

A REVISION OF GALTONIA (LILIACEAE)

O. M. HILLIARD & B. L. BURTT

ABSTRACT. *Galtonia* comprises four species found in Natal and adjacent areas. *G. princeps* (at 60-1200m in wet grassland or marsh): greenish-cream flowers with the tips of the petals wide-spreading and a distinct torus below the capsule; this is absent in other species. *G. candicans* (at 1350-2150m in damp open grassland): flowers pure white when fully open and less spreading tepals. *G. regalis* (at 1830-3000m on wet cliffs): greenish-cream flowers and the only species with a distinct median ridge down the inner face of the filament. *G. viridiflora* (at 2100-2490m in slightly drier habitats): green flowers lacking the cream tinge, and leaves shorter and broader and more sharply pointed than in other species and distinctly glaucous.

J. G. Baker (1870) originally described both *Galtonia candicans* and *G. princeps* (placing them in *Hyacinthus*) from living material: his descriptions, and W. H. Fitch's accompanying illustrations made the differences perfectly clear. *G. princeps* has a greenish (rather than pure white) perianth and the lobes are more widely spreading; furthermore there is a well-marked torus below the ovary. However, when Baker wrote the account for *Flora Capensis* (Baker, 1897), he included under *G. candicans* herbarium specimens that we now know belong to two other species. One of these was recognized as distinct by Dr I. C. Verdoorn when it was introduced to cultivation in South Africa and she described it as *G. viridiflora* (Verdoorn, 1955). The distinguishing characters of *G. viridiflora* were its wider, more pointed, leaves and the pale green flowers, smaller than those of *G. candicans* and differing from *G. princeps* in having the perianth lobes longer than the tube. These characters apply well enough to the type material, but some of the other specimens cited belong to the fourth species. This, recently described as *G. regalis*, we recognized as a species unknown to us when we first collected it in the Tugela gorge, Royal Natal National Park: we had already seen the other three species in the field. It differs from *G. viridiflora* in its creamy-green, not clear green, flowers, in its strap-shaped dark or bright green (not glaucous) leaves and in having a distinct ridge down the inner face of each filament. *G. candicans* also lacks this ridge, but is distinguished at sight by its snowy-white flowers. Finally it must be mentioned that *G. candicans* and *G. princeps* have recently been confounded in the Pretoria herbarium, and *G. princeps* has actually been merged with *G. candicans* (Gibbs Russell *et al.*, 1985:102). This is quite wrong: the differences observed by Baker are perfectly sound. Thus the study of dried material has hitherto contributed little but confusion to the classification of *Galtonia*. This need not have been so, for the torus below the ovary of *G. princeps* and the ridge on the filament of *G. regalis* are characters that can be seen quite well in herbarium specimens.

Confirmation that the four species recognized above really are distinct is provided by differences in their altitudinal ranges and habitats. *G. princeps* is found in Natal and Transkei from 60-1200m and grows in wet grassland or marshy ground; *G. candicans* is found between 1350 and 2150m in the Drakensberg in open damp grassland, often in grassy

hollows on hill-slopes; *G. regalis* is found on wet shady cliffs of the Drakensberg escarpment, while *G. viridiflora* is found above the escarpment and although at no higher altitudes it is in somewhat drier habitats. *G. regalis* and *G. candicans* are sympatric in that the former grows on the cliffs, the latter on grass slopes perhaps no more than a mile away; in general, however, there is a spatial separation between the species: the geographical pattern is shown in Fig. 1.

The two original species of *Galtonia* were first placed in *Hyacinthus* by Baker. Shortly afterwards the French botanist Decaisne transferred them to a new genus *Galtonia*, named after Francis (later Sir Francis) Galton who had published a book on his travels in South Africa. This book must have impressed Decaisne very greatly for him to name the new genus after Galton, whose travels were wholly in the western part of South Africa and who can never have seen either species in the wild. Galton is, of course, best known for his founding work on fingerprints, eugenics and biometrics.

