

## Five new species of *Lachenalia* (Hyacinthaceae) from arid areas of Namibia and South Africa

G.D. DUNCAN\*

**Keywords:** Hyacinthaceae, *Lachenalia*, Namibia, new species, South Africa

### ABSTRACT

Five new species of *Lachenalia* are described: *L. nutans* G.D.Duncan from southwestern Namibia, *L. attenuata* W.F.Barker ex G.D.Duncan from the Roggeveld Plateau, Little Karoo and southern Cape; *L. doleritica* G.D.Duncan from the Bokkeveld Plateau; *L. lactosa* G.D.Duncan from the Lowland Fynbos of the Hermanus District, and *L. leipoldtii* G.D.Duncan from the Olifants River Valley and Little Karoo.

### INTRODUCTION

This is the third in a series of papers on new species of *Lachenalia*, and serves as a continuation of the work of W.F. Barker (Barker 1978, 1979, 1983a & b, 1984, 1987, 1989) and the present author (Duncan 1987, 1988a & b, 1989a & b, 1992, 1993, 1994, 1996, 1997a & b) towards a revision of the genus.

***Lachenalia nutans*** G.D.Duncan, sp. nov. *L. anguineae* Sweet affinis propter flores similes campanulatos albos tumoribus flavo-virentibus vel brunneo-virentibus, sed floribus distincte nutantibus staminibus declinatis folioque lanceolato vel late lanceolato pagina inferiore glauca margine atromarronino basi subterranea amplectenti differt.

**TYPE.**—Southwestern Namibia, 2715 (Bogenfels): 2.5 km NE of Schlafkuppe, on sandy gravel flats, (–BD), 21-7-1986, N.J. van Berkel 563 (NBG, holo.!).

Deciduous, winter-growing geophyte 35–110 mm high. *Bulb* subglobose, 10–20 mm diam., white with thin layer of reddish brown, membranous outer scales. *Leaf* solitary, lanceolate to broadly lanceolate, 30–60 × 4–20 mm, erect or suberect, upper surface unmarked, dark green with depressed longitudinal veins, lower surface glaucous, unmarked or barred with dark green transverse bands, margin dark maroon; clasping base white, subterranean, 20–55 mm long. *Inflorescence* racemose, dense, 40–55 mm long with a very short sterile tip; peduncle erect, 25–40 mm long, sturdy, pale green, mottled with dull purplish red spots, slightly to conspicuously swollen towards apex, and at base of inflorescence; rachis 35–45 mm long, pale green in lower half, with dull purplish red spots, shading to white in upper half, with sporadic, much paler spots, slightly to conspicuously swollen in lower half; pedicels erect to suberect during flowering, bending downwards during fruiting, white, 2–5 mm long; bracts white, cup-like at base of inflorescence, becoming lanceolate above, 1.0–1.5 mm long. *Flowers* oblong-campanulate, distinct-

ly nodding or cernuous, white with yellowish green or brownish green gibbositities; perianth tube white, 3–4 mm long; outer tepals oblong, 4–6 × 2.5 mm, white with yellowish green or brownish green gibbositities, and pale greenish zone at base; inner tepals narrowly spatulate, 4–6 × 1.0–1.5 mm, white with pale greenish yellow zone near apex. *Stamens* well exerted beyond tip of perianth, declinate; filaments white, 6–10 mm long; anthers yellow. *Ovary* obovoid, pale green, 2–3 mm long; style white, 7–9 mm long, protruding well beyond stamens as ovary enlarges. *Capsule* obovoid, 4–6 × 4 mm. *Seed* black, glossy with granulated testa, 1.5 mm long, globose with small ridged arillode 0.3 mm long and distinct decurrent keel. *Flowering time:* July to August. Figures 1A; 2 & 3.

**Etymology:** named *L. nutans* to describe the distinctly nodding flowers.

### Diagnostic characters

*L. nutans* is characterised by a dense, racemose inflorescence of distinctly nodding, oblong-campanulate flowers with the inner tepals as long as, or very slightly longer than the outer tepals. The declinate stamens are very well exerted and the upper part of the peduncle and the lower part of the rachis is slightly to conspicuously swollen. The plant has a solitary, lanceolate or broadly lanceolate leaf with a dark green upper surface, a glaucous lower surface and a white, deep subterranean clasping base.

