro 0.42-1.2 mm.; discus 7-8-lobatus; stylus tetragonus, glaber, 2.4 mm. longus, 1 mm. exsertus, apice subcapitatus.

S. RHODESIA: Melsetter: Chimanimani, 2,200 m., along open streams, July, *Thompson* 16 (type in S.R.G.H., Salisbury); Greenmount, 2,000 m., Bracken grassland, Sept., *Crook* 127 (S.R.G.H. 31413); Albany, 1,800 m., in *Brachystegia spiciformis* woodland, July, *Crook* 11 (S.R.G.H. 29010); Rocklands, 1,500 m., Oct., *Chase* 2976 (S.R.G.H. 31197); Chimanimani Mts., 2,000 m., June, *Munch* 203 (S.R.G.H. 24452).

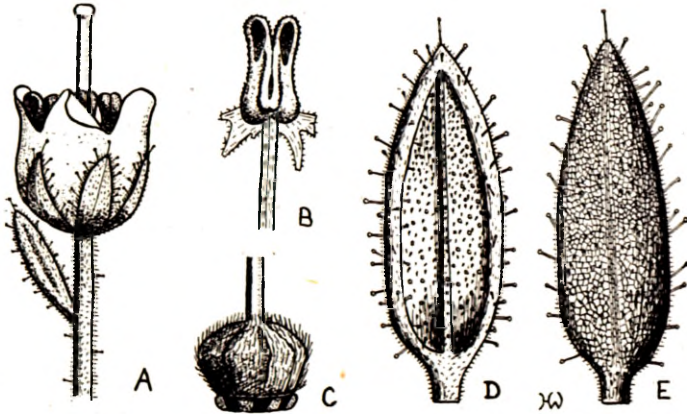


FIG. 4.—*Erica gazensis* H. Wild. A—Flower, $\times 8$; B—Anther, $\times 17$; C—Ovary and disc, $\times 26$; D—Leaf, abaxial surface, $\times 17$; E—Leaf, adaxial surface, $\times 17$.

The relationships of *E. gazensis* can be readily seen if it is inserted in the key given by Alm & Fries in their monograph "Die tropischen Arten der Gattung *Erica* L." *Ark. Bot.* Band 2A, No. 7 (1927). The revised portion of this key would then be as follows:—

Branches and leaves glandular:

 Anthers muticous..... *E. milanjiana*.

 Anthers appendaged..... *E. gazensis*.

Branches and leaves eglandular..... *E. lanceolifera*.

E. gazensis is rather a variable species and the variations seem haphazardly distributed among the available material; however, the structure of the floral parts is comparatively uniform. *Chase* 2976 has its umbels noticeably crowded together; *Crook* 127 a continuous minute pubescence along the margins of the corolla lobes whilst the type has merely a very few minute hairs on a very small proportion of the corolla lobes and the remainder have completely glabrous corollas. *Crook* 127 and 11 both differ from the rest in having less revolute leaf margins. This last difference could be due to differing conditions of humidity and shade. The specific name is derived from the name of that part of S. Rhodesia and Portuguese East Africa which extends on both sides of the border to include the Melsetter, Chipinga, Chimanimani areas and Southern Manica province. It is defined by Swynnerton in *J. Linn. Soc. Bot.* XL, p. 2 (1911).

Erica eyeslii Bolus var. *blaeriodes* H. Wild, var. nov., staminium numero vulgo 4, rarius 5, nunquam usque 8, a typo distinguitur.

PORTUGUESE EAST AFRICA.—Manica; Chimanimani Mts., 2,000 m., June, *Munch* 206 (type of var. in S.R.G.H., Salisbury); Chimanimani Mts., 1,700 m., on rocky outcrops at streamside, July, *Pedro & Pedro* 7331; Chimanimani Mts., 1,700 m.,

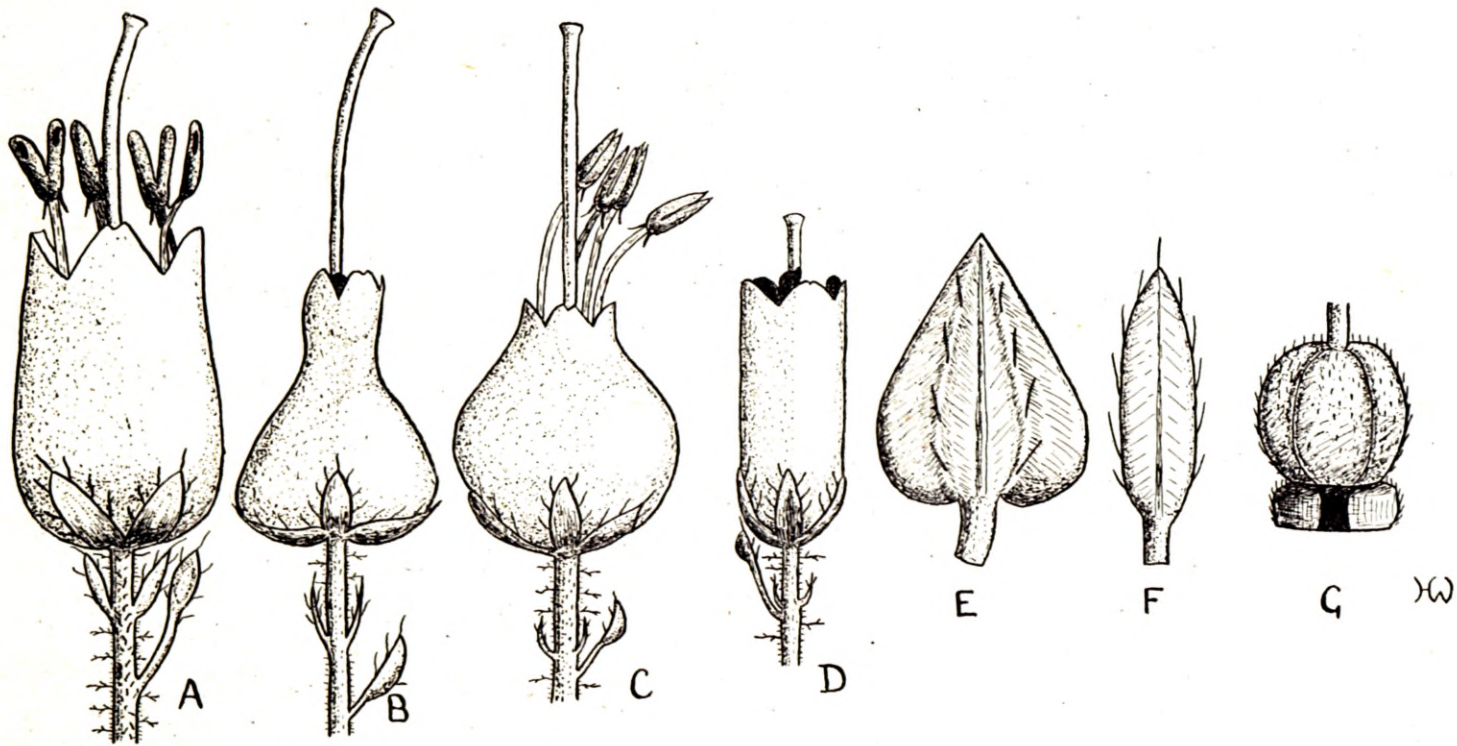


FIG. 5.—*Erica eyeslii* Bolus var. *blaerioides* H. Wild. A, B, C—Flower forms, $\times 12$; D—Bud, just opened, $\times 12$; E—Unfolded leaf, $\times 12$; F—Folded leaf, $\times 12$; G—Ovary and disc, $\times 24$.

margin of R. Mevumosi, in ericoid scrub, July, *Pedro & Pedrogao* 7318; Chimanimani Mts., 1,700 m., on rocky outcrops, by streamside, July, *Pedro & Pedrogao* 7332; Chimanimani Mts., 1,500 m., by stream, June, *Wild* 2903.

S. RHODESIA—Melsetter; Chimanimani Mts., 2,000 m., near stream, June, *Wild* 2937; Melsetter town lands, 1500 m., July, *Crook* 4; Melsetter town lands, 1,500 m., very locally common, July, *Crook* 6; Chimanimani Mts., Bonde R., 1,500 m., June, *Wild* 2854; Chimanimani Mts., Musapa Gap, 1,000 m., Oct., *Munch* 338; Melsetter, 1,500 m., riverine, Aug., *Crook* 105.