It is worth mentioning that neither *G. candicans* nor *G. princeps* was the first species of *Galtonia* to be collected. *G. viridiflora* was found on the Witteberg in the E Cape (Lady Grey distr.) by J. F. Drège early in 1833. His specimen was distributed as *Ornithogalum* 8529 and was misdetermined as *G. candicans* by Baker (1897).

One other species has been placed in *Galtonia*, *G. clavata* Baker. However this plant differs from the other species of the genus in having a slightly curved perianth tube, which is a little swollen at the base (suggesting the epithet *clavata*), stamens arising at the mouth of the tube and numerous ovoid, not flattened, seeds. It is now classified in a separate genus, *Pseudogaltonia* O. Kuntze. It is restricted to Namaqualand and Namibia.

Galtonia Decaisne in Fl. Serres 23:32 (1880); Benth. & Hook. f., Gen. Pl. 3:809 (1883); Baker in Thiselton-Dyer, Fl. Cap. 6:450 (1897); Krause in Engler & Prantl, Nat. Pflanzenfam. 2 Aufl. 15a: 340 (1930); Phillips, Gen. S. Afr. Fl. Pl. ed. 2, 189 (1951); Dyer, Gen. Southern Afr. Fl. Pl. 2: 933 (1976).

Lectotype: *G. candicans* (Baker) Decne.—Phillips, Gen. S. Afr. Fl. Pl. ed. 2, 190 (1951).

Large glabrous geophytes with tunicated bulbs. *Leaves* 3–8, basal, lorate to elliptic, somewhat succulent, firm or flaccid. *Scapes* usually solitary, occasionally two, from each bulb, central, terete, terminating in a simple many-flowered raceme. *Bracts* large, lanceolate, acuminate, membranous. *Pedicels* patent, tips curving downwards in flower, upwards in fruit. *Perianth* white, creamy yellow tinged green or pale green, thick-textured, drying membranous, persistent and splitting down one side to accommodate the enlarging capsule; tube cylindric; lobes slightly shorter to slightly longer than the tube, narrowly to widely spreading. *Stamens* 6, biseriate, inserted on the corolla-tube, included; filaments terete to flat; anthers versatile; pollen ellipsoid when dry. *Ovary* cylindric to ovoid, trisulcate, sessile or very shortly stipitate; ovules axile, many; style terete; stigma capitate, 3-lobed, papillose. *Septal nectaries* present. *Capsule* erect, cylindric or elongate-conical, 3-angled, loculicidal, thickly chartaceous;

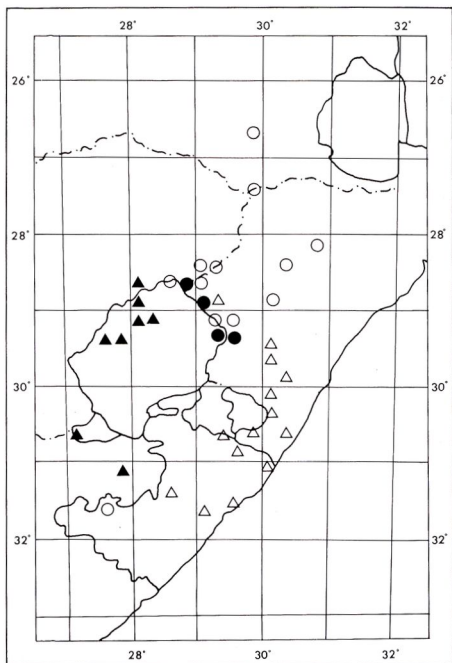


FIG. 1. Distribution of *Galtonia*: ○ *G. candicans*; ● *G. candicans* & *G. regalis*; △ *G. princeps*; ▲ *G. viridiflora*.

seeds halfmoon-shaped, compressed, narrowly winged or angled, black, glossy.

Four species. South-east Africa: southernmost Transvaal, Orange Free State, Lesotho, Natal, Transkei, E Cape. Alt. 60 to 2700m.