*L. nutans* is related to *L. anguinea* Sweet which occurs in deep red sand from the Richtersveld as far south as the Piketberg District. *L. anguinea* has similar campanulate white flowers with yellowish green or brownish green gibbositities and well exerted white stamens. It differs, however, in being a larger plant with much smaller, patent flowers produced on very long pedicels, and its long, arcuate, deeply canaliculate, flaccid leaf. The seeds of *L. anguinea* also differ from those of *L. nutans* in having a very small, almost obsolete, terminal ridged arillode, whereas the seeds of *L. nutans* have a granulated testa and a distinct decurrent keel. The two species are also separated geographically, *L. nutans* being known only from southwestern Namibia.

\* National Botanical Institute, Kirstenbosch, Private Bag X7, 7735 Claremont, Cape Town.  
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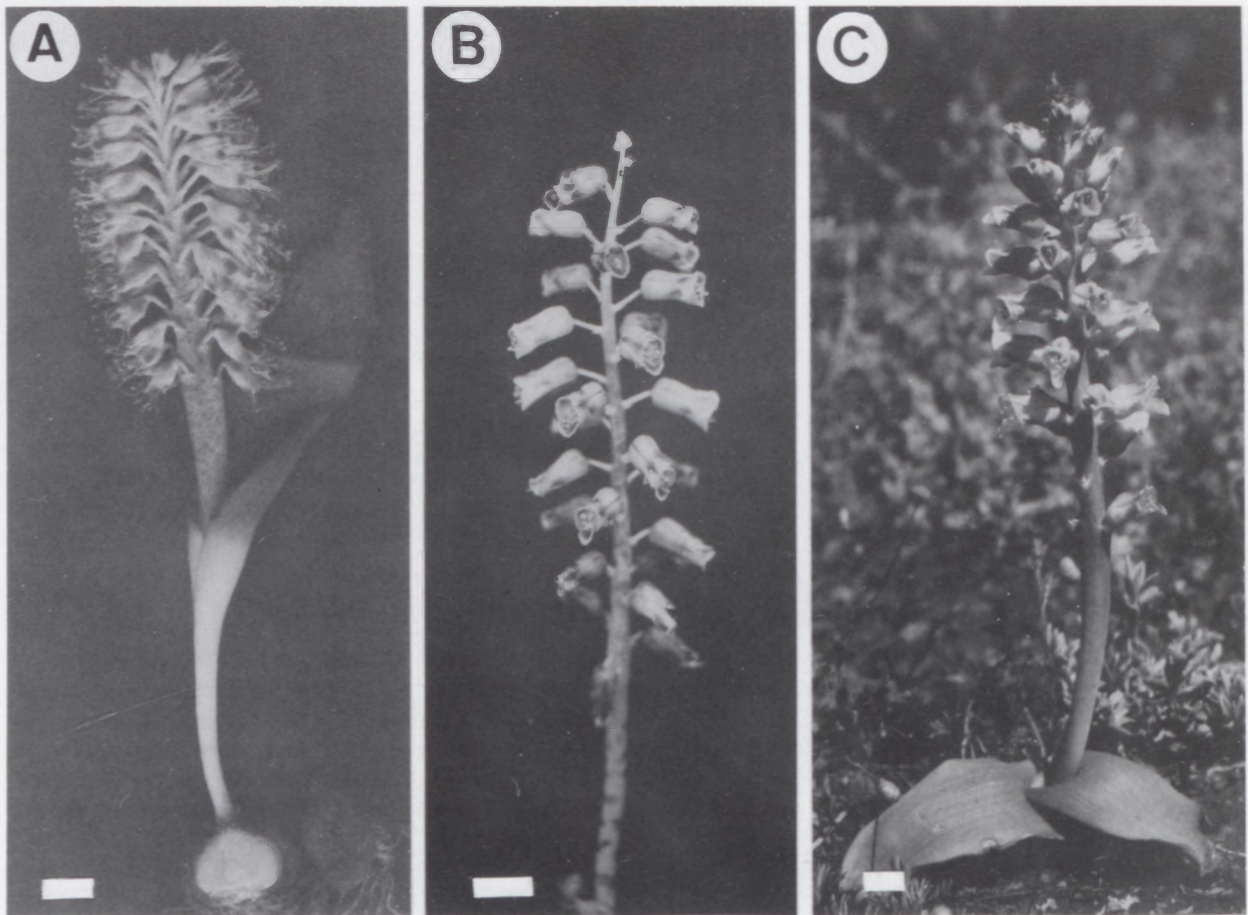


