

HYACINTHACEAE

DRIMIA MONTANA (URGINEOIDEAE), A NEW SPECIES FROM EASTERN CAPE, SOUTH AFRICA

Drimia montana A.P.Dold & E.Brink, sp. nov., *D. marginatae* (Baker) Jessop affinis sed foliis numero 3–6, usque ad 80 mm longis, bracteis pedicellorum usque ad 1.4 mm longis cum calvari complanato pluteiformi usque ad 0.8 mm longo, filamentis erecto-patentibus fusiformibus flexum sigmoideum lenem externum usque ad 3.6 mm longum formantibus, ovario conico truncato trigono usque ad 2 mm longo, lineis sex longitudinalibus purpureo-guttatis angulos flavidos delineantibus, atque seminibus quinque in quoque loculo, differt.

TYPE.—Eastern Cape, 3226 (Fort Beaufort): The Hoek Farm, Groot Winterberg, 2 150 m, (–AD), 01-01-2004, *Dold 4633* (GRA, holo.).

Deciduous geophyte, colonial, ± (30–)40–60(–80) mm tall, densely aggregated in matted, cushion-forming colonies of more than 100 individuals. *Bulb* globose

to ovoid, 10–15 × 10–15 mm, hypogaeal, firm, tinged purplish within; roots many, spreading, white, fleshy, bulbiferous; inner tunic reddish purple, forming a short, loose neck; outer tunic loosely flaking, papery, greyish brown. *Leaves* (2–)3–6, linear, 15–50 × 1.0–1.5 mm (2)3–, erect, entire, somewhat flattened, ± concave adaxially, apices acute, dry and withered but persistent at flowering, glabrous, glossy green. *Inflorescence* solitary, subcapitate-racemose; peduncle slender, erect, (45–)50–60(–80) × 0.7–0.8 mm at base, with minutely white-puberulous hairs in vertical rows, dark, glossy, purple-red, swollen around and below pedicel forming a saddle-shaped, whitish cushion of tissue subtending pedicel and bract; bracts thinly flattened, up to 1.4 × 1.0 mm wide at base, loosely clasping, somewhat cupped, with a flattened, horizontal fold up to 0.8 × 0.6 mm broad at base, smooth, fawn-coloured, drying quickly but persistent; pedicels spreading-erect, (3.0–)5.0–6.0(–6.5) × 0.5–0.7 mm, dark, glossy,