KEY TO SPECIES

- 1a. Perianth lobes recurved-spreading in upper part, shorter than or equal to tube; capsule (and often the ovary) raised on a small torus, 3–3.5cm long, \pm cylindric **1. *G. princeps***
- 1b. Perianth lobes slightly spreading, longer than the tube; ovary and capsule sessile **2**
- 2a. Perianth pure white, except at base; capsule \pm cylindric, 3.5–4.5cm long, abruptly contracted at apex **2. *G. candicans***
- 2b. Perianth greenish-cream or greenish; capsule \pm conical, narrowed upwards from below the middle, c.2.5–3.5cm long **3**
- 3a. Filaments flattened with a median ridge on the inner face, broadly expanded at base; leaves bright or dark green, c.3–7cm broad, \pm lorate; perianth greenish-cream **3. *G. regalis***
- 3b. Filaments \pm terete above, scarcely expanded at base; leaves somewhat glaucous, 6.5–10cm broad, sharply tapered to apex; perianth greenish **4. *G. viridiflora***

1. *Galtonia princeps* (Baker) Decne. in Fl. Serres 23:33 (1880); Baker in Thistelton-Dyer, Fl. Cap. 6:451 (1897); Wright in Bot. Mag. t. 8533 (1914). Fig. 2B.

Type: Cult. in Hort. Reg. Bot. Kew, 1858 (K).

Syn.: *Hyacinthus princeps* Baker in Saunders, Bot. Refug. 3: t. 175 (1870).

Bulb c.2.5–5 \times 2–4cm. *Leaves* 4–7, c.45–90 \times 2.7–5cm, lorate, tapering very gradually to the apex, erect, green. *Scapes* c.50–100cm tall excluding the raceme, 7–10mm diam. *Bracts* 20–45 \times 8–13mm, diminishing in size upwards. *Pedicels* 25–70mm long. *Flowers* c.12–30 borne in a raceme 20–45cm long; tube pale green, lobes pale creamy-green with a pale green median band running up the backs of the lobes. *Perianth* tube 12–23 \times 7–10mm; lobes spreading widely, outer 11–17 \times 5–9mm, elliptic, contracted to a very small recurved apiculus, inner 10–14 \times 8–11.5mm, subrotund, apex with a very small recurved apiculus. *Filaments* inserted near the base of the tube, 15–18mm long, compressed, c.1.25mm across midway, tapering to the apex, base briefly and abruptly expanded, c.2–3mm broad, sometimes developed into two distinct auricles. *Anthers* 6–7mm long (3–4mm when dry). *Ovary* 11–13.5 \times 4.5–5mm, cylindric, with a c.2mm long torus sometimes invisible at anthesis but quickly developing as the flower withers, green; style c.9mm long, trisulcate, white, stigma 1–2 \times 1–2mm. *Capsules* 24–35 \times 10–12mm, cylindric, obtuse, base abruptly contracted into a c.2mm long torus. *Seeds* c.5 \times 2mm.

NATAL. Bergville distr., 2829 CD, Magangangozi river on way to Cathedral Peak, 10 ii 1984, Schrire 1619 (NH, PRE). Pietermaritzburg distr., 2930 AC, near Howick, xii 1885, Stainbank sub NH 3311 (NH); 2930 AD, Richmond road at Umlaas river bridge, 28 xi 1984, Hilliard &

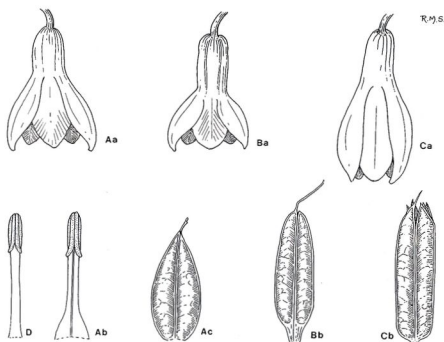


FIG. 2. A. *Galtonia regalis*: a, flower $\times 1$; b, stamen $\times 3$; c, capsule $\times 1$. B. *G. princeps*: a, flower $\times 1$; b, capsule $\times 1$. C. *G. candicans*: a, flower $\times 1$; b, capsule $\times 1$. D. *G. viridiflora*, stamen $\times 3$. All from living material except D (dried).