FIGURE 1.—A, *Lachenalia nutans*, Van Berkel 563; B, *L. attenuata*, Saunders s.n.; C, *L. doleritica*, Manning s.n. Scale bars: 10 mm.

#### Distribution and habitat

*Lachenalia nutans* is known from two collections made in southwestern Namibia. In August 1929, Dinter collected material of *Lachenalia klinghardtiana* Dinter at Haalenberg which was deposited at B, K and PRE (Dinter 6666). However, one of the two herbarium sheets of this collection housed at B is in fact not *L. klinghardtiana* but represents the first collection of *Lachenalia nutans*. The specimens of the latter species are in a fruiting stage and the collecting date is given as 31st August 1929, whereas the collecting date given for the other sheet correctly identified as *L. klinghardtiana* is 30th August. Fifty-seven years later, Mrs N.J. Van Berkel collected flowering material of *L. nutans* further south at a locality northeast of Schlafkuppe (Figure 4), which is now the type material of the species. Plants grow singly or in groups on sandy gravel flats in full sun. The typically deep-seated bulbs probably only grow and flower if there has been sufficient seasonal rainfall.

#### Material examined

NAMIBIA.—2615 (Luderitz): Haalenberg, (–DA), 31-8-1929, Dinter 6666 (B). 2715 (Bogenfels): 2.5 km NE of Schlafkuppe, (–BD), 21-7-1986, Van Berkel 563 (NBG).

***Lachenalia attenuata* W.F.Barker ex G.D.Duncan**, sp. nov. *L. hirtae* (Thunb.) Thunb. affinis propter flores similes pallide azureos oblongos vel oblongo-campanulatos segmentis interiores perianthii viridi-flavis tumorbibus purpureo-brunneis staminibusque inclusis, sed pedi-

cellis multo brevioribus folioque conduplicato sine setis vel papillis et basi folii non distincte dilatata differt.

TYPE.—Western Cape, 3319 (Worcester): Keisiesberg, Montagu Dist., (–DB), Sept. 1946, G.J. Lewis 2431 (SAM, holo!).

Deciduous, winter-growing geophyte 65–220 mm high. *Bulb* globose, 8–10 mm diam., white with hard, dark brown outer tunics. *Leaf* solitary, linear, attenuate, conduplicate, clasping base of peduncle up to 50 mm long, pale green shading to yellowish green in upper half, with short, darker green bands on lower surface, upper surface unmarked, spreading to suberect, 35–140 × 7–10 mm, clasping base marked with magenta bands just below ground level, shading to brownish purple and pale green at, and just above ground level, respectively. *Inflorescence* subspicate or racemose, few to many-flowered, very lax, 20–60 mm long, with very short sterile tip; peduncle erect to suberect, very slender, 35–200 mm long, very pale green in lower half and mottled with brownish purple blotches, shading to yellowish green or brownish purple in upper half, with or without brownish purple blotches; rachis heavily mottled with brownish purple, shading to pale blue at apex, 20–60 mm long; pedicels white or brownish purple, spreading or suberect, 1–3 mm long; bracts ovate to obovate, 1–3 × 1–3 mm. *Flowers* patent to slightly cernuous, oblong to oblong-campanulate, pale blue and greenish yellow with purplish brown markings; perianth tube pale blue, 2 mm long; outer tepals oblong, 6–7 × 3–4 mm, pale blue at base, shading to dull purplish brown at tips, with dull





FIGURE 2.—Sheet of *Lachenalia nutans*, Dinter 6666 (B), material collected on 31-8-1929.

purplish brown gibbositities; inner tepals protruding well beyond outer tepals, obovate, dull white at base shading to greenish yellow at apex, with distinct brownish green keels, 6–7 × 4–5 mm, upper two inner tepals overlapping. *Stamens* declinate, included or very slightly exerted; filaments white, 6–7 mm long; anthers maroon prior to anthesis, yellow at anthesis, and black after anthesis. *Ovary* ovoid, pale green, 3–4 × 3 mm; style white, 7 mm long, protruding beyond stamens as ovary enlarges. *Capsule* ovoid, 6–7 × 5–6 mm. *Seed* globose, 1 mm long, dull black, with a ribbed arillode 0.7 mm long. *Flowering time*: August to September. Figures 1B; 5.