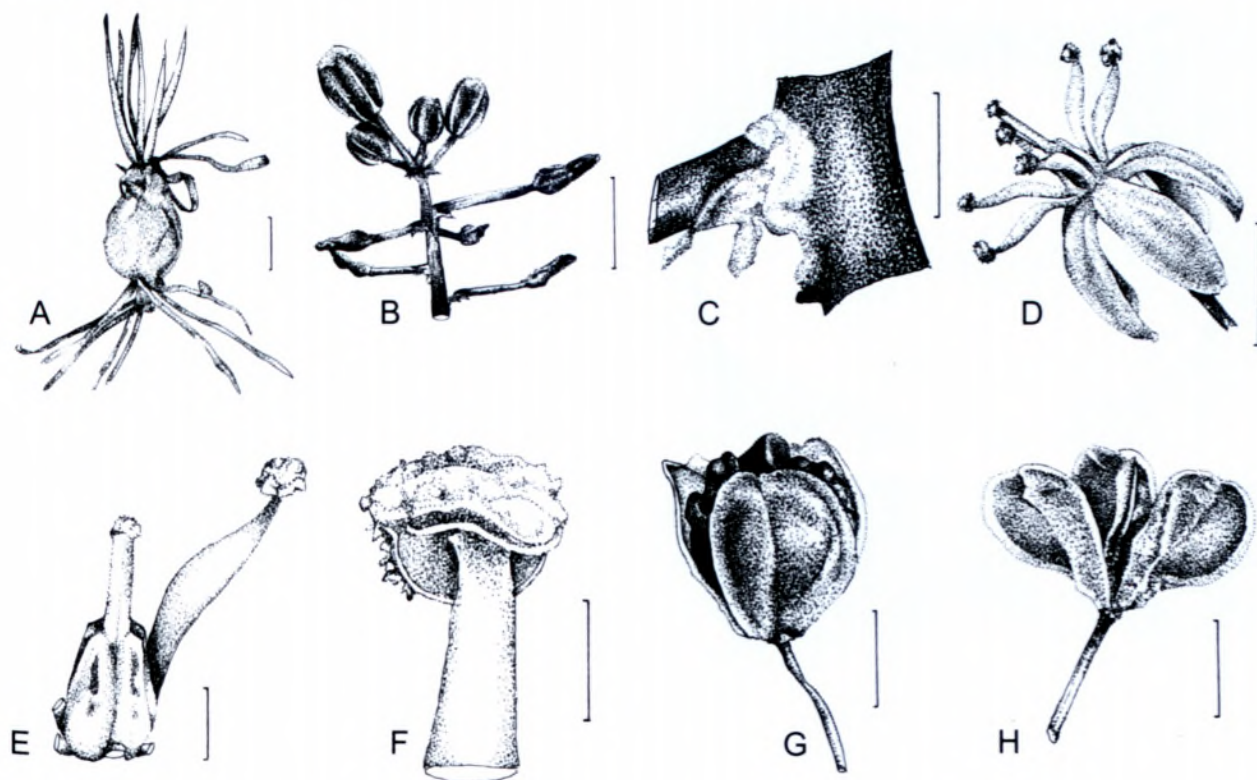


FIGURE 3.—*Drimia montana*, Dold 4633: A, plant habit; B, inflorescence; C, pedicel bract; D, perianth; E, gynoecium with a single stamen; F, anther; G, capsule; H, dehiscent capsule. Scale bars: A, B, D, G, H, 5 mm; C, E, 1 mm; F, 0.5 mm. Illustrations: L. de Wet.

purple-red, becoming erect as fruit develops; base thickened. *Flowers* (6–)8–12(–15), opening one or two per day, aborted flowers abscising 0.4 mm below insertion of tepals leaving a skirt of tissue as pedicel dries. *Perianth* reflexed, tepals elliptic, convex, 6.0–6.4 × 2.2–2.4 mm, fused for 0.8 mm at base, abaxial surface maroon with broad white recurved margins, adaxial surface white, apices truncate, penicillate. *Stamens* spreading-erect; filaments fusiform, weakly sigmoid, 3.2–3.6 × 0.8 mm, flattened, 0.6 mm thick, white; anthers broadly ovoid, bilobed, 1 × 0.7 mm diam., dorsifixed, versatile, yellow-green, dehiscent longitudinally; pollen ellipsoid, 60 × 20 µm, monosulcate, yellow. *Ovary* a truncate obtusely angled trigonous cone, up to 2.0 × 1.6 mm at base, up to 1 mm diam. at apex, white, with six longitudinal lines of purple speckling delineating yellow tinged corners; style triangular in cross section, 1.4–2.4 × 0.4 mm, white; stigma swollen, 3-angled with stalked stigmatic papillae in three rows, white. *Capsule* obovate, 8–10 × 6–8 mm, pale yellow-brown with the persistent circumscissile perianth capping apex and leaving a basal annulus, lobes spreading and twisting outwards at dehiscence, leathery with thickened margins, cream-coloured. *Seeds* ± 5 per locule, flat, oval in outline, 5–8 × 3.8–5.0 mm, up to 1.2 mm thick; testa glossy, black, shallowly reticulate; cotyledon fusiform, 4–7 × 1.0–1.2 mm, yellow. *Flowering time*: ± 14.30 to ± 19:00 each day in December to January. Figures 3, 4.

Distribution and biology: based on an ongoing study of herbarium specimens, wild populations and cultivated material of *Drimia* Jacq., *D. montana* is known to us from only two mountain peaks in the Eastern Cape (Figure 5) growing in Karroid *Merxmuellera* Mountain Veld (Acocks 1988), latterly known as South-eastern Mountain Grassland (Lubke *et al.* 1996), at ± 2 000 m. The annual

rainfall is between 450–600 mm, falling predominantly in the summer months, with severe frost and only occasional snow in winter (Lubke *et al.* 1996). The habitat of these two localities corresponds closely with each other [typical habitat is illustrated by Acocks (1988) in Figure 95: 112]. Plants form large mats, up to 0.5 m in diameter, of densely aggregated bulbs on flat, exposed sandstone rock slabs where, together with several dwarf succulent species, they are partly concealed by lichen and moss. Associated species include *Cheilanthes hirta*, *Crassula corallina*, *Euphorbia aggregata*, *E. epicyparissias*, *Felicia filifolia*, *Melolobium candicans*, and *Pelargonium aridum*. Plants are dormant for two to three weeks in late January. It is likely that *D. montana* occurs elsewhere on the Stormberg and Winterberg where the inaccessible habitat is under no immediate threat.

Diagnosis and relationships: following Goldblatt & Manning (2000), *D. montana* falls within the *Urginea* group of the genus *Drimia* within the Urgineoideae, Hyacinthaceae. The new species appears to be related to the *D. depressa* alliance comprising *D. depressa*, *D. marginata* and *D. sphaerocephala*, all with ± capitate inflorescences. The last two named species have corresponding recurved tepals (Jessop 1977), a character previously used to separate *Drimia* from *Urginea* (Baker 1897; Mauve 1976), but they are separated by less distinct characters including the length of the pedicel bracts. The new species is, however, clearly differentiated by its dwarf habit, the small pedicel bract with flattened horizontal fold, the fusiform, weakly sigmoid filaments and the truncate, trigonous ovary with distinct purple and yellow markings. In addition, the presence of bulbils forming at the base of the bulb and along the roots, appears to be an unusual character within the genus.