Burt 17733. Mpendhle distr., 2930 CA, Elandskop, 12 i 1948, Thomas 49 (NU); roadside between Underberg and Bulwer, 7 xii 1941, Haysom 58 (NU). Richmond distr., Byrne, Keerom, 30 xi 1972, Strey 11054 (NH); Enon Estate, 16 xi 1963, Hilliard 2035 (NU). Ixopo distr., 3030 AA, 1 mile from Ixopo, 4 ii 1965, Strey 6126 (NU, PRE); on Comrie-Eastwolds road, 30 xi 1976, Shirley s.n. (NU). Alfred distr., Harding, xii 1928, Oliver 55 (NH); 3029 DB, farm Rooivaal, 2 iii 1983 (fruiting only), flowered 1984 in RBG Edinburgh, Hilliard & Burt 16750 (E, NU); *ibidem*, seed only, flowered in RBG Edinburgh 1984, Hilliard & Burt 16746 (E); 3029 CB, Kokstad, 5000ft, Mogg 2122 (PRE). Port Shepstone distr., 3030 AC, 50km from Umtentweni to Highflats, 6 i 1981, Schrire 579 (NH); 3130 AA, Port Edward, near police station, 26 x 1962, Strey 4516 (K, NH, PRE); 3030 CB, 7km from St Faith's Mission on road to Highflats, 6 i 1981, Germishuizen 1792 (PRE).

TRANSKEI. 3029 DC, Fort Donald, 4000ft, xii 1883, Tyson 1665 (PRE); 3128 BC, near Umtata, hill above Mhlahlane Forest Station, seed only, flowered 1984 in RBG Edinburgh, Hilliard & Burt 16349 (E); Kambi Forest, xi 1929, Abernethy 2160 (PRE); Bazeia, Baur 23 (K); 3129 DA Mateku, Dakane Location, 2 xi 1970, Strey 10199 (NU, PRE); 3129 CA between Mlengane and Libode, c.2500ft, 20 xii 1944, Acocks 10968 (PRE).

Galtonia princeps is essentially a plant of marshy places along streams, but it also grows in damp places among rocks, flowering between

November and February. It ranges from central Natal to southern Transkei, from near sea-level to c.1250m, and thus occurs mostly at lower altitudes than *G. candicans*. In South Africa, in recent years, *G. princeps* has been confused with *G. candicans*, but even dried specimens are easily distinguished by the perianth tube being longer than or equal to the lobes, as well as in absolute differences in the size of the perianth lobes; also, the capsules of *G. candicans* are sessile whereas those of *G. princeps* have a short torus. Living plants look quite different from one another: the flowers of *G. candicans* are essentially white and the perianth lobes scarcely spread; those of *G. princeps* are creamy or pale green, and the lobes spread widely.

2. *Galtonia candicans* (Baker) Decne. in Fl. Serres 23:33 (1880); Baker in Thiselton-Dyer, Fl. Cap. 6:451 (1897) p.p.; Wood, Natal Plants 6(3) t. 568 (1911) p.p.; Trauseld, Wild flowers of the Natal Drakensberg 19 (1969); Pearse, Mountain splendour 48, 49(2) (1978); Batten, Flow. Southern Afr. 182 cum tab. (1986). Fig. 2C.

Type: Cult. hort. W. W. Saunders, Reigate from bulbs collected by T. Cooper (no specimen found).

Syn.: *Hyacinthus candicans* Bak. in Saunders, Refug. Bot. 3: t. 174 (1870); Van Houtte, Fl. Serres 21:47, t. 2172-3 (1875).