*Etymology*: named *L. attenuata* by W.F. Barker to describe the gradually tapering leaf.

#### Diagnostic characters

*L. attenuata* is characterised by a subspicate or racemose, very lax inflorescence of patent or slightly cernu-

ous, oblong or oblong-campanulate flowers with the inner tepals protruding well beyond the outer. The declinate stamens are included or very slightly exerted, and the plant has a single linear, attenuate, conduplicate leaf with an unmarked upper surface, the lower surface marked with short green bands, and the clasping leaf base marked with brownish purple bands above ground level, and with magenta bands below ground level.

*L. attenuata* is related to *L. hirta* (Thunb.) Thunb. var. *hirta* which has similar oblong or oblong-campanulate pale blue flowers with greenish yellow inner tepals and included or slightly exerted stamens, and a single linear leaf with brownish purple and magenta bands on the clasping leaf base. *L. hirta* differs in having very long pedicels and a canaliculate leaf with distinct bristles and papillae on the lower surface and margins. The seeds of *L. hirta* differ in having an almost obsolete, terminal arillode, and a finely netted testa. The distribution ranges of the two species do not overlap, *L. hirta* occurring from



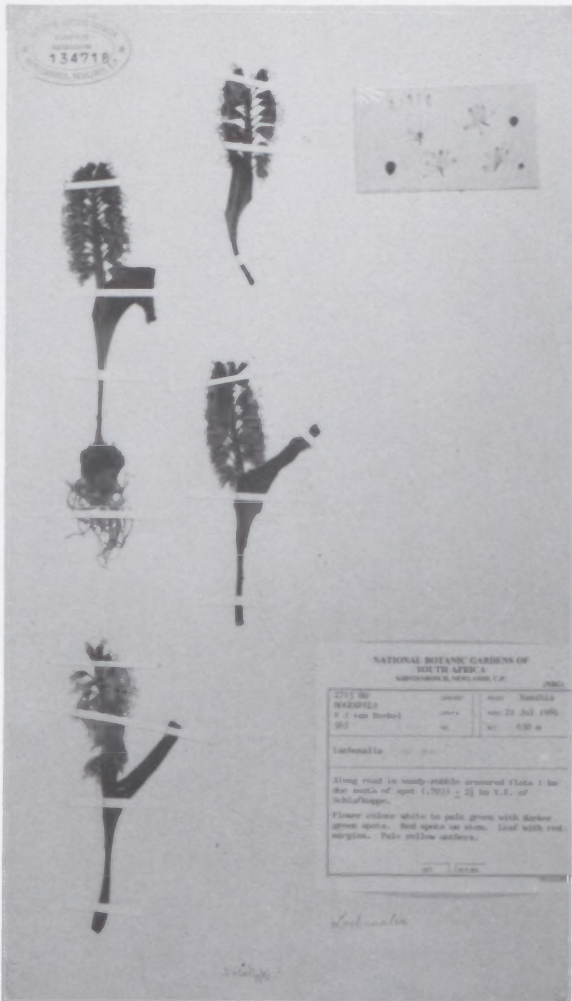


FIGURE 3.—Holotype of *Lachenalia nutans*, Van Berkel 563.