In the last few years a good deal of material has been collected in the Chimanimani area which bears the closest resemblance to *Erica eylesii* Bolus but has flowers with only four stamens and sometimes much broader ovate leaves. The possibility was examined that this represented an undescribed *Blaeria* sp. with a superficial resemblance to *E. eylesii* but, apart from the stamen number and variation in leaf shape, no other character could be found to distinguish it from *E. eylesii*. Although the undetermined specimens and *E. eylesii* fell fairly readily into two groups with either 4 or 8 stamens, odd flowers were found with 5, 6 or 7. Flowers with 5 stamens were fairly common on predominantly 4-anthered gatherings while 7-anthered flowers were fairly common in 8-anthered gatherings and only a very few flowers with 6 stamens were discovered, mainly on predominantly 8-anthered specimens.

It was concluded therefore, that the 4-anthered specimens constituted merely a variety of *E. eylesii*. This is of some significance since the only reliable character distinguishing the genus *Blaeria* L. from *Erica* L. is the possession of 4 stamens as against 8 (or rarely 6). It is fairly evident that this is a rather artificial distinction and the existence of an *Erica* sp. which can have from 4–8 anthers emphasises this more strongly. It would seem that the genus *Blaeria* can only be retained on the grounds of convenience. This otherwise rather poor reason does have some force, however, in practice, when the large size of the genus *Erica* is taken into consideration.

In the course of these investigations it was found that the leaves are often ovate and revolute at the margins only. On the same plant, however, linear-oblong or acicular leaves are often present and on examination prove to be derived by the folding of the cordate leaf along two adaxial ridges more or less parallel with the midrib. In many specimens one or other kind of leaf predominates and this at first sight suggests the presence of two species.

It is in the flower structure, however, that polymorphism is most apparent. Bolus has described the corollas of the type as being cyathiform and slightly constricted at the throat, Alm & Fries [who redescribed this species by mistake some three years later and, by a strange coincidence, gave it the same specific name—*Arkiv Bot.*, Stockholm, 21A, No. 7, 6 (1927)], in describing corollas from the same gathering, define them as inflated tubular to subovoid. An urceolate-globose form is perhaps the commonest on a wide range of gatherings but quite commonly a gathering will only shew tubular flowers with parallel sides. The buds are narrowly tubular or have a constriction in the middle of the tube. In addition, a small proportion of the flowers are very broadly pyriform with a narrow cylindrical neck. In this case the anthers, although fertile, never become exerted and this may render self-pollination more likely. In all cases fertile capsules are produced. That these differences are of no taxonomic significance is proved by the fact that they are all represented on one branch on the type sheet of the variety. The accompanying illustration shews three flower forms, a bud, two leaf forms and the ovary, all drawn from the type sheet of the variety.

It should be noted further that the anther appendages of this species are sometimes much reduced and difficult to see. In this form it approaches closely *E. thryptomenoides* S. Moore, which appears to differ from *E. eylesii* only in its mucicous anthers. The relationship of the two species requires further investigation with a wider range of material.

The author wishes to acknowledge with thanks the assistance of Miss I. C. Verdoorn of the National Herbarium, Pretoria and of Mr. N. S. Pillans and Miss Esterhuysen of the Bolus Herbarium who have seen the majority of the material used in drawing up this account.

GERANIACEAE.

Pelargonium jacobii R. A. Dyer sp. nov., affinis *P. carnosum* L. foliis obovatis vel oblanceolatis dentatis facile distinguitur.

Planta suffrutescens succulenta, sparse ramosa, basi 2-4 cm. crassa, usque 40 cm. longa. *Folia* oblanceolata vel obovata, 4-9 cm. longa basin versus attenuata, pilosa, margine dentato vel leviter lobato. *Pedunculus* 5-20 cm. longus plus minusve ramosus, breviter pubescens ramis 3-7-floribus; bracteae lanceolatae vel oblongo-lanceolatae, 5-7 mm. longae, 2.5-3.5 mm. latae. *Flores* pedunculati, pedicellis gracilibus 2-3 cm. longis glabris calycis calcari usque 2 mm. longo eis adnato. *Sepala* oblonga, 8 mm. longa, 2.5-3.5 mm. lata, obtusa. *Petala* subaequalia, oblanceolata, spatulata, 9 mm. longa, apicem versus 3 mm. lata. *Ovarium* dense villosum; fructus 4.5 cm. longus, rostro pilis patulis albidis hirsuto.

CAPE PROVINCE.—Richtersveld; Kubus, August, *Marloth* 12345 (type); Arris Drift, *Marloth* 12345 b.

SOUTH WEST AFRICA.—Sandy flats east of Buchuberg, July, *Dinter* 6437.

PLATE 5.

Plant up to about 20 cm. tall and up to 40 cm. with inflorescence. *Stem* succulent, 2-4 cm. thick near base, sparsely branched, pubescent near tips of branches. *Leaves* obovate to oblanceolate, 4-9 cm. in total length, tapering into a petiole-like lower half and a swollen base, pilose; margin dentate or moderately lobed. *Peduncles* slender or stout, 5-20 cm. long, simple or up to 3-branched, minutely pubescent. *Bracts* subtending the pedicels more or less lanceolate or oblong-lanceolate, 5-7 mm. long, 2.5-3.5 mm. broad. *Flowers* white, pedicellate; pedicels slender, 2-3 cm. long, with the fused nectariferous calyx spur extending 2 mm. down, glabrous. *Sepals* oblong, 8 mm. long, 2.5-3.5 mm. broad, obtuse, glabrous or with a few hairs and becoming glabrous. *Petals* oblanceolate-spatulate, more or less equal, 9 mm. long and 3 mm. broad towards the apex. *Ovary* densely hairy; the beak elongating in the fruiting stage up to about 4 cm. long; seeds hirsute.

This species is closely related to *P. carnosum* L. from which it is readily distinguished by the entire leaves. It may be even more closely allied to *P. mirabile* Dinter, of which no authentically named specimen has been seen. Miss Esterhuysen of the Bolus Herbarium states that according to specimens in that Herbarium, the calyx of *P. mirabile* is very hairy and quite distinct from that of the present species.

The naming of this plant as *P. jacobii*, in honour of Colonel Robert Jacob Gordon of the Old Dutch East India Company, is resorted to because the surname has already been used. Gordon did much to assist botanical exploration prior to 1800, and must surely have been the first person to paint this species, so that it is desired to commemorate him in this way. A measure of appreciation of Gordon's work was expressed by the writer in an address to the South African Biological Society, which was published in the society's Pamphlet No. 14, 1949. The writings of V. S. Forbes in *Afrikana Notes and News* (*Afrikana Aantekeninge en Nuus*), June, 1952, and elsewhere, should also be consulted if one wished to get a broad view of Gordon's remarkable personality.

The accompanying reproduction was made from a photograph of the original coloured illustration by Gordon which is in the Rijks Museum, Amsterdam. There is a copy of this painting in an album of "Paterson's Drawings" in the library of Sir Ernest Oppenheimer, Johannesburg.

GESNERIACEAE.

Streptocarpus kentaniensis Britten and Story, sp. nov., *S. meyeri* Burt et *S. lutea* C.B. Cl. affinis, a *S. meyeri* tubulo breviori differens, et quod tubulus fundo faucium maculatus est, a *S. lutea* quod flores violacei sunt, nec candidi nec lutei, ab ambabus limbo floris obliquo et foliis angustis fere linearibus.

Herba acaulis, rosulata, multifoliata; foliis crassulis, angustis, rigidis, ascendentibus, distincte petiolatis, inflorescentias multas ferentibus. *Folium* plerumque 10 cm. longum, 1.8 cm. latum, rugosum, acuminatum, villis brevibus non glanduliferis utrinque contactum, margine leviter crenato et leviter revoluto, nervis infra plurimis prominentibus, villis appressis; petiolus usque ad 3 cm. longus, rubens, pedunculis serie 3-4 in extremo emergentibus. *Pedunculus* 9-12 cm. longus, villis plerumque non glanduliferis, infra fuscus, deinde paulatim viridis, floribus 2, rariter usque ad 5. *Bractea* circiter 1 mm. longa, villis plerumque non glanduliferis. *Pedicellus* 1-2 cm. longus, villis plerumque glanduliferis. *Flos* plerumque 2.5-2.9 cm. longus. *Calyx* circiter 3 mm. longus, ad basin partitus segmentis angustis villis glanduliferis et eglanduliferis contactis. *Corolla* similiter pubescens; tubulus sub-violaceus, intus pulla viola diverse maculosus, cylindricus, plus minusve curvatus, faucibus ad circiter 6 mm. dilatatus, intus villosus, villis fundo longis, alibi brevioribus, ruga in longitudinem per medium fundum; limbus 1.7-2 cm. latus; lobus anticus et lobi ex utroque latere 6 mm., lobi aversi 5 mm., omnes apice orbiculati. *Stamina* filamentis tortis, purpureis, violaceis vel candidis, 4 mm., antheris circiter ad dimidiam partem tubuli allatis; staminodia duo, 1.5 mm. longa. Pistillum 1.3 cm. longum; stigma ultra antheras eminens, ovarium stylusque dense villis longis glanduliferis et eglanduliferis contacti; ovarium viride, purpura reticulatum; stylus ovario aequalis; stigma capitatum, ovatum; orbis annularis, colore croceus. *Capsula* gracilis, circiter 5 cm. longa, scabra; semina circiter 0.5 mm. longa et dimidio angustiora, ferme ovata, utroque fine rostrata, fusca, inaequaliter angulata et rugosa.

