

Notes on African plants

VARIOUS AUTHORS

APOCYNACEAE

A NEW SUBSPECIES OF *BRACHYSTELMA* FROM EASTERN CAPE, SOUTH AFRICA (ASCLEPIADOIDEAE–CEROPEGIEAE)

***Brachystelma franksiae* N.E.Br. subsp. *grandiflorum* A.P.Dold & Bruyns**, subsp. nov., *B. franksiae* N.E.Br. affinis sed corolla 8–11 mm longa et 10–15 mm lata, flavo-virenti; lobulis exterioribus corollae erectis non ad laterales effusis, dense hispidis differt.

TYPE.—Eastern Cape, 3327 (Peddie): Igoda Mouth, (–BB), 50 m, 09-11-2000, Dold 4425 (GRA, holo.; BOL).

Perennial, non-succulent, geophytic herb with spreading, fleshy, fusiform roots. *Stems* 1 or 2, 300–500 mm long, up to 2.5 mm thick at base, erect, sparsely branched, obscurely square in cross section, with sparse, retrorse, white hairs up to 0.4 mm long. *Leaves* ovate, 10–25 × 6–17 mm, papillate with occasional, minute, white trichomes, lower midrib and margin scabrid, spreading on setulose petiole 2–3 mm long. *Inflorescences* sessile, many per stem mainly in upper half, each with 1 or 2 flowers, extra-axillary at nodes, with 1–3 linear-lanceolate bracts, 1.5–2.0 × up to 0.4 mm at base; pedicels 8.0–10.5 mm long, up to 0.8 mm diam., spreading and holding flower facing slightly downwards; sepals lanceolate, 2.0–2.5 × 0.6–0.9 mm at base, acute, green, with small white bristles, spreading with recurved apices. *Corolla* 8–11 × 10–15 mm, lobed almost to base; outside pale green, inside pale yellow-green at base almost immediately becoming darker green and changing to yellow towards apices of lobes; tube ± absent; lobes oblong, 7–11 × 2.2–2.6 mm at maximum, broadest at base, erect to somewhat spreading, folded along midrib so that it is strongly keeled within, acute, margins with clavate, swollen hairs, 0.4–0.6 mm long. *Gyno-*

stegium up to 0.6 mm diam. at base, up to 0.4 mm high; outer corona lobes ± 1.8 × up to 0.5 mm at base, bifid almost to base, lobules white and sparsely speckled with pink, spreading-erect, densely papillate with erect, white papillae, ± 0.2 mm long; inner corona lobes linear, 2.0–2.4 × up to 0.5 mm towards base, adpressed to backs of anthers, then connivent and erect forming a column in centre over style-head, nearly twice as long as outer lobes, white with minute, dense pink speckling towards base, glabrous. *Pollinium* ellipsoidal and flattened, up to 0.3 × 0.2 mm, with insertion crest along outer edge, golden brown; corpusculum oblong, up to 0.2 mm long, brown, narrowly and transparently winged; caudicle short, narrow, brown. *Flowering time*: November to January. Figures 1; 2; 3.

Brachystelma franksiae subsp. *grandiflorum* is distinguished from the typical subsp. *franksiae* (Dyer 1980, 1983) by its larger yellow-green flowers and the orientation of the outer corona lobes (Table 1). This new subspecies is only known from Igoda Mouth, which lies ± 15 km southwest of East London (Figure 4). Here it was found at 50 m above sea level on steep, sea-facing slopes less than 200 m away from the sea, in coastal grassland dominated by *Themeda triandra*. Plants are rare, solitary and protrude just above the dense grasses, which reach a height of ± 0.5 m. At this locality they receive daily mist off the sea and this supplements the average annual rainfall of ± 500 mm which peaks in March and October (Kopke 1988). Due to the small population size and extremely small area occupied by the species we assign the IUCN (2000) category, Vulnerable (VU D2) to this subspecies. *B. franksiae* subsp. *franksiae* is found in