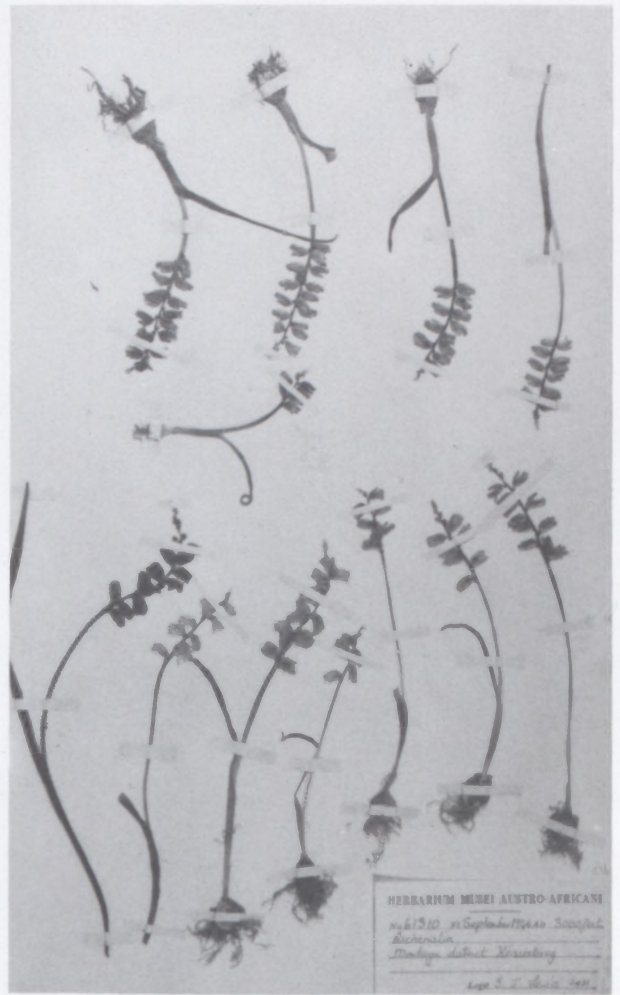


FIGURE 5.—Holotype of *Lachenalia attenuata*, Lewis 2431.

Namaqualand southwards to Malmesbury, and *L. attenuata* occurring on the Roggeveld Plateau, the Little Karoo and the southern Cape.

*Distribution and habitat*

*L. attenuata* was first collected by Dr J. Muir in August 1933 in the Riversdale District of the southern Cape, and represents the most easterly record of this

poorly collected, but fairly widespread species. It is also known from three recent collections made on the Roggeveld Plateau, and a further three records from the Little Karoo (Figure 4). It grows in montane habitats where it is usually encountered growing singly in south-facing, seasonally moist, well-drained loamy clay soil amongst rocks.

*Material examined*

NORTHERN CAPE.—3220 (Sutherland): Farm Agterkop, Gannaga Pass, (-AA), Sept. 1996, *Saunders s.n. sub NBG755601* (NBG); mountain S of Voelfontein farmhouse, (-AD), Sept. 1981, *Snijman 515* (NBG); Farm Jakhals Valley, Verlatekloof Pass, (-DA), Sept. 1986, *Cloete & Haselau 238* (NBG).

WESTERN CAPE.—3319 (Worcester): Hex River Pass, W of summit, (-BD), Sept. 1974, *Nordenstam & Lundgren 2059* (NBG); Rabiesberg, NE of Nuy, (-DA), Sept. 1935, *Lewis & Esterhuysen s.n. sub BOL21949* (BOL); Keisieberg, Montagu Dist., (-DB), Sept. 1946, *Lewis 2431* (SAM); 3421 (Riversdale): Riversdale Dist., (-AB), Aug. 1933, *Muir 4886* (K).

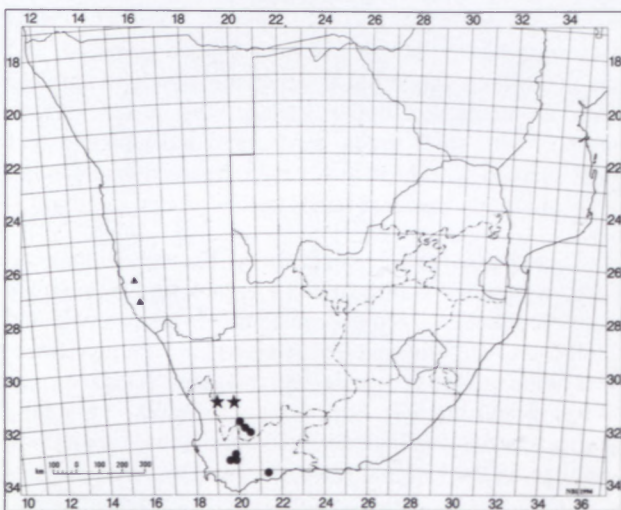


FIGURE 4.—Distribution of *Lachenalia nutans*, ▲; *L. attenuata*, ●; *L. doleritica*, ★.

