

TWO NEW ERICA SPECIES FROM THE DRAKENSBERG

Erica dominans Killick, sp. nov., *E. glaphyrae* Killick affinis, sed foliis adpressis, inflorescentiis plerumque terminalibus, sepalis basi manifeste imbricatis, ovario ovoideo-globoso distinguitur.

Fruticulus erectus vel suberectus, 15–45 cm altus; ramuli dense virgati, juvenes albo-tomentosi, maturi glabri. *Folia* constanter 3-nata, conferta, adpressa vel interdum nonnihil suberecta, recta, elliptica, 1.9–3.3 mm longa, 0.7–0.9 mm lata, supra plana vel concava, infra convexo-triangularia, sulcata, praeter margines petiolosque glabra, olivaceo-viridia, nitida. *Flores* in acervis cernuis terminalibus vel interdum in axillis foliorum superiorum dispositi; pedicelli recurvati, 0.7–1.8 mm longi, albo-tomentosi: bractae 2, 1 mm longae, marginibus ciliatis. *Sepala* 4, cinnamomea erubescencia vel rubra, basi manifeste imbricata, ovata, 1.1–1.2 mm longa, 0.5–0.7 mm lata (interiora saepe exterioribus angustiora et crassiora), concava, dorse carinata et in parte superiore sulcata, cartilaginea, marginibus hyalinis ciliatis. *Corolla* erubescens vel purpurata accedens (ex *Lubkeo* brunnea, sed flores speciminis ejus probabiliter veteres et sicci), cyathiformis, basi nonnihil angusta, 2.0–2.5 mm longa; tubus inter sepala ventricosus; lobi obtusi, 0.5–0.9 mm longi. *Stamina* 8, filamentis capillaribus 1 mm longis; antherae 1 mm longae, basi setis (haud caudis) 0–6 minutis instructae. *Ovarium* ovoideo-globosum, nonnunquam apice subumbonatum, glabrum, stylo tenui 1.1–1.2 mm longo, stigmatibus cyathiformi-peltato incluso vel raro exserto (in *Schweickerdtio* s.n. et *Lubkeo* 275 longe exserto).

Type: Basutoland, Quachas, summit of Drakensberg in Organ Pipes Pass area, c. 9,800 feet, 2 October 1964, *Killick* 3519 (PRE, holo.). Fig. 1: 2.

Erica dominans is probably the most common species of *Erica* on the summit of the Drakensberg between 9,800–10,500 feet and is often dominant over large areas, hence the epithet *dominans*. It is either purely dominant or co-dominant with *Helichrysum trilineatum* var. *tomentosum* in what has been described as alpine heath (*Killick*, 1963). *E. dominans* commences flowering in July, reaching a peak in October. The range of this species is along the Drakensberg from Doodmans Krans Mountain (not traceable on maps, but probably in the Mount Fletcher District) in the south to Mont aux Sources in the north with several records from the northern part of Basutoland.

BASUTOLAND.—Leribe: Butha Buthe area, Nchoatle/Khotjoane Pass, *Jacot Guillarmod* 4004; Khatibe Camp, above Tloloahatze River Valley, *Lubke* 275; Maluti Mountains, *Staples* 19; Ntibokho Valley, *Jacot Guillarmod* 296. Quachas: Tsanatalana Valley, *Killick* 1728; Organ Pipes Pass area, *Killick* 3519; 3538; 3539; 3540.