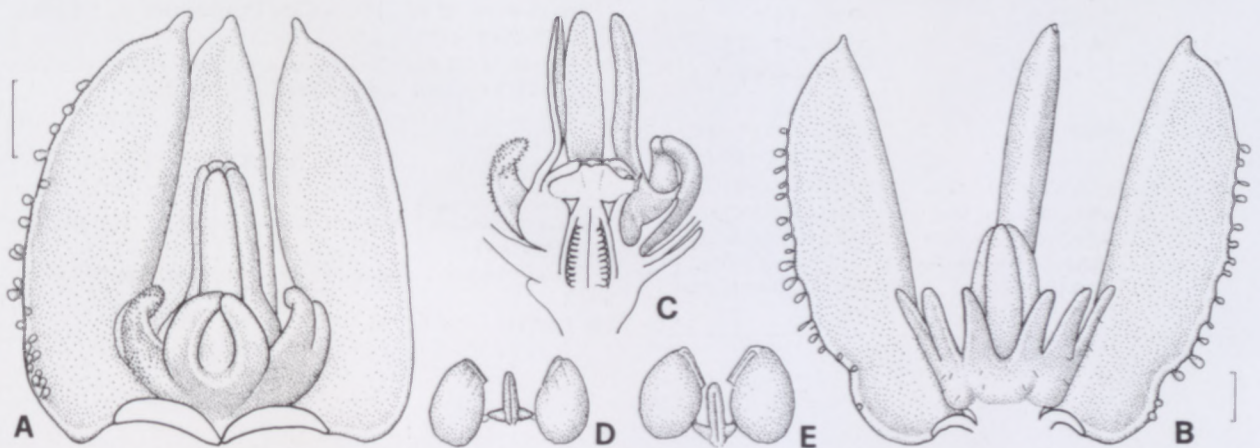


FIGURE 1.—*Brachystelma franksiae*. A, C, D, subsp. *franksiae*, Bruyns 4511: A, corolla with two lobes removed; C, base of corolla in vertical section; D, pollinarium. B, E, subsp. *grandiflorum*, Dold 4425: B, corolla with two lobes removed; E, pollinarium. Scale bars: A, C, 1 mm (at A); B, 1 mm; D, E, 0.25 mm (at A). Illustrations: P.V. Bruyns.

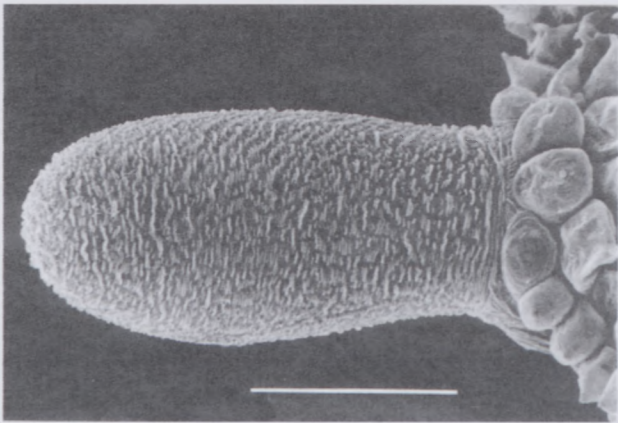


FIGURE 2.—*Brachystelma franksiae* subsp. *grandiflorum*, Dold 4425: clavate hair with verrucose surface on margin of corolla lobe. Scale bar: 100 μ m.



FIGURE 3.—*Brachystelma franksiae* subsp. *grandiflorum*, Dold 4425: flower. Scale bar: 1 mm.

TABLE 1.—Morphological differences between *Brachystelma franksiae* subspecies

	subsp. <i>franksiae</i>	subsp. <i>grandiflorum</i>
Corolla	6–7 \times up to 5 mm broad, white suffused with pink	8–11 \times 10–15 mm, base pale yellow-green becoming darker green, apices yellow
	lobes 6–7 \times up to 1.5 mm, erect	lobes 7–11 \times 2.2–2.6 mm, ascending
Corona lobes inner	white	white, minutely and densely pink-speckled
outer	\pm 1.0 \times up to 0.5 mm, white, spreading laterally (adjacent lobules from adjacent lobes connivent), sparsely papillate	\pm 1.8 \times up to 0.5 mm, white, speckled sparsely with pink, spreading-erect, not spreading laterally, densely papillate

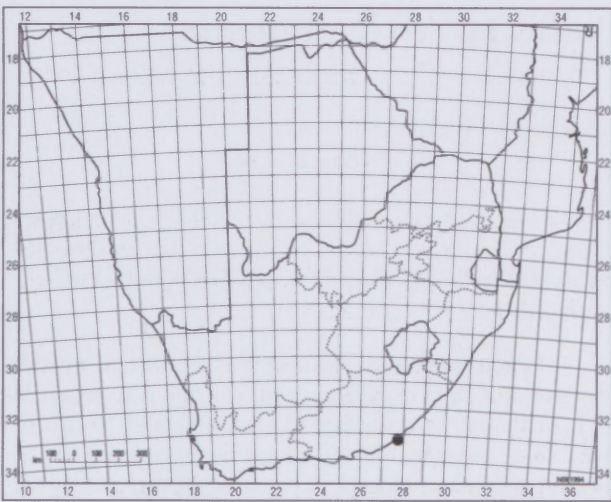


FIGURE 4.—Known distribution of *Brachystelma franksiae* subsp. *grandiflorum*, ●.

KwaZulu-Natal as far south as Port Shepstone, \pm 300 km north of Igoda Mouth.

Specimens examined

Subsp. *franksiae*

KWAZULU-NATAL.—2930 (Pietermaritzburg): Camperdown, (–DA), *Franks sub Wood 11721* (NH, holo.; PRE). 3030 (Port Shepstone): Horseshoe, (–CA), Oribi, *Bruyns 4511* (BOL).

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REFERENCES

DYER, R.A. 1980. Asclepiadaceae. *Flora of southern Africa* 27,4: 31.
DYER, R.A. 1983. *Ceropegia, Brachystelma and Riocreuxia in southern Africa*. Balkema, Rotterdam.
KOPKE, D. 1988. The climate of the eastern Cape. In M.N. Bruton & F.W. Gess, *Towards an environmental plan for the eastern Cape*. Proceedings of a conference to review the environmental problems of the Eastern Cape Province. Rhodes University, Grahamstown.
IUCN. 2000. *IUCN Red List Categories, prepared by the Species Survival Commission*. IUCN, Gland, Switzerland.

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