CAPE PROVINCE.—Kentani or Komgha district: on rocks in woods near Kei Mouth, July, *Flanagan* 2337; Kentani district: *Britten*, unnumbered; 2 miles S.E. of Kentani, mossy rock in rather dry forest, rare, 1,000 ft., August, *Story* 4038 in Albany Museum Herbarium (type).

A stemless herb with thick, stiff, narrow leaves, ascending, distinctly petiolate, bearing many inflorescences. *Leaf* usually 10 cm. long, but varying from 3 to 20 cm., usually about 1.8 cm. wide, rugose, covered with non-glandular short hairs on both sides, apex acute, margin slightly crenate and slightly revolute, upper side dark green, lower side pale, sometimes reddish; midrib very prominent below, with hairs appressed, other smaller veins numerous and also prominent, projecting to give the lower side a honeycombed appearance with the green tissue scarcely visible; petiole up to 3 cm. long, reddish, with peduncles arising in series of three or four at its distal end. *Peduncle* 9-12 cm. long, with hairs mostly non-glandular, brownish at base merging into green at top, usually two-flowered, but sometimes bearing as many as five flowers. *Bract* about 1 mm. long, with hairs mostly non-glandular. *Pedicel* 1-2 cm. long, with hairs mostly glandular. *Flower* 2.5-2.9 cm. long, smaller if growing under dry conditions. *Calyx* about 3 mm., cut to base, segments narrow, covered with hairs on outside, many glandular. *Corolla* similarly hairy, tube light lobelia violet, spotted variously with aconite violet inside, cylindrical, slightly curved, widening towards the throat where it is about 6 mm. wide, with hairs inside long on the floor, shorter elsewhere, and with a fold running down the centre of the floor; limb 1.7-2 cm. across; front lobe and side lobes 6 mm., back lobes 5 mm., all rounded at the apex. *Stamens* with characteristic twisted filaments, purple, lilac or white, 4 mm., bringing the anthers about half-way up the tube, anthers connivent, explosive, cells confluent, with powdery pollen oval-shaped when dry, round in water; staminodes two, 1.5 mm. long.

Gynoeceium 1·3 cm. long; stigma protruding beyond the anthers; ovary and style densely covered with long hairs, many of them glandular; ovary green veined with purple; style white, nearly as long as ovary; stigma capitate, oval; disc annular, xanthine orange. *Capsule* slender, about 5 cm. long, scabrous; seeds a little over 0·5 mm. long and half as broad, roughly oval, beaked at each end, dark brown, irregularly angled and rugose.

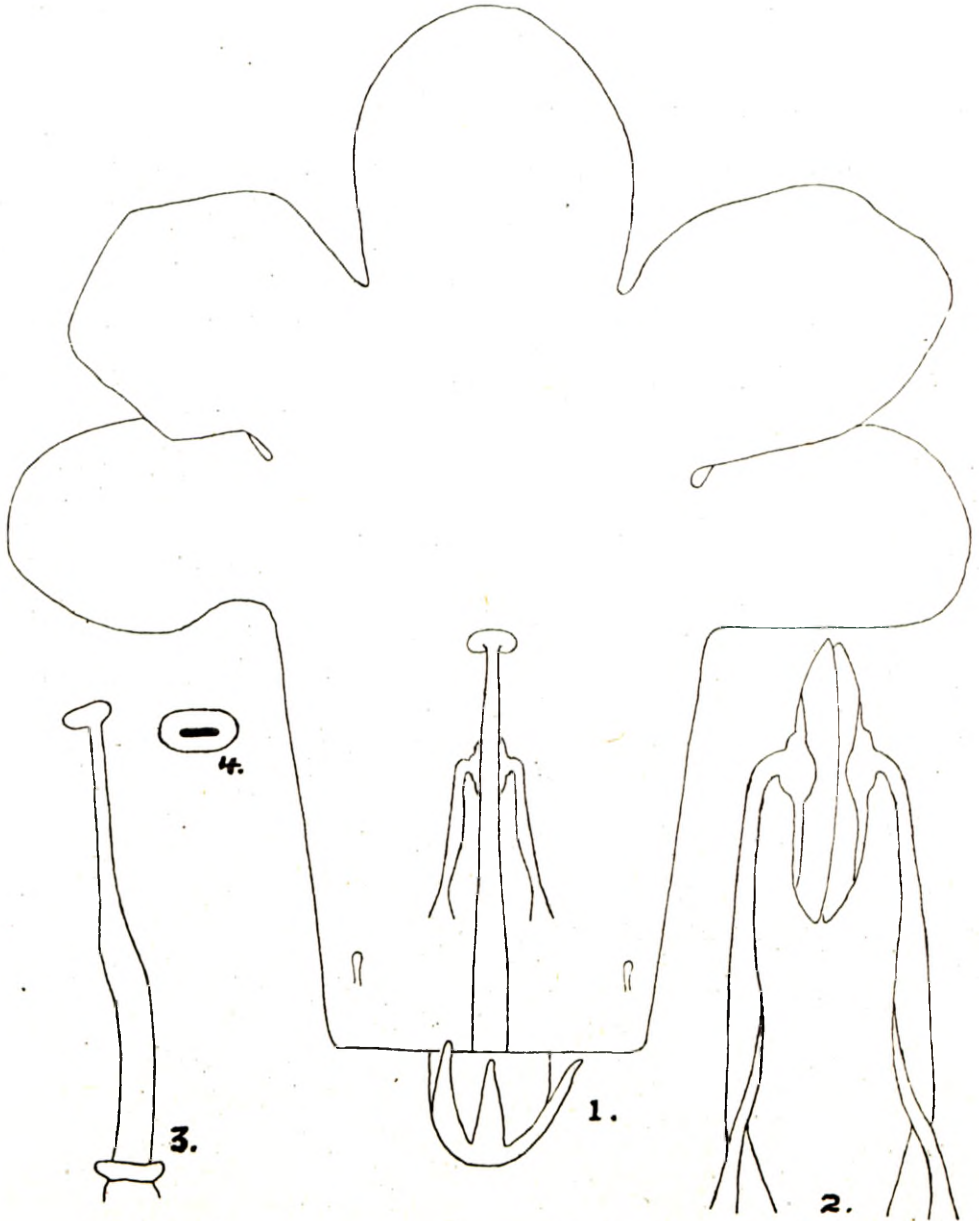


FIG. 6.—*Streptocarpus kentaniensis*: 1, flower opened out, $\times 5$; 2, androecium, $\times 12$; 3, gynoeceium, $\times 5$; 4, stigmatic surface, $\times 10$.

The following notes are by the second author, R. Story.

Plants of this species, grown by Mrs. Turnbull near Kentani, were sent by Mr. S. Stent in July and November, 1940 to Miss L. L. Britten in Grahamstown. Mrs. Turnbull sent more in 1943. They had been found growing in a "rather dry place", and were kept moderately watered in cultivation.



FIG. 7.—*Streptocarpus kentaniensis*, $\times 0.6$.

In a search by the writer for wild specimens of this species, six localities in the Kentani district were visited without success at various times between January and June, 1952. In August, 1952 directions were obtained from Mr. Mills, of Nyutura, near Kentani, and plants were located growing on a pile of rock in a forest patch estimated to receive an annual rainfall of about 25 inches. Although there are many similar piles of rock in this and other forest patches, and although another species of *Streptocarpus* is common in most of them, no *S. kentaniensis* was found except in this one place. The plants were of all sizes, and several were in flower in spite of the dry conditions then prevailing. Even when they are not flowering they may be readily recognised from the shape of their leaves.

The plants have many leaves developing in orderly succession and forming a rosette. There has so far been no sign of root runners, but occasionally a new rosette may develop adventitiously on the petiole. The flowers appear to need a specific pollinating agent, for few capsules are set naturally in cultivation. The species is unusual in flowering in winter or early summer.