***Lachenalia doleritica* G.D.Duncan, sp. nov.** *L. neilii* W.F.Barker ex G.D.Duncan affinis propter inflorescentiam similem multifloram floribus virellis oblongo-campanulatis patentibus vel suberectis tumoribus atroviridis vel brunneis, folios plerumque immaculatos venis longitudinalibus distincte depressis, sed staminibus inclusis foliisque ovatis arcuatis non glaucis, bulbo sine annulo bulbillorum basi differt.



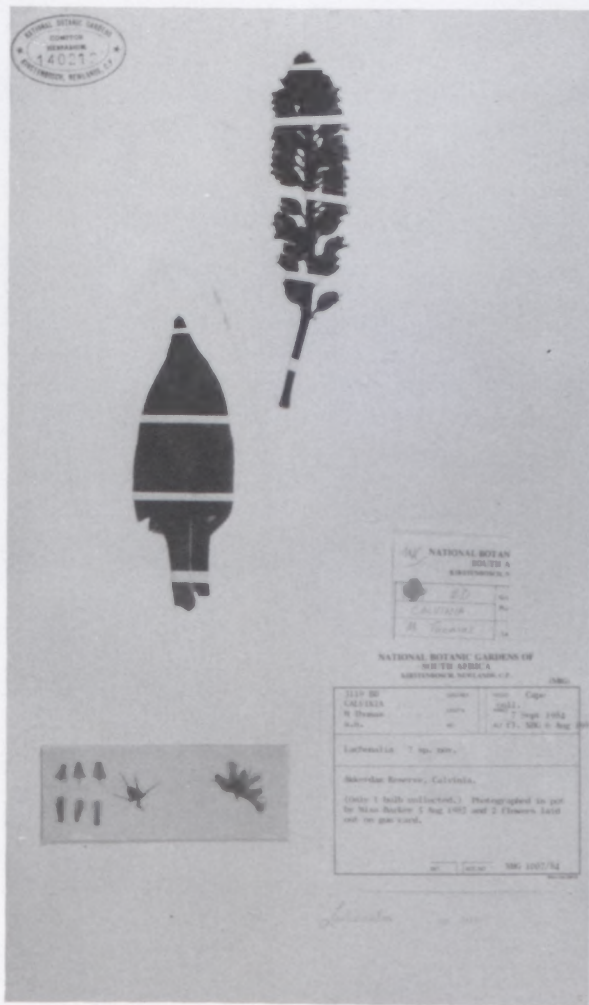


FIGURE 6.—Holotype of *Lachenalia doleritica*, Thomas s.n.

TYPE.—Northern Cape, 3119 (Calvinia): Akkerendam Nature Reserve, Calvinia, (–BD), 7-9-1984, M.L. Thomas s.n. sub NBG140212 (NBG, holo.!).

Deciduous, winter-growing geophyte 120–180 mm high. *Bulb* subglobose, 15–20 mm diam., white with several layers of dark brown outer tunics. *Leaves* 2, ovate, 85 × 40 mm, fleshy, slightly arcuate, with leaf tips resting at ground level, bright green to yellowish green, upper surface unmarked, with distinct, depressed longitudinal veins, lower surface unmarked, margins coriaceous, dark maroon; clasping base white below, shading to greenish white above, 30–40 mm long. *Inflorescence* racemose, erect, many-flowered, 80–110 mm long, with a short sterile tip; peduncle sturdy, erect or suberect, 40–100 mm long, becoming slightly swollen in upper third, pale green and unmarked, or pale green in lower two thirds with tiny pale brown speckles, tinged with dull brownish mauve in upper third; rachis pale green or tinged with dull brownish mauve, slightly swollen in lower third; pedicels suberect, pale green or pale mauve white, increasing in length towards apex of inflorescence, 2–4 mm long; bracts cup-shaped in lower half of inflorescence, becoming lanceolate above, white, 3–5 × 2–4 mm. *Flowers* oblong-campanulate, patent or suberect, very pale yellowish green with darker green, very dark brown or brownish mauve markings; perianth tube very pale yellowish green, 2–3 mm long; outer tepals ovate, very pale yellowish green, 8–9 × 4–5 mm,