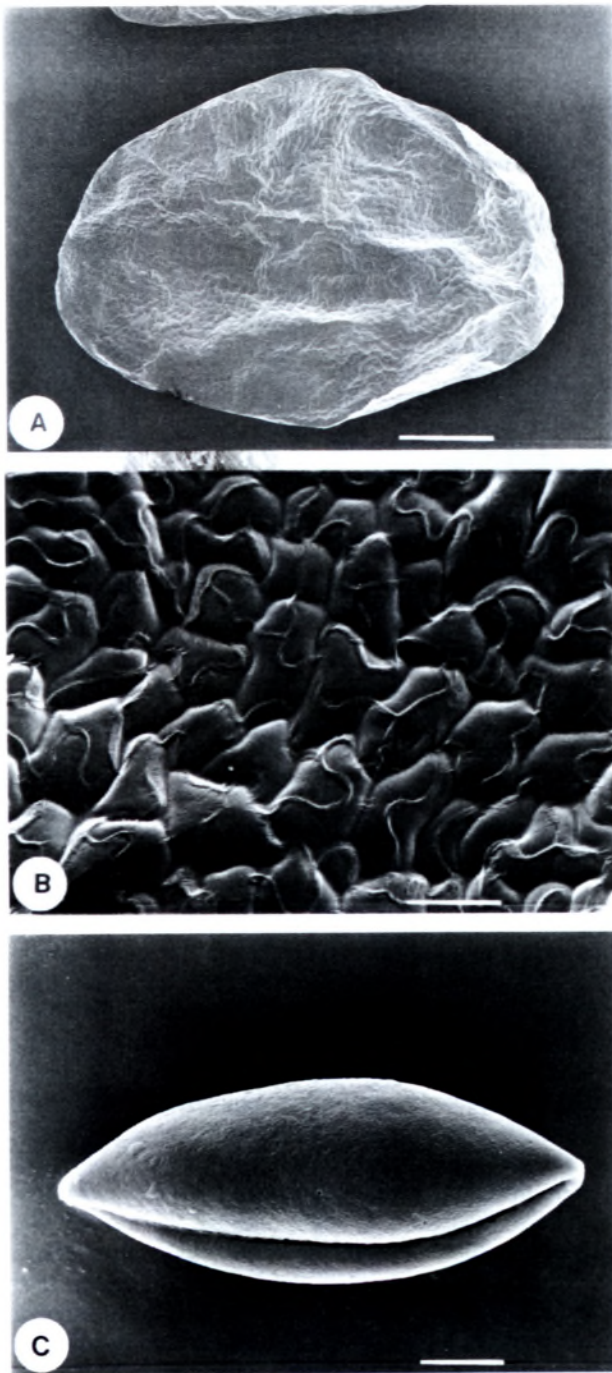


FIGURE 4.—*Drimia montana*, Dold 4633: A, seed; B, seed testa; C, pollen. Scale bars: A, 1 mm; B, 100 μ m; C, 10 μ m.

Additional material examined

EASTERN CAPE.—3126 (Queenstown): summit of Andriesberg, Carnarvon Estate, Black Eagle Nature Reserve, 1 885 m, (–DA), 15-12-2002, *Dold & Cocks 4700* (GRA).

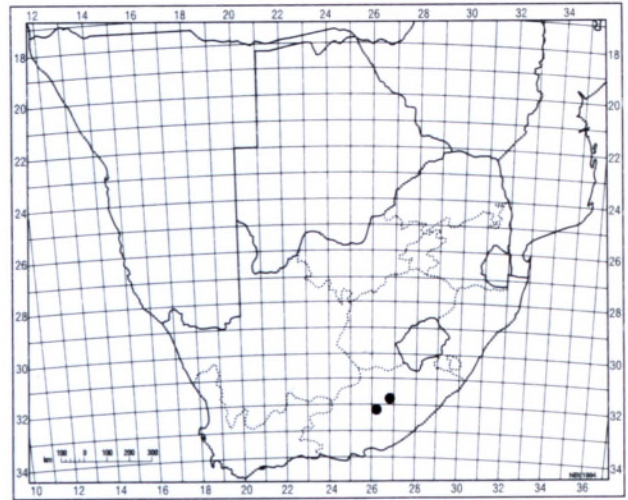


FIGURE 5.—Known distribution of *Drimia montana*.

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