The plant was recognised as an undescribed species by Miss L. L. Britten, who studied it in cultivation for many years, and who died before her work upon it was ready for publication. Her comprehensive notes were used in conjunction with the type specimen in drawing up this account.

IRIDACEAE.

***Moraea culmea* Killick, sp. nov., affinis *M. tenui* Ker., sed ungue lamina perianthii segmentorum exteriorum aequilongo differt.**

Cormus 1–2 cm. diam. *Caulis* 30–55 cm. longus. *Folia* 2, caulina, inferiora linearia 9–20 cm. longa, superiora spathis similia 5.5–7.5 cm. longa. *Spathae* lanceolatae, acuminatae, cuspidatae, apicibus scarioso-fuscae, exteriores 3.2–5 cm. longae, interiores 4.2–6 cm. longae. *Perianthii* segmenta exteriora oblongo-unguiculata; lamina 7–11 mm. longa, 3–5 mm. lata, reflexa, albo-lutea; unguis cuneatus, 8–10 mm. longus, interior pubescens, nectario operculato ut basin. *Segmenta* interiora trifida, ungue 1.2 cm. longo cuspidate media lineari 4–7 mm. longa et lobis duobus falcatis lateralibus 1–2 mm. longis. *Filamenta* connata, 6–8 mm. longa; antherae 4 mm. longae. *Styli* rami 6–9 mm. longi, cristis lanceolato-acuminatis incurvatis 3–4 mm. longis; stigma integra et truncata vel 2-lobata. *Ovarium* clavatum, 7–9 mm. longum.

NATAL.—Bergville District: Cathedral Peak Forest Influences Research Station, Killick 1209; 1588 (type); Estcourt District: near Tabamhlope Police Station, Acocks 10781.

Corm globose, 1–2 cm. diameter; tunics with brown parallel fibres and short transverse strands. *Stem* 30–55 cm. long, slender, 1–2 mm. thick. *Leaves* 2, cauline; lower linear, sheathing at base, 9–20 cm. long, 2–4 mm. broad; upper spathe-like, completely sheathing, 5.5–7.5 cm. long, 2.5–4 mm. broad. *Spathes* cylindrical, 1–3-flowered; valves herbaceous, lanceolate, acuminate, cuspidate, scarios-brown at the tips, outer 3.2–5 cm. long, inner 4.2–6 cm. long. *Outer perianth segments* oblong-unguiculate; lamina 7–11 mm. long, 3–5 mm. broad, reflexed, outside white tinged with yellow and green-dotted, inside white with yellow puberulous blotch at base surrounded by few large green dots; claw cuneate, 8–10 mm. long, 4 mm. broad, tapering to 1 mm. at base, outside greenish-white, inside light green, pubescent, with an operculate nectary at the base. *Inner perianth segments* trifid, with a claw 1.2 cm. long and a central linear cusp 4–7 mm. long and two diverging falcate lateral lobes 1–2 mm. long. *Filaments* connate, except for upper fifth, 6–8 mm. long; anthers 4 mm. long. *Style branches* 6–9 mm. long, deeply bifid; crests lanceolate-acuminate, incurved, 3–4 mm. long. *Stigma* entire and truncate or 2-lobed with minute deltoid lobes. *Ovary* clavate, 7–9 mm. long.

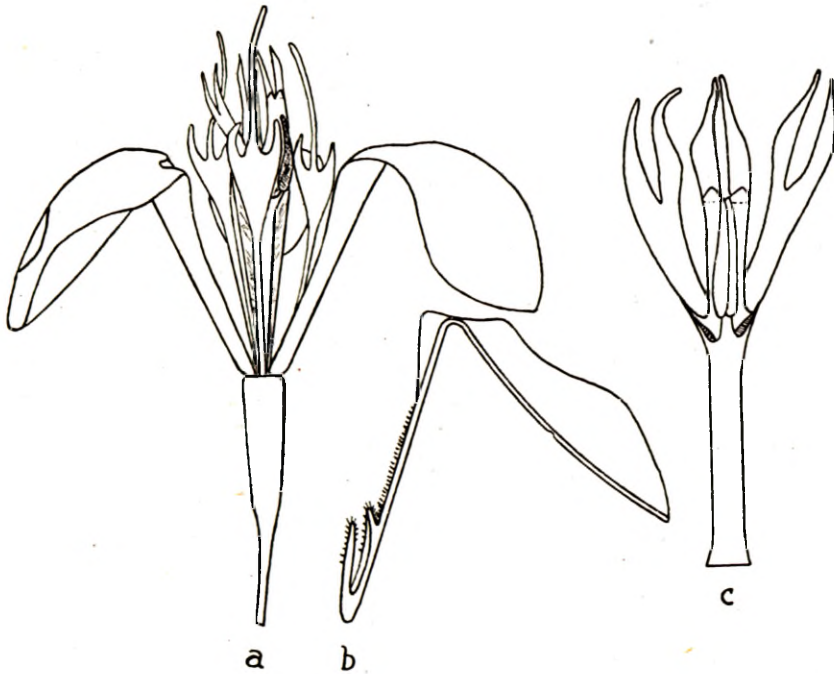


FIG. 8.—*Moraea culmea*: a, flower, $\times 3$; b, longitudinal section of outer perianth segment, $\times 4$; c, staminal column and style, $\times 4$.

Our only records of *M. culmea* are from the lower slopes of the Drakensberg in the Cathedral Peak Area and Tabamhlope in the Estcourt District. In the former locality it grows socially in moist situations in *Themeda triandra* grassveld, while at Tabamhlope it is frequent—generally in Highland Sourveld. It flowers during the months of November and December. The details of flower colour given in the description above were observed in the field. On drying the flowers become yellow. The plant has a straw-like appearance, hence the specific epithet *culmea*.

M. culmea is closely related to *M. tenuis* Ker., but differs principally in that the claw of the outer perianth segments is equal in length to the lamina instead of half as long. In addition, it differs in flower colour and vegetatively, in not having a subradical produced leaf.

Moraea modesta Killick, sp. nov., affinis *M. tripetalae* Ker., sed perianthii segmenta interiora trifida non linearia differt.

Cormus globosus, 1–1.5 cm., diam. *Caulis* 10–25 cm. altus. *Folia* basalia 2, filiformia, 30–55 cm. et 7 cm. longa; folia caulina 2, spathis similia, 3–5 cm. longa. *Spathae* lanceolatae, apicibus scarioso-fuscae, exteriores 2–3.5 cm. longae, interiores 3–5.5 cm. longae. *Segmenta exteriora perianthii* ovato-unguiculata; lamina 8–11 mm. longa, 7 mm. lata, alba, purpurato-venata; unguis sub-erectus, 1–1.2 cm. longus, 1.5 mm. latus. *Segmenta interiora perianthii* trifida, 1.5–2.5 mm. longa, 0.5–0.7 mm. lata, purpurata, lobo medio 0.8 mm. longo et lobis duobus lateralibus minutis. *Stamina* filamentis liberis; antherae 4–7 mm. longae, apiculatae. *Styli* rami 1.4 cm. longi, cristis lanceolato-acuminatis 4 mm. longis; stigma integra, minuta. *Ovarium* cylindricum, 6–10 mm. longum.

NATAL.—Bergville District: Cathedral Peak Forest Influences Research Station, Killick 1028 (type), 1551A; below the Sentinel, Mont-aux-Sources, Galpin 10372; Little Berg, Royal National Park, West 1269.

Corm globose, 1–1.5 cm. diameter; outer tunics with brown parallel fibres and short transverse strands; inner tunics with thicker anastomosing fibres. *Stem* 10–25 cm. high, slender, 1 mm. thick. *Produced leaves* 2, basal, filiform, revolute, 1 mm. broad; the longer 30–55 cm. long, somewhat falcate, the other 7 cm. long, erect; cauline leaves 2, spathe-like, 3–5 cm. long. *Spathes* cylindrical, 1–3-flowered; valves herbaceous. lanceolate, scarious-brown at the tips, occasionally shortly cuspidate, the outer 2–3.5 cm. long, the inner 3–5.5 cm. long. *Outer perianth segments* ovate-unguiculate; lamina spreading, 8–11 mm. long, 7 mm. broad, white, purple-veined, with a yellow blotch at the base decurrent on the claw; claw sub-erect, 1–1.2 cm. long, 1.5 mm. broad, widening slightly just below half-way. *Inner perianth segments* trifid, minute, 1.5–2.5 mm. long, 0.5–0.7 mm. broad, with a central cusp 0.8 mm. long and two very short lateral lobes, purple. *Filaments* free, 4 mm. long; anthers 4–6 mm. long, apiculate, *Style* branches 1.4 cm. long, bifid, with lanceolate-acuminate crests 4 mm. long; stigma entire, minute. *Ovary* cylindrical, 6–10 mm. long.