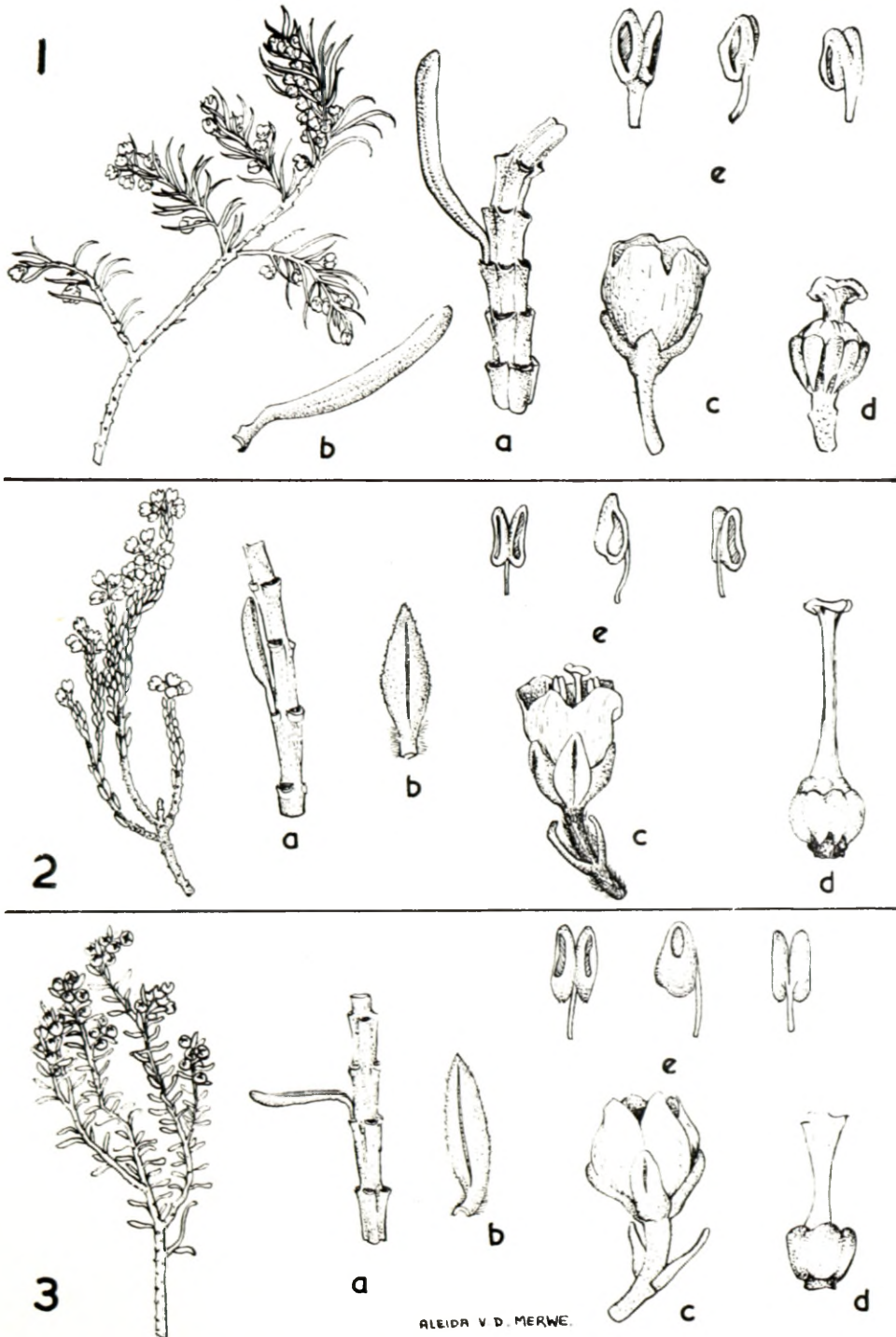


FIG. 1.—1, *Erica alticola*, flowering branch (Thode A1620). 2, *E. dominans*, flowering branch (Killick 3519). 3, *E. glaphyra*, flowering branch (Killick 3541). a, portion of branchlet with leaf, $\times 4$; b, leaf, $\times 6$; c, flower, $\times 10$; d, pistil, $\times 12$; e, stamen, anterior, lateral and dorsal views, $\times 10$.

NATAL.—Bergville: Mont aux Sources, *Edwards* 360; *Galpin* 9497; *Hutchinson, Verdoorn & Forbes* 117; *Schweickerdt* s.n.; *Sidey* 2016; Castle Butress, *Esterhuysen* 10185; Cleft Peak, *Esterhuysen* 12892; Organ Pipes Pass, *Schelpé* 847. Estcourt: Giants Castle, *Nänni* s.n. Mount Fletcher?: Doodmans Krans Mountain, *Galpin* 6764.

Below the summit of the Drakensberg, between 6,500–8,500 feet, there occurs what may prove to be a form of *E. dominans*. It is larger in all parts than typical *E. dominans*. This taxon is represented in the National Herbarium by *Killick* 3525, *Esterhuysen* 7939, 8828, 10187, 10197, 15471, 15556, 17360, 17364 and 17365. However, careful field observations with particular reference to altitudinal variation are necessary before its status can be definitely established.

Erica glaphyra *Killick*, sp. nov., *E. dominanti* *Killick* affinis, sed foliis patentibus, inflorescentiis pseudo-spicatis vel interdum terminalibus, sepalis basi plerumque liberis, ovario depresso-globoso distinguitur.

Fruticulus erectus vel suberectus, 15–50 cm altus; ramuli subvirgati, juvenes puberuli, maturi glabri. *Folia* constanter 3-nata, patentia vel interdum suberecta (sed petioli semper erecti), recta vel leviter incurvata, elliptica, 2.1–3.7 mm longa, 0.5–0.9 mm lata, supra plusminusve plana, infra convexa, sulcata, praeter margines petiolosque glabra, olivaceo-viridia vel atro-viridia, nitida. *Flores* in pseudo-spicis ad 1 cm longis vel interdum in acervis cernuis terminalibus dispositi; pedicelli recurvati, 0.8–2.5 mm longi; bractae 2, 1 mm longae, puberulae. *Sepala* 4, cinnamomea vel erubescens vel rubra, basi libera vel interdum leviter imbricata, ovata, 1.1–1.2 mm longa, 0.4–0.6 mm lata (interiora saepe exterioribus angustiora et crassiora), concava, dorsaliter carinata et in parte superiore sulcata, nonnihil cartilaginea, marginibus hyalinis nonnunquam ciliatis. *Corolla* plerumque vinosa, 1.5–2.0 mm longa, cyathiformis; tubus inter sepala ventricosus; lobi obtusi, 0.7–0.8 mm longi. *Stamina* 8, filamentis 0.8 mm longis, antheris 0.6–0.8 mm longis basi setis (haud caudis) 0.6 minutis instructis. *Ovarium* depresso-globosum, glabrum; stylus crassus 0.7–1.2 mm longus, stigmatibus cyathiformi-peltato incluso vel leviter exserto. Fig. 1: 3.