Bulbs 2-3.5 × 1.5-3.5cm. *Leaves* 3-8, c.40-150 × 2-7.7cm, lorate, tapering very gradually to the apex, erect, green to slightly glaucous. *Scapes* c.50-100cm tall excluding raceme, 1-2cm diam. *Bracts* 25-75 × 10-20mm, diminishing in size upwards, the whole range possibly present in a single raceme. *Pedicels* 3-8.5cm long. *Flowers* c.18-55 borne in a raceme 35-65cm long, pure white or the tube pale green outside with a very pale green median band running up the back of each perianth lobe. *Perianth* tube 12-20 × 10-12mm; lobes scarcely spreading, outer 20-26 × 9-12mm, oblong, contracted to a very small recurved apiculus, inner 18-22 × 14-14.5mm, subrotund contracted below into a short claw, apex rounded with a very small recurved apiculus. *Filaments* inserted about halfway up the tube, c.18-19mm long, ± compressed (elliptic in section), c.1.25mm broad midway, tapering to the apex, base briefly and abruptly expanded, c.3-4mm broad. *Anthers* c.3-6mm long, greyish. *Ovary* 11-15 × 4.5mm, cylindric, sessile, green; style 11-12mm long, trisulcate, white; stigma c.2mm across. *Capsules* c.30-45 × 10-14mm, cylindric, sessile, obtuse. *Seeds* c.5 × 3mm.

TRANSVAAL. 2729 DB, Ermelo, i 1909, Collins TM 6829 (PRE). Volksrust distr., 2729 BD, Volksrust, xii 1936, van der Merwe 1104 (K, PRE). Wakkerstroom distr., 2730 AC, Honeymoon Kloof, 20 i 1930, Galpin 9875 (K, PRE); farm Oshoek, 5500-7000ft, 4 i 1961, Devenish 516 (K, PRE).

ORANGE FREE STATE. Bethlehem distr., 2828 DA, Golden Gate Highland Park, 18 i 1966, Liebenberg 7562 (K, PRE). 2828 DB, Witzieshoek, ii 1917, Junod TM 17429 (PRE). Harrismith distr., 2829 AC, Harrismith, i 1905, Sankey 296 (K); Drakensberg Botanic Garden, 9 ii 1978, Jacobsz 2209 (PRE); mountain areas Nelson's Kop, 1862, Cooper 3285 (K).

NATAL. Newcastle distr., 2729 DB, valley of Buffalo River, 5-6000ft, 9 i 1884, Wood 5206 (PRE). Helpmekaar distr., 2830 AD, 4 i 1955, Schroeder

14 (NU). Nqutu distr., 2830 BB, 5 miles E of Nqutu, 14 i 1953, *Codd* 7682 (K, NH, NU, PRE). Klip River distr., 2829 AD, Van Reenen's Pass, i 1960, *Germishuizen* 21 (K); 30½ miles NW Ladysmith, 22 iii 1954, *Marais* 335 (K, PRE). Bergville distr., 2829 CA, Oliviershoek, 16 i 1886, *Wood* 3498 (K, NH); 2828 DB, Royal Natal National Park, Devil's Hoek valley, 4 ii 1982, *Hilliard & Burt* 15421 (E, NU); Tugela valley, 15 ii 1926, *Bayer & McClean* 89 (K, PRE). Drakensberg, 1862, *Cooper* 3624 (E); 2829 CC, Cathedral Peak area, i 1944, *Schelte* 380 (NU). Weenen distr., 2830 CC, Weenen Delta, 12 i 1912, *Rudatis* 1567 (E, K). Estcourt distr., 2929 AB, Champagne Castle, i 1949, *McBean* 30 (NU); Cathkin Park, 4 iii 1946, *Howlett* 100 (NH, PRE); 2929 BA, Ulundi [Tabamhlope], i 1895, *Evans* 515A (NH); 2829 AD, Giant's Castle Game Reserve, Pines area, 30 i 1968, *Trauseld* 968 (NU, PRE); Bushman's River, 6000ft, ii 1915, *Symons* 432 (PRE). Mpendhle distr., 2929 BC, Loteni Nature Reserve, 13 i 1979, *Phelan* 261 (NU).

TRANSKEI. 3127 DA, Cala, ii 1893, *Sim* sub NU 605 (fls. NU, leaf PRE).

Galtonia candicans ranges from the south eastern Transvaal (Ermelo, Wakkerstroom and Volksrust) through the western part of Natal as far as the valley of the Loteni in Mpendhle distr. Then there is a striking discontinuity to Cala in the SW part of the Transkei, where it was collected by T. R. Sim in 1893. There are, unfortunately, no habitat notes to confirm that it was native there, and the possibility that this was a cultivated specimen cannot be ruled out. Nevertheless it must be emphasized that Transkei has not been well-explored botanically.