This new species of *Moraea* grows on grassy slopes of the Drakensberg between 6 and 9,000 feet. The plant is rare in the Cathedral Peak Area, but common further north in the Royal National Park at Mont-aux-Sources. It flowers from October to December. As its name implies, it has a modest and rather inconspicuous appearance.

M. modesta is closely allied to *M. tripetala* Ker., but can be readily distinguished by having trifid instead of linear inner perianth segments. Miss G. J. Lewis of the S.A. Museum, Cape Town, who kindly confirmed that this is an undescribed species, points out that it also differs from *M. tripetala* in that the claw of the outer perianth segments is glabrous instead of minutely bearded.

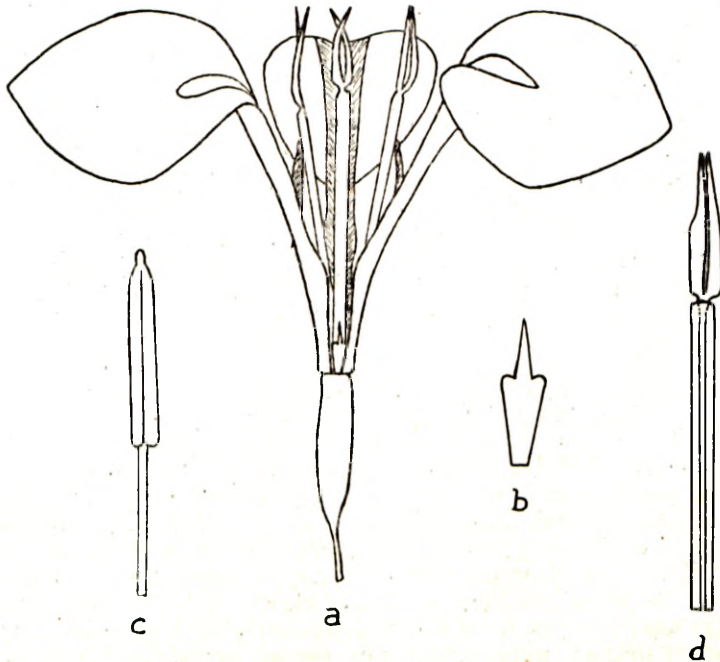


FIG. 9.—*Moraea modesta*: a, flower, $\times 3$; b, inner perianth segment, $\times 10$; c, stamen, $\times 4$; d, style branch, $\times 4$.

LABIATAE.

Micromeria grandiflora Killick, sp. nov., affinis *M. pilosae* Benth., sed caulibus decumbentibus, internodiis brevioribus, floribus bracteisque multo majoribus differt.

Herba perennis, aromatica, 15–30 cm. alta, basi parce ramosa, pilosa, glanduloso-punctata. *Caules* decumbentes. *Folia* subsessilia, ovato-cordata, 1.2–2.5 cm. longa, 1–2.2 cm. lata, serrata. *Flores* in axillis foliorum solitarii. *Pedicelli* 1–2.2 cm. longi, bibracteati. *Bracteae* foliis similes, 7–11 mm. longae, 6–10 mm. latae. *Calyx* 7–8 mm. longus; tubus subcampanulatus, 4–5 mm. longus, 15-nervus; calycis dentes 5, subaequales, triangulo-lanceolati, 4–5 mm. longi. *Corolla* pallide ad saturate cobalto-violaceum; tubus 1.3–1.7 cm. longus, parte inferiore subcylindrica 4 mm. longa 2 mm. lata, parte superiore campanulata compressa 7–9 mm. lata ostio, latere antico 2-sulcato, intus pilis longis crassis maxime duarum lirarum; labium posticum emarginatum, 2.5 mm. longum, 7–10 mm. latum; labium anticum trilobatum, lobis lateralibus emarginatis vel integris, 4 mm. longis, 5–6 mm. latis, lobo medio emarginato, 4.5 mm. longo, 6 mm. lato. *Stamina* 4, inclusa; stamina postica 3 mm. longa; antica 7 mm. longa; antherae biloculares, parallelae, cum 6–14 glandulis globosis flavis ventralibus inter cellas. *Discus* leviter lobatus. *Stylus* inclusus, 1.0–1.3 cm. longus; stigma bilobata. *Nucellae* oblongae, 3.5 mm. longae, 2.5 mm. latae.

NATAL.—Bergville District: Cathedral Peak Forest Influences Research Station, Codd and Dyer 6241. Killick 1102, 1600. 1684 (type).

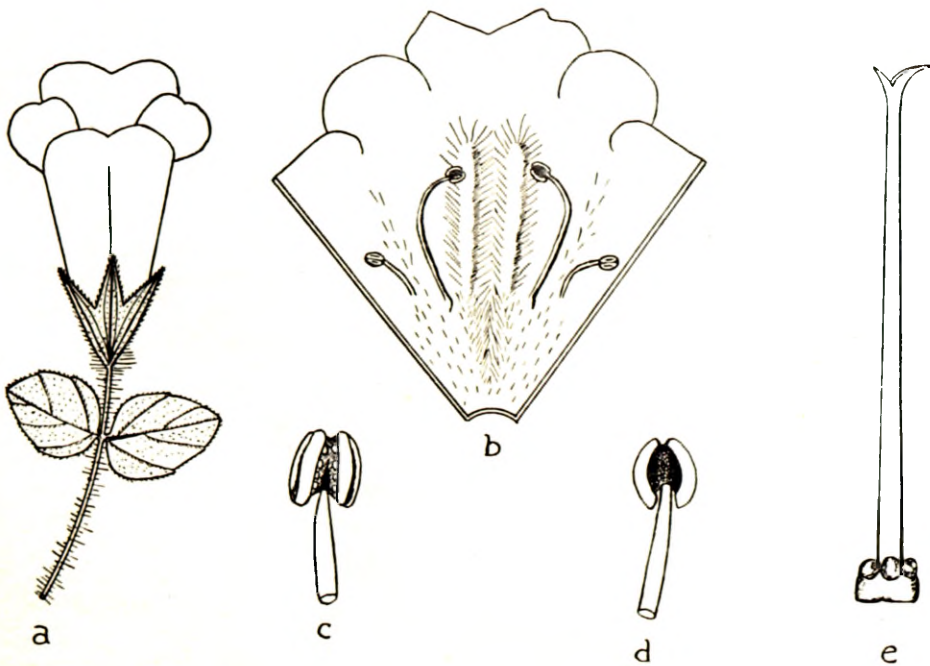


FIG. 10.—*Micromeria grandiflora*: a, flower, $\times 2$; b, corolla slit down upper side, $\times 3$; c, ventral side of anther with the cells slightly parted to show glands, $\times 10$; d, dorsal side of anther, $\times 10$; e, pistil, $\times 5$.

A perennial, aromatic herb, 15–30 cm. high, sparingly branched from the base, pilose with unicellular glandular hairs and multicellular eglandular hairs, golden gland-dotted. *Stems* decumbent, often with small branchlets in the axils of the lower leaves, pilose. *Leaves* subsessile, occasionally with petioles 3 mm. long, ovate-cordate, 1.2–2.5 cm. long, 1–2 cm. broad, serrate, teeth few, golden gland-dotted, pilose. *Flowers* solitary, axillary. *Pedicels* 1–2.2 cm. long, bibracteate about the middle, pilose. *Bracts* resembling the leaves, 7–11 mm. long, 6–10 mm. broad. *Calyx* in flower 7–8 mm. long; tube subcampanulate, 4–5 mm. long, 15-nerved, golden gland-dotted, pilose outside, glabrous inside; calyx teeth 5, sub-equal, triangular-lanceolate, 4–5 mm. long, pilose outside, glabrous inside except near the apex; calyx in fruit 9–10 mm. long. *Corolla* pale to deep cobalt-violet, 2–2.4 cm. long; tube 1.3–1.7 cm. long, subcylindric for basal 4 mm., flattened-campanulate above, 7–9 mm. wide at mouth, 2 mm. wide at base, 2-furrowed on lower side (showing as ridges inside tube), pubescent and gland-dotted outside, with long thick brown hairs inside chiefly on the two ridges; upper lip emarginate, slightly reflexed, 2.5 mm. long, 7–10 mm. broad, pilose and gland-dotted outside, glabrous inside; lower lip 3-lobed, lateral lobes emarginate or entire, 4 mm. long, 5–6 mm. broad, sparingly pilose and golden gland-dotted outside, glabrous inside, median lobe emarginate, 4.5 mm. long, 6 mm. broad, glabrous outside and inside. *Stamens* 4, didynamous, included, arcuate; posticous pair 3 mm. long; anticous 7 mm. long, shortly decurrent; filaments glabrous; anthers 2-celled, parallel, 1 mm. long, with 6–14 round yellow glands situated ventrally on the connective between the cells. *Disc* slightly lobed. *Style* included, 1–1.3 cm. long; stigma bilobed, lobes acute, the posticous the shorter. *Nutlets* oblong, 3.5 mm. long, 2.5 mm. broad, brown, shortly hairy.