Type: Basutoland, Quachas, summit of Drakensberg in vicinity of Castle Butress, 10,000 feet, 11 July 1952, *Killick* 1729 (PRE, holo.).

Erica glaphyra is less frequent than *E. dominans* and is rarely dominant in alpine heath. In the Organ Pipes Pass area it occurs on south-facing slopes often in the shelter of boulders at the edge of the escarpment. Miss E. Esterhuysen of the Bolus Herbarium, who has made several collectings of this species in different parts of the Drakensberg records *E. glaphyra* chiefly from south- and south-west-facing slopes. It would appear to prefer the more mesic slopes—unlike *E. dominans*, which occurs on the drier north-facing slopes and on horizontal portions of the summit. The flowering periods of the two species are practically the same with *E. glaphyra* starting to flower a little later than *E. dominans*. The epithet *glaphyra* refers to the polished or glossy appearance of the plant. *E. glaphyra* has been recorded along the Drakensberg from Cathkin Peak in the south to Mont aux Sources in the north between 8,000–10,000 feet.

BASUTOLAND.—Quachas: Summit of Drakensberg, Castle Butress, *Killick* 1729; 3520; 3541; 3542; 3543.

NATAL.—Bergville: Cathedral Peak, *Esterhuysen* 15466; Cleft Peak, *Esterhuysen* 12891; Mitre, *Esterhuysen* 14538; Mont aux Sources, *Esterhuysen* 15554; The Bell, *Esterhuysen* 14467. Estcourt: Cathkin Peak, *Esterhuysen* 17359.

The two *Erica* species described above were first collected by the author in 1952, while engaged on a botanical survey of the Cathedral Peak area. In the National Herbarium the specimens collected were found to match a number of specimens determined as forms of *E. alticola* Guth. & Bol., a Transvaal species described from “near Devil’s Kantoer”. It was considered, however, that the Drakensberg material could be divided into two distinct species differing from *E. alticola*. In order to reach

TABLE 1.—Main differences between *Erica dominans*, *E. glaphyra* and *E. allicola*

Species	Branches	Pubescence: on young branches and pedicels	Leaves	Inflorescence	Bracts: number	Corolla: length mm	Sepals	Filaments	Ovary	Style: length mm
<i>E. dominans</i>	erect-suberect, virgate, crowded	tomentose	adpressed, 3-nate, straight, 1.9–3.3 mm long, convex-triangular below	usually terminal	2	2.0–2.5	equal, markedly overlapping basally, strongly cartilaginous	not broadened at apex	ovoid-globose	1.1–2.0
<i>E. glaphyra</i>	erect-suberect, subvirgate, crowded	puberulous	patent, 3-nate, straight to slightly incurved, 2.1–3.5 mm long, convex below	pseudo-spikes up to 1 cm long or sometimes terminal	2	1.5–2.0	equal, free to slightly overlapping basally, thinly cartilaginous	not broadened at apex	depressed-globose	0.7–1.25
<i>E. allicola</i>	procumbent, few, lax	faintly puberulous	suberect, 4-nate, incurved, 5–5.7 mm long, rounded below	pseudo-spike up to 2 cm long	0	1.7–1.8	unequal (sometimes 1 aborted), free basally, fleshy	broadened at apex	angular-globose	0.5–0.8

a definite conclusion, the author in October 1964 collected 100 random samples of the two species in the Organ Pipes Pass area with the object of applying some statistical test of resemblance. The specimens, together with those available of *E. alticola*, were examined and the resulting data discussed with a statistician. After careful consideration it was decided that there was no point in applying statistical tests, because the data showed so clearly the presence of three distinct entities. Some of the Drakensberg specimens examined showed evidence of hybridization. A summary of the main differences between *E. dominans*, *E. glaphyra* and *E. alticola* as revealed by the investigation is given in Table 1. See also Fig. 1.

The possibility of two such closely related species occurring in the same area may, at first sight, seem questionable: but, as already pointed out, they do occupy different ecological habitats. This is probably another example of ecological isolation, where "closely related species are kept apart by the spatial pattern which results from their differing ecological requirements" (Cain, 1944). Hybridization will occur at the ecological boundaries.

The precise position of *E. dominans* and *E. glaphyra* in the subgenus *Euerica* is difficult to establish. Although obviously closely related, they possess inflorescences which could refer them to two different sections. *E. dominans* with its usually terminal inflorescence could be placed in the section *Arsace*, while *E. glaphyra* which usually has a short pseudo-spike could be placed in *Chlorocodon*. The fact that both species sometimes have the opposite inflorescence suggests that they occupy a position intermediate between the two sections.

REFERENCES

- CAIN, S. A., 1944. *Foundations of Plant Geography*. Harper and Brothers: New York.
 KILLICK, D. J. B., 1963. An Account of the Plant Ecology of the Cathedral Peak Area of the Natal Drakensberg. *Mem. Bot. Surv. S. Afr.* 34.