with darker green, very dark brown or brownish mauve gibbositities, and a central yellowish green or brownish mauve stripe; inner tepals obovate, protruding beyond outer tepals, apices slightly recurved, 9–11 × 4–5 mm, translucent yellowish green with a darker green or very dark brown marking near apex, and brownish green keels, inner lower tepals longer than two upper laterals. *Stamens* included, declinate; filaments white, 9 mm long; anthers pale maroon prior to anthesis, yellow at anthesis. *Ovary* ovoid, pale green, 5 × 3 mm; style white, 7 mm long, protruding beyond tepals as ovary enlarges. *Capsule* unknown. *Seed* unknown. *Flowering time*: September to October. Figures 1C; 6.

*Etymology*: named *L. doleritica* to describe the heavy doleritic clay soil in which this species occurs.

#### Diagnostic characters

*L. doleritica* is characterised by a many-flowered racemose inflorescence of oblong-campanulate, patent or suberect, yellowish green flowers with the inner tepals protruding beyond the outer. The declinate stamens are included, and the unmarked, ovate leaves are slightly arcuate with the tips resting at ground level, and with distinct depressed longitudinal veins on the upper surface.

*L. doleritica* is related to *L. neilii* W.F.Barker ex G.D.Duncan which has a similar many-flowered inflorescence of greenish, patent or suberect, oblong-campanulate flowers and usually unmarked leaves, with distinct depressed longitudinal veins on the upper surface. *L. neilii* differs in having smaller flowers with shortly exerted stamens, lanceolate, suberect, glaucous leaves, and the bulb produces a ring of bulbils at its base.

#### Distribution and habitat

The first recorded collection of *L. doleritica* was made by Mrs M.L. Thomas as recently as September 1984 in the Akkerendam Nature Reserve at Calvinia, and as far as I am aware, there are only two other records of this species, one to the west of Calvinia towards Nieuwoudtville, and the other to the east of Calvinia towards Williston (Figure 4). *L. doleritica* appears to be a rare species confined to heavy doleritic clay soil on the Bokkeveld Plateau, where plants occur singly in open situations in full sun. The apparently very restricted distribution range of this species overlaps the wider range of the related *L. neilii*.

#### Material examined

NORTHERN CAPE.—3119 (Calvinia): Calvinia-Nieuwoudtville road, (R27), at side of road, (–AC), Sept. 1996, Manning s.n. (NBG, photo.); Akkerendam Nature Reserve, Calvinia, (–BD), 7-9-1984, Thomas s.n. sub NBG140212 (NBG); Calvinia-Williston road, at side of road, (–BD), Oct. 1986, Thomas s.n. (NBG, photo.).

***Lachenalia lactosa* G.D.Duncan, sp. nov.** *L. peersii* Marloth ex W.F.Barker affinis propter flores albos similes tumoribus viridi-brunneis foliosque ex maroninos normaliter virides loratos, sed floribus valde minoribus oblongo-campanulatis basibus pallide azureis staminibusque declinatis paulo exsertis pedunculoque leviter vel dense maculato differt.





FIGURE 7.—A, *Lachenalia lactosa*, Barker 10476; B, *L. lactosa*, Barker 10510. Scale bars: 10 mm.

TYPE.—Western Cape, 3419 (Caledon): Honingklip Farm, near Bot River, (–AC), 29-9-1967, W.F. Barker 10510 (NBG, holo.!; PRE).

Deciduous, winter-growing geophyte 100–265 mm high. *Bulb* globose, 8–15 mm diam., white with dark brown outer tunics. *Leaves* 1 or 2, lorate, 40–200 × 5–18 mm, suberect or slightly arcuate, plain green, usually unmarked, occasionally marked with purplish brown spots on upper surface, lower surface tinged with purple or maroon, upper surface with distinct longitudinal veins; clasping base white below, shading to pale maroonish purple above, 10–20 mm long. *Inflorescence* racemose, usually