The first gathering of this new species of *Micromeria* was made by the author in November, 1950. It was subsequently collected by Drs. L. E. Codd and R. A. Dyer in December of the same year and again by the author in November, 1951 and February, 1952. The plant forms small societies in undisturbed *Themeda triandra* grassveld at about 6,400 feet on the Little Berg in the Cathedral Peak Area. All the specimens cited were collected from the same spot. This species appears to be very localized. The author has spent over a year in the Drakensberg doing botanical survey work, but has seen it growing in only two small catchment areas.

M. grandiflora is a summer flowering perennial producing flowers from the beginning of November until the middle of March. The plant is strongly aromatic producing a mentha-like smell when bruised. Responsible for this are the numerous gland-tipped hairs and sunken golden glands covering most parts of the plant.

Besides *M. grandiflora*, there are two other species of *Micromeria* in South Africa, *M. biflora* Benth. and *M. pilosa* Benth., the former occurring in the Eastern Cape, Transvaal and Basutoland, while the latter is found in Natal and Pondoland. *M. grandiflora* has affinities with *M. pilosa*, but differs in that the stems are decumbent instead of prostrate, the internodes are shorter and the flowers and bracts are very much larger. *M. pilosa* also grows in the Cathedral Peak Area, but as a rule occupies moister situations than *M. grandiflora*.

LILIACEAE.

Aloe babatiensis Christian and Verdoorn sp. nov. in *Procrassae* Berger ab *A. percrassae* inter alia plantis caulescentibus foliis brevioribus, ab *A. rubroluteae* plantis minoribus perianthiis formis facilliter distinguitur.

Truncus simplex, circa 50-cm. altus, apicem versus dense foliatus infra foliis esciccatis deflexis obtectus. *Folia* rosulata, patentia, apicem versus recurvata, ovato-lanceolata vel lanceolata, acuta, plus minusve 27 cm. longa, 6 cm. lata, supra saligna nitidula, obscure lineata, immaculata vel interdum basi maculis albidis paucis

nstructa, subtus pallido-viridula, convexa, obscure lineata, immaculata; margines acuti, sinuato-dentati; dentes deltoidei, 4 mm. longi, 5–12 mm. distantes apicibus rubro-bruneis pungentibus. *Inflorescentia* erecta 40–80 cm. longa, infra medium ramosa; pedunculus viridis, apicem versus bruneolus, compressus, 25 mm. latus, basin versus anguste hyalino-marginatus, marginibus minute dentatis; bractee subamplexicaulis, 8-nervatae, 35 mm. longae, basi 35–40 mm. latae, sensim acuminatae, apicem versus abrupte apice obliquo-acuminatae; rami 3, erecti bracteis vacuis paucis vestiti. *Racemi* cylindraceo-acuminati, subdensi terminales usque 30 cm. longi; bractee pallido-virides 7–8-nervatae, 27 mm. longae, basi 2–15 mm. latae, oblongo-ovatae; pedicelli pallido-virides vel flavo-virides, erecti deinde cernui, 18–25 mm. longi. *Perigonium* armeniacum vel salmonium, ca 3·7 cm. longum, cylindraceo-subtrigonum leviter decurvum, basi rotundatum vel truncatum circa ovarium 5–6 mm. diam. supra ovarium leviter constrictum 4·5–5 mm. diam. deinde apicem versus ampliatus, segmentis rectis vel sub-patentibus; segmenta exteriora per 12 mm. libera obtusa; segmenta interiora ad margines libera, dorsifixata. *Antherae* croceae sub-exsertae. *Ovarium* viridulum, 6–8 mm. longum, 2–3 mm. latum apicem versus leviter acuminatum; stylus citrinus, deinde exsertus.

TANGANYIKA TERRITORY.—About 50 m. N.W. of Babati on road to Ngorongoro Crater, *Pole Evans & Erens* 872 in Herb. Christian 985 and in N.H. No. 28489, flowered at Ewanrigg 16/9/46 (type), leaves from same plant collected 13/7/50.

PLATE 6.

Stem simple about 50 cm. high foliate with a crown or rosette of leaves on the apical portion and old dry leaves below. *Leaves* crowded above with only some of the lower leaves of the rosette sometimes showing a short clasping base, spreading, decurved towards apex, ovate-lanceolate to lanceolate, acute, about 27 cm. long and 6 cm. wide, upper surface dark shining green, shading to copper colour in the dry season where exposed to sun, shallowly and broadly concave, sometimes obscurely lineate, immaculate or sometimes with one to few white spots near the base; lower surface pale green, lineate, immaculate, convex, margins acute, sinuate dentate; teeth deltoid spreading with reddish-brown pungent tips 4 mm. long, 8–12 mm. apart, closer lower down. *Inflorescence* erect, 40–80 cm. long, branched from below the middle, branches 3 (in specimens seen) erect or arcuate, crowding together; peduncle green shading to fawn above, laterally compressed low down; about 25 mm. broad, flat on one surface, rounded on the other, edges acute and, in lower half, with a very narrow hyaline margin which is very minutely toothed; bracts at base of branches sub-amplexicaul, about 8-nerved, 35 mm. long and 35–40 mm. broad at the base gradually narrowing towards apex where they narrow abruptly to an oblique acute apex, sterile bracts below the racemes somewhat smaller. *Racemes* up to 30 cm. long, cylindric-acuminate, sub-dense; floral bracts pale green, 7–8-nerved, 27 mm. long, base 12–15 mm. broad oblong ovate; pedicels pale green or yellowish-green, erect, those of mature flowers cernuous, 18–25 mm. long. *Perianth* apricot-orange to salmon-pink (buds green-tipped; lobes of open flowers yellowish), about 3·7 cm. long cylindric-subtrigonous, slightly decurved, rounded or sub-truncate at the base, about 5–6 mm. diam. over the ovary, slightly constricted above the ovary to 4·5–5 mm. diam. and widened above to 9 mm. and then contracted at the mouth with the lobes eventually sub-spreading; outer segments free for 12 mm., pale pink on margins with a broad deeper pink median portion, apices obtuse straight to sub-spreading; inner segments free on the margins, dorsifixated to tube, white with a broad reddish median line, obscurely nerved, apices obtuse straight to slightly spreading. *Stamens* with white filaments and terra-cotta anthers which are sub-exserted. *Ovary* green 6–8 mm. long 2–3 mm. broad, tapering slightly to the apex; style yellow to pinkish eventually exserted.

The following notes are by the second author, I. C. Verdoorn.

Plants of this *Aloe* were originally collected on the Pole Evans' Central and East African Expedition, Sept. 1938. They were not flowering at the time and for years they did not flower either in the Transvaal or in Rhodesia. Plants were distributed to different gardens in both these regions in the attempt to strike the conditions which would induce flowering. Eventually (Sept. 1946) one plant flowered at Ewanrigg, Mr. Christian's farm near Salisbury where Mr. Christian then described and photographed it. The herbarium specimen which he prepared at the time is the type. In October, 1951, one of the plants of the same collecting, which Mr. Christian had given to Mr. Munch of Rusapi to cultivate, flowered and the inflorescence was sent by air to Mr. Reynolds of Johannesburg. This material was kindly donated to the National Herbarium and afforded the opportunity of checking the late Mr. Christian's description for publication.

With regard to the relationship of this new species, unfortunately Mr. Christian did not leave any notes expressing his views. The broad bracts, which are longer than and envelop or conceal the pedicels, together with the rounded base (not stipitate) of the perianth and the general habit place it in the series *Procrassa* of Berger, *Das Pflanzenreich* 1908. It is readily distinguished from the described species in this series. In general appearance it is most like *Aloe percrassa* but differs, in the first place, by having a stem, and also in the smaller leaves and slightly longer perianths. In the large bracts it resembles the well known species, *Aloe cryptopoda*, in Berger's series *Latebracteatae* but otherwise has very little in common with this species and the others in the *Latebracteatae*.

The most striking characters about the inflorescence of *Aloe babatiensis* are the large pale green, rather thick bracts, the erect branches crowding the racemes together and the conspicuous sterile bracts below the racemes. The colour of the flowers is something between apricot-orange and salmon-pink and the buds are green-tipped. The habit is characterised by the spreading leaves which narrow perceptibly from a broad base which may be described as deltoid acuminate, and are crowded in a rosette at the top of the stem. Some of the lower leaves of the rosette show a very short amplexicaul base and below them the stem is covered with the remains of old dried leaves. The upper surface of the leaf is rather dark green and shining.

According to one of the collectors, Mr. Erens, the plants were found about 50 miles N.W. of Babati on the road to Mbulu and the Ngorongoro Crater "growing on granite outcrops in a valley with plenty of leafmould, young plants forming on the stems".

Asparagus multituberosus R. A. Dyer, sp. nov., affinis *A. asparagoidei* (L) Wight caulo subterraneo elongato multituberoso stylo tripartito differt.

Herba perennis. *Caulis* subterraneus attenuatus usque 35 cm. longus vel longior tuberis multis densis circiter 1 cm. longis, 2 mm. latis indutus. *Rami* lateraliter producti, plus minusve ramosi, graciles, glabri, espinosi, 20-45 cm. longi, angulares. *Folia* parva, ovata, acuminata, membranacea. *Phyllocladia* sessilia, ovata vel basi cordata, 1.5-2.5 cm. longa, 1-2 cm. lata, nervis 8-10. *Flores* axillares, penduli, 1-3, pedunculis plus minusve 5 mm. longis apicem versus articulatis. *Perianthemum* 7 mm. longum segmentis oblongis albis carina viride. *Filamenta* lineari-lanceolata, basi lobata. *Ovarii* loculi 12-ovulati. *Stylus* tripartitus.

CAPE PROVINCE.—Ceres Division: among shrubs on hills near Karoopoort, Aug., Marloth 9006 (type); Calvinia Division: Calvinia commonage among shrubs, Marloth 12778.

Perennial herb with rhizomatous rootstock. *Rhizome* elongating up to 30 cm. or more, unbranched or sparsely branched, producing along its whole length densely packed sessile tuberous roots about 1 cm. long and 2-3.5 mm. thick, and with a few long non-tuberous roots. *Stems* 1—few arising laterally from the rhizome,

subscandent, glabrous, spineless, 20–45 cm. tall, ribbed or angled. *Leaves* small, scale-like, ovate, acuminate, membranous. *Phyllocladia* sessile, ovate to broadly ovate or cordate, 1.5–2.5 cm. long, 1–2 cm. broad, slightly oblique, with 8–11 main veins. *Flowers* axillary, 1–3; pedicels slender curved, about 5 mm. long, articulated slightly below the perianth. *Perianth* 7 mm. long with the segments united at the base; segments linear-oblong, obtuse, 2.5 mm. broad. *Stamens* with filaments attached 1–1.5 mm. above the base of the perianth segments; filaments lanceolate, eared at the base; anthers oblong, 1.5 mm. long. *Ovary* oblong, 2–2.5 mm. long, 12 ovules in each cell. *Styles* 3, free, about as long as the ovary; stigmas truncate, minutely papillate.

The branches and leaves of this plant are very similar to those of *A. asparagoides* (L.) Wight (= *A. medeoloides* Thunb.), and *A. ovatus* Salter, but the root system is very different. The tripartite style or 3 free styles of *A. multituberosus* is apparently an unusual feature in the genus and is an important distinguishing character of this species. A duplicate specimen in the National Herbarium of Schlechter 8069, from Windhoek in the Clanwilliam district, Cape Province, possibly belongs to this species. The specimen does not possess roots but the flowers have a 3-partite style.

***Eriospermum bifidum* R. A. Dyer, sp. nov., folio erecto racemo denso segmentis aequalibus filamentis bifidis distinguitur.**

Tuber 4–9 cm. longum, 4–5 cm. crassum, simplex, rariter ramosum. *Folium* solitarium; lamina erecta, oblongo-lanceolata, 7–12 cm. longa, 2–3 cm. lata, concava, subglauca; petiolus erectus, 5–10 cm. longus, gracilis. *Pedunculus* gracilis, 20–25 cm. longus, erectus, basi bractea parva subtentus. *Racemus* 3–5 cm. longus, 20–30-florus, densus, pedicellis erectopatentibus 5–15 mm. longis. *Perianthemum* regulare, 4–5 mm. longum; segmenta basi breviter connata, obovata, 3–4 mm. longa, supra medium 2–2.5 mm. lata, obtusa. *Filamenta* oblongo-elliptica, 2–2.5 mm. longa, leviter crassa, apice bifida, antheris oblongis, 1 mm. longis. *Ovarium* 1–1.5 mm. longum, obtuse 3-angulatum. *Stylus* cylindricus; stigma subcapitata.

CAPE PROVINCE.—Bathurst Division; near Clumber, on dry hillside near scrub bush, Dyer 383a (GRA); Albany Division: Committees in arid scrub, Dyer 513 (GRA); 8–10 miles from Grahamstown at Bothas Hill, in arid scrub, Dyer 670 (PRE); 1299 (GRA) type; 35 miles from Grahamstown on old Port Elizabeth Road in scrub, Dyer 1084; 22–24 miles from Grahamstown towards Carlisle Bridge, arid flats, Dyer 2113 (GRA).

Tuber sausage-shaped or somewhat pyriform, simple or occasionally branched, 4–9 cm. long, 4–5 cm. thick, shrivelling in very dry weather, about 10 cm. deep in soil and with old persistent fibrous petiole-like leaf bases. *Leaves* tough; lamina erect, oblong-lanceolate, glabrous, 7–12 cm. long, 2–3 cm. broad, concave on upper surface, somewhat glaucous; petiole wiry, 5–10 cm. long. *Peduncle* subtended by small sheathing bract, 20–25 cm. tall, erect. *Raceme* 3–5 cm. long, dense, 20–30-flowered; pedicels 5–15 mm. long, spreading-erect; bracteoles minute. *Perianth* 4–5 mm. long, regular; segments shortly united at the base, greenish-yellow with darker green stripes down back, all equal, obovate, 3–4 mm. long, 2–2.5 mm. broad. *Filaments* greenish-yellow, elliptic-oblong, 2 mm. long, bifid at the apex; anthers versatile 1 mm. long, attached at the sinus of the filament lobes. *Ovary* 1–1.5 mm. long, slightly 3-angled. *Style* about equal to ovary in length; stigma somewhat capitate.

When flowers of this species were first examined in 1927, doubt arose whether it could be included in the genus *Eriospermum* at all on account of the bifid filaments.

The late Dr. R. Marloth, a specialist on the genus at the time, reported as follows: "It is different from all others that I have seen, but some I have possess spatulate stamens with the anthers attached to a small mucro at the apex facing introrsely. There seem to be all kinds of transitional stages from the linear to the ovate, oblong, spatulate forms on to yours with an emarginate obovate filament." A. V. Duthie also makes reference to the specimens in her "Contribution to our Knowledge of the Genus *Eriospermum*" in Ann. Univ. Stellenbosch, 1940, p. 11. The filaments are more than emarginate at the apex and cannot strictly be described as obovate.

Most workers interested in the genus *Eriospermum* have pointed out the many difficulties which face one in trying to classify herbarium material. The main difficulties arise because so many species produce leaves and flowers at different times of the year, and incomplete specimens in herbaria are the rule rather than the exception.

Eriospermum zeyheri R. A. Dyer sp. nov., folio prostrato racemo leviter denso perianthi; segmentis aequalibus distinguitur.

Tuber subpyriforme usque 3 cm. crassum. *Folium* solitarium; lamina leviter carnosa, glabra, cordata vel lobis plus minusve imbricata, 5-9 cm. longa et lata, rotundata vel apiculata. *Pedunculus* erectus, 20-30 cm. longus basi bractea parva subtentus. *Racemus* densus, 8-12 cm. longus, 20-40-florus, pedicellis erecto-patentibus 5 mm. vel non-numquam usque 1 cm. longis. *Perianthemum* subcampanulatum, 4-5 mm. longum; segmenta basi breviter connata, oblanceolato-oblonga, supra medium 2-2.5 mm. lata, obtusa. *Filamenta* oblongo-elliptica, 2-2.5 mm. longa, 1.25-1.5 mm. lata, antheris oblongis 1 mm. longis. *Ovarium* 1-2 mm. longum, loculis 3-ovulatis; stylus cylindricus 1 mm. longus.