N. E. Brown (1881) recorded that he had had a first-hand report on the discovery of *Galtonia candicans* from Thomas Cooper (Brown's father-in-law). It was found in loose silty soil at the side of a stream in the foothills of DeBeer's Pass, which is in the Klip River district of Natal to the north-east of the better known Van Reenen's Pass which now carries the main road.

The plants favour damp grassy hollows on mountain slopes, often among coarse grasses and bushes at the margin of a forest patch, and ranges from c.1350 to 2150m above sea-level, flowering between December and February. The flowers are either pure white or the backs of the perianth lobes may be tinged with palest green. The lobes are scarcely spreading, which is in sharp contrast to the greenish-flowered *G. princeps* where they flare out.

3. *Galtonia regalis* Hilliard & Burt in Notes RBG Edinb. 43:369 (1986). Fig. 2A.

Type: Natal, 2828 DB, Bergville distr., Royal Natal National Park, Tugela gorge, c.6100ft, 2 ii 1982, *Hilliard & Burt* 15382 (E holo., NU iso.).

Bulb c.7 × 6cm. *Leaves* 6–9, c. 15–55 × 3–7cm, lorate, tapering abruptly or more gradually, lax, green. *Scapes* 30–51cm tall excluding raceme, 3–8mm diam. *Bracts* 20–55 × 3–12mm, decreasing in size upwards, lanceolate-acuminate. *Pedicels* 15–35mm long. *Flowers* c.8–30 borne in a raceme 10–30cm long, pale creamy yellow, the tube greenish, or wholly greenish-cream. *Perianth* tube 10–14 × c.8mm; lobes spreading, outer

13–25 × 5.5–9mm, elliptic, inner 12–22 × 6–13mm, oblong, all with a very small recurved apiculus. *Filaments* inserted in upper half of tube, c.9–10mm long, compressed (elliptic in section) with a distinct median ridge on the inner face, tapering to the apex, base strongly expanded, c.2–3mm broad. *Anthems* c.5mm long, brownish. *Ovary* c.10–12 × 4–5mm, cylindric, sessile, green; style c.7mm long, white; stigma c.1.5 × 1.5mm. *Capsule* c.25–35mm long, 10–15mm broad at the base, ± conical, acute. *Seeds* c.5–6 × 3mm.

NATAL. Estcourt distr., 2829 AD, Giant's Castle Game Reserve, 8–9000ft, xii 1914, *Symons* 268 (PRE); ibidem, 7600ft, 4 i 1967, *Trauseld* 714 (PRE). LESOTHO. Butha Buthe distr., Khatibe Camp, 2 miles from Oxbow, 9000ft, 21 i 1962, *Lubke* 270 (PRE).

The records given above are additional to those cited with our original description of the plant. The full distribution is shown in Fig. 1.

G. regalis appears to be very nearly confined to Natal where it ranges along the face of the Drakensberg from Royal Natal National Park in the north to the upper Hlatimba Pass in the south, between about 1770 and 3000m above sea-level. The sole record from Lesotho came from near Oxbow on a very wet cliff face. This is the favoured habitat of the species. At Royal Natal National Park the plant is common on wet shady cliffs in the Tugela Gorge, and we have also seen it on Dooley. On the upper Loteni it is on more open cliffs above the river; we have also found it on grassy cliffs, but never forming the big colonies seen on the barer rock faces. Flowering takes place in January and February.

The plant has been confounded with *G. viridiflora* ever since that species was first described. Living plants are easily distinguished by the green, rather floppy, leaves of *G. regalis* in contrast to the glaucous erect ones of *G. viridiflora*; its flowers are pale creamy yellow with a touch of green rather than the light green of *G. viridiflora* and the latter will be found in somewhat drier habitats.

Dried material may be most easily distinguished by examination of the filaments: in *G. regalis* they are flattened throughout with a distinct median ridge on the inner face and they are strongly expanded at the base (Fig. 2Ab); in *G. viridiflora* they are terete above, flattened below and may or may not be slightly expanded at the base (Fig. 2D).

