

AN UNUSUALLY BEAUTIFUL BRACHYSTELMA (ASCLEPIADACEAE): *B. MARITAE*, FROM TANZANIA

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During a visit by Ernst and Marita Specks to the Ruvuma Province in Tanzania during January 1993, the couple decided to climb Namchwea Hill near Lake Malawi to determine what species of plants inhabit this 1710 metre hill.

Between small rocks on a ridge near the summit, a *Brachystelma* species was observed. In common with many montane species of *Brachystelma*, these plants grew in a niche where there was minimal competition from grass for available light. Other plants present at this site included *Aeollanthus subacaulis* and other herbaceous plants. The rainfall in the area is between 800 and 1000 mm per year and falls mainly from the end of November to the end of April. At this altitude, the summers are mild, with mist often enveloping the hill. The mild moist climate results in a soil which is dark and high in humus. The majority of plants observed had not yet begun to flower, as the growing season had just commenced.

Diagnosis. *Brachystelma maritae* Peckover, sp. nov., *Brachystelma barberae* Harv. ex Hook. f. affinis, sed corone appendicibus exterioribus seriebus protuber-

ationem erectorum fimbria introrsum pilorum alborum constantibus, pollinio-indicio longo differt.

Description. *Plant* a perennial herb. *Tuber* 50–100 mm in diameter and up to 30 mm thick. *Stem* single, upright, to 30 mm long, 2–3 mm broad at base, finely pubescent, green, internodes 3–7 mm apart. *Leaves* arranged on opposite sides of the stem, obovate, 20–45 mm × 15–20 mm, decreasing in size towards the tip, well-covered with fine white hairs 0.5–1 mm long on upper and lower surface, margin entire, upper surface bright green and lower lighter. *Petiole* reduced, 12 mm × 2 mm, green, pubescent. *Flowers* borne in sets of two opposite umbels of up to 10 flowers in each, appearing as a cluster of flowers below the youngest sets of leaves, strongly scented with a pungent odour. *Bracts* 2 mm × 0.2 mm, green, pubescent. *Pedicels* 3–4 mm × 0.8 mm, each with a basal bract, pubescent. *Calyx lobes* erect, 5 mm × 0.5 mm, green, linear-lanceolate, outer surface pubescent, inner glabrous. *Corolla* 8 mm diameter, yellow with purple red spots; lobes 25–30 mm long and 1 mm wide, erect, two of them dehiscent from one another along half their length for 4–5 days whilst the others remain fused, forming a tube; tube pubescent on outer surface, bulb 5–7 mm diameter and 5–6 mm deep, purple on outside and yellow with purple spots on the inside, glabrous on



Fig. 1. A ridge near the summit of Namchwea Hill, the type-locality of *B. maritae* (Photo: E. Specks).



Fig. 2. *B. maritae* in habitat (Photo: E. Specks).

outer and inner surfaces. *Corona* reddish, 3.0–3.5 mm \times 2 mm high. *Outer corona appendages* forming the outer walls of the five nectar pouches, each having two small vertical protuberances 0.3 mm apart on either side of the nectar pouches, with two sets of white hairs pointing inwards from opposite sides of these protu-

berances. *Inner corona appendages* lying on top and partially enclosing the backs of the pollinia, glabrous. *Follicles* paired, upright, greyish green, 100 mm \times 4 mm, glabrous, each containing 20–24 seeds. *Seed* brownish black with light brown margin, 9 mm \times 3 mm; tuft 20 mm long.



Fig. 3. A cultivated plant of *B. maritae*. (Photo: R. Peckover).



Fig. 4. (a) Corona of *B. maritae*. (b) Corona of *B. barberae* (Photos: R. Dixon).

Table 1.

	<i>B. maritae</i>	<i>B. barberae</i>
Flower clusters	at every second set of leaves split forms between two corolla lobes on one side for half their length, lasting 4–5 days before all corolla lobes dehisce	usually once only at a set of leaves corolla lobes remain fused until all corolla lobes dehisce
Corolla lobes	free at their tips	joined at their tips to form a cage
Corolla bulb	cup-shaped	urn-shaped
Corona	pollinium guide long hairs on outer corona appendages outer protuberances 0.3 mm apart	pollinium guide short lacking hairs outer protuberances overlapping
Seed follicles	long and thin, 100 mm × 4 mm	short and thick, 70 mm × 20 mm
Seed	brownish black with light brown margin, 9 mm × 3 mm	greyish brown with light brown mar- gin, 12 mm × 8 mm

Type. Tanzania: 1135 AA, Namchwea Hill (Ruvuma Province), R.G. Peckover MES419 (holotypus, PRE). This new species is named for the collector, Marita Specks.

The nearest relative to *B. maritae* is *B. barberae* from the Nyanga mountains in neighbouring Zimbabwe. The major difference lies in the floral structure, with *B. maritae* having free corolla-tips, whilst in *B. barberae* these form a cage. The corolla "bulb" of *B. maritae* is reduced compared to *B. barberae*, where it is well-formed and urn-shaped. The corona structure also differs between the two species, with *B. maritae* having a long pollinium guide (where the stigmatic surface is situated) compared with a far shorter guide in *B. barberae*.

The outer corolla appendages in *B. maritae* are 0.5 mm apart and form nectar pouches and sets of upright protuberances fringed with inward-facing white hairs above the pouches. In *B. barberae*, however, the outer corolla appendages form the nectar pouches, the protuberances lack any hairs, and their tips overlap one another.

An interesting and important characteristic of *B. maritae* is the split which occurs on one side of the fused corolla lobes 4–5 days before all lobes

dehisce. The opening formed from this split resembles the tube of a cecropia and a noticeable odour emanates from it. The purpose of this adaption could be to attract flies of a certain size, which could pass through the tube to the corolla bulb and thus enact pollination. After 4–5 days, the corolla lobes dehisce and pollination by larger flies can occur. To date, the author has only observed this adaptation in *B. maritae*. Pollination in cultivation occurs relatively easily and the fertilised ovules remain in a dormant state for a month or longer before the two greyish-green follicles emerge. Seed is shed 4–5 months after follicle emergence.

Other distinct differences are contained in Table 1, an important one being the shape and size of the seed follicles. In *B. maritae* these are long and thin, whilst in *B. barberae* these have far thicker follicular walls, reminding one of *B. plocamoides*, which also grows in the surrounding area.

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