CAPE PROVINCE.—Albany Division: 6 miles from Grahamstown along road to Cradock, Sept. (leaves) and flowers added later, Dyer 557 (type in Herb. Alb. Mus.); Port Elizabeth Division: on hills near Port Elizabeth, March (flowers) Zeyher 4281.

Tuber simple, inverted, subpyriform, with a groove on one side along which the persistent petiole-like leaf bases pass, 3 cm. broad towards the growing end and narrowing to the old base which is uppermost in the ground, with a fairly tough skin, 5-7 cm. below ground. *Leaves* with soft lamina which is somewhat fleshy, glabrous, adpressed to ground, usually light green and glossy, deeply cordate or with basal lobes overlapping, about as broad as long, 5-9 cm. wide, obtuse or apiculate. *Peduncle* with short sheathing bract, 20-30 cm. tall, usually stiffly erect. *Raceme* 8-12 cm. long, dense 20-40-flowered; pedicels about 5 mm. long, spreading-erect; bracteoles minute. *Perianth* usually yellowish-green with a darker central stripe on the segments, regularly campanulate in outline; segments almost free to base, spreading with age, oblanceolate-oblong, obtuse, the outer very slightly shorter and narrower than the inner, 4-5 mm. long, 2-2.5 mm. broad. *Filaments* elliptic-oblong, 2-2.5 mm. long, 1.25-1.5 mm. broad; anthers oblong, 1 mm. long. *Ovary* 1-2 mm. long, 3-6 ovules in each ovary cell. *Style* cylindric, 1 mm. long.

The leaves of this species appear in spring and die back in summer while the inflorescences develop about March and soon mature. It is not known whether Baker had a complete specimen for study when he prepared the account of the genus for Flora Capensis Vol. 6 (1896). A specimen of *E. zeyheri* Zeyher 4281 in the National Herbarium consists of an inflorescence only and the number is cited by Baker under the species *E. bellendini*. It is certainly not conspecific with the typical plant figured in Curtis's Botanical Magazine, t. 1382 and it appears evident that Baker used the latter name as a dumping ground.

The present species is characterised by the glabrous glossy, light-green leaves pressed to the ground and the rather short dense and stiffly erect racemes of more or less regular yellowish flowers. So far it appears that the distribution is restricted to the eastern Cape, from Uitenhage and Port Elizabeth to Albany Division.

PHYTOLACCACEAE.

Psammotropha alternifolia Killick, sp. nov., affinis *P. androsaceae* Fenzl., sed habitu minore compactiore, pedunculis pauc-nodosis, foliis alternatis differt.

Herba procumbens, 2·5–6·2 cm. alta, multo-ramosa. *Folia* alterna, ramorum apicibus conferta, elliptico-oblonga, 2–3·5 mm. longa, 1–1·2 mm. lata, albomarginata, breviter mucronulata. *Pedunculi* solitarii, 0·4–1·9 cm. longi, verticillo bractearum terminale et subterminale. *Flores* umbellulati, minuti, cremeoflavi. *Pedicelli* 1 mm. longi, basi bracteolati. *Sepala* oblonga, cucullata, 1·5–2 mm. longa, 1·3 mm. lata. *Stamina* 1·5 mm. longa. *Ovarium* 3-angulatum, disco hypogyno; stylus 1 mm. longus, 3-fidus.

NATAL.—Bergville District: Mont-aux-Sources, *Mann* 2865 b, *Potts* 2971, *Hutchinson*, *Forbes* and *Verdoorn* 108; Beacon Buttress, *Galpin* 10369; near Cleft Peak, *Schelpé* 475; near Castle Buttress, *Killick* 1482 (type); Organ Pipes Pass, *Killick* 1842.

Procumbent herb, 2·5–6·2 cm. high, much branched. *Leaves* scattered alternately on the branches and tufted at the apices, elliptic-oblong, 2–3·5 mm. long, 1–1·2 mm. broad, white-margined, shortly mucronulate. *Peduncles* solitary, 0·4–1·9 cm. long, with a terminal and subterminal whorl of bracts each whorl supporting an umbellule. *Flowers* minute, cream-yellow. *Pedicels* 1 mm. long, bracteolate at base. *Sepals*

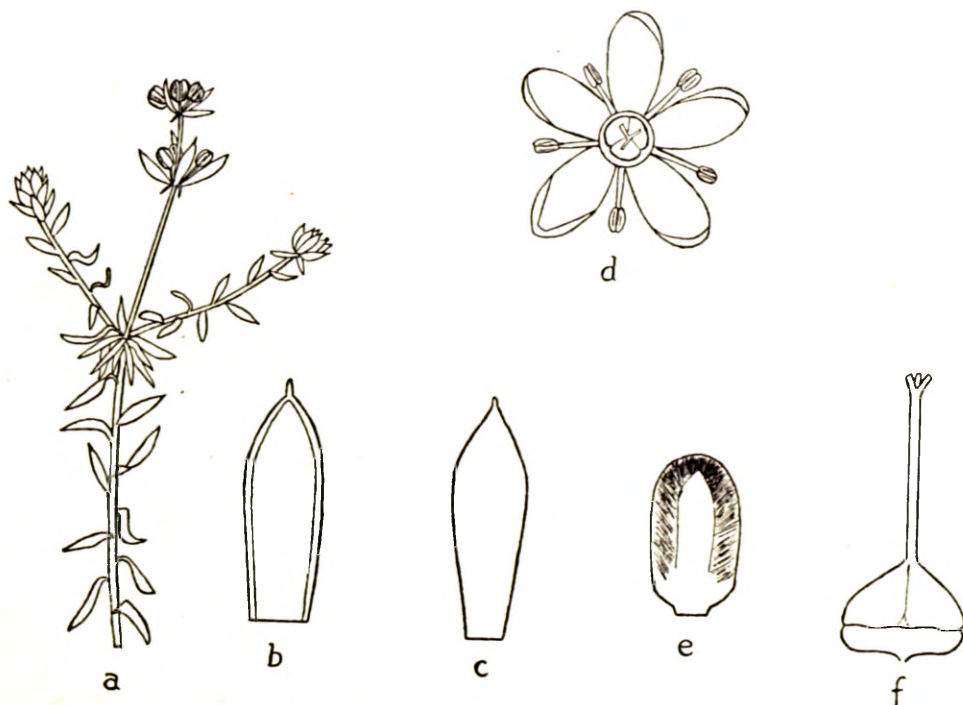


FIG. 11.—*Psammotropha alternifolia*: a, portion of flowering branch, $\times 3$; b, leaf, $\times 10$; c, bract, $\times 10$; d, flower from above, $\times 10$; e, sepal, dorsal view, $\times 10$; f, pistil and disc, $\times 20$.

oblong, cucullate, 1.5-2 mm. long, 1.3 mm. wide. *Stamens* 1.5 mm. long. *Ovary* 3-angled, situated on a saucer-shaped disc; style 1 mm. long, 3-fid.

The known range of this species on the Drakensberg is between the Organ Pipes Pass in the Cleft Peak Area and Mont-aux-Sources further north.

P. alternifolia is essentially a rock-crevice plant, but occasionally it grows in mud patches present in alpine grassveld. Like many other plants of high altitudes it has a tufted, dwarfed habit. It flowers from November to late April. In spite of its small size, it is quite conspicuous when in flower; the profusion of cream-yellow flowers makes the plant stand out strikingly against the brown of the adjacent basalt.

This species is nearest *P. androsacea* Fenzl., but can be easily distinguished by its dwarfed, compact habit, by the 2-noded peduncles and by the presence of leaves scattered alternately on the branches. It derives its name from this latter character. It also differs in that the leaves are less conspicuously mucronate.



PLATE 1.—*Tavaresia meintjesii* R. A. Dyer. [Photos *B. Meintjes*.



PLATE 2.—*Encephalartos eximius* Verdoorn, habitat on hills between Bedford and Tarkastad [Photo R. A. Dyer.



PLATE 3.—*Encephalartos eximius* Verdoorn, on hill between Bedford and Tarkastad. [Photo R. A. Dyer.



PLATE 4.—*Encephalartos eximius* Verdoorn, female cone on left, *Story* 4021; male cone on right, *Story* 4019; from plants on hills between Bedford and Tarkastad.
[Photo *H. King*.]



PLATE 5.—*Pelargonium jacobii* R. A. Dyer.



Plate 6.—*Aloe babatiensis* Christian & Verdoorn.
[Photo G. W. Reynolds.]