G. regalis has twice appeared as *G. viridiflora* in popular books on the flowers of the Natal Drakensberg. These are, Trauseld, *Wild Flowers of the Natal Drakensberg* (1969:19), and Pearse, *Mountain Splendour* (1978:48, 49 & photograph no. 3).

4. *Galtonia viridiflora* Verdoorn in Flow. Pl. Afr. 30, t. 1188 (1955), excluding specimens from Natal. Fig. 2D.

Type: Orange Free State, Witteberg, Boddam-Whetham in Nat. Herb. Pretoria No. 28296 (PRE).

Bulb 3–5 × 4–5cm. *Leaves* 4–6, c.15–38 × 4.5–10cm, elliptic, at least the outer tapering rather abruptly to the acute tip, erect, glaucous. *Scapes* 30–50cm tall, excluding the raceme, 6–8mm diam. *Bracts* 18–55 × 6–12mm, decreasing in size upwards, lanceolate-acuminate. *Pedicels* 25–50mm long. *Flowers* c.10–30 borne in a raceme 9–30cm long, pale green. *Perianth* tube

9–15 × 6–8mm; lobes spreading, outer 15–20(–25) × 4–8(–10)mm, elliptic, acute, inner 13–19(–23) × 3.5–8(–9)mm, elliptic, obtuse, all with a very small recurved apiculus. *Filaments* inserted in upper half of perianth tube, 8mm long, up to 1mm wide at base and there flattened, terete above and tapering gradually upwards. *Anthems* c.4–6mm long. *Ovary* 10–14 × 4–5mm, cylindric, sessile, green; style 8–8.5mm long, white; stigma c.1 × 1mm. *Capsule* 25–35mm long, c.14–15mm broad at the base, conical, acute. *Seeds* c.5 × 3mm.

ORANGE FREE STATE. 2828 CA, Fouriesburg, Paterimo, 8000ft, 6 ii 1970, *Stam* 121 (PRE).

LESOTHO. Berea distr., 2928 AA, Nsututse, 8000ft, 2 i 1949, *Jacot Guillarmod* 1245 (PRE); Nsututse Pass, 22 i 1957, *Marais* 1325 (PRE); 2928 AB, Bokong river, 7600ft, 9 i 1955, *Coetzee* 516 (PRE). Maseru distr., 2927 BD, Molimo Nthuse Pass, c.7000ft, 12 i 1979, *Hilliard & Burt* 12077 (E, NU); Bushmen's Pass, ii 1977, *Schmitz* 7227 (PRE). Butha Buthe distr., 2828 CC, above Soloane, 8300ft, 9 i 1960, *Jacot Guillarmod* 3899 (PRE).

CAPE. Barkly East distr., (?) Barkly Pass, Kraalberg, c.7000ft, i 1906, *Ratray* 7282 (PRE). [Lady Grey distr.] 3027 CA, Witteberg, *Drège* 8529 (E, K).

Galtonia viridiflora ranges from the Orange Free State Witteberg across the highlands of Lesotho to the Witteberg of the north-eastern Cape. Ratray collected a number of interesting plants on 'Kraalberg', near Barkly Pass and they were enumerated by Galpin in his list of plants collected on Ben McDhui and nearby (Galpin, 1909). Unfortunately, despite many inquiries in the neighbourhood, 'Kraalberg' has not yet been precisely located.

Galtonia viridiflora favours drier habitats than does *G. regalis*, and will be found on dry cliffs and on the steep rubbly slopes below them between 2100 and 2500m above sea-level. It flowers mainly in January.

SPECIES EXCLUDENDA

Galtonia clavata Baker in Bot. Mag. t. 6885 (1 July 1886) & in Thiselton-Dyer, Fl. Cap. 6: 451 (1897) = *Pseudogaltonia clavata* (Baker) Phill. in Fl. Pl. S. Afr. 15: t. 580 (1935); Merxm., Prod. Fl. SWA fam. 147: 64 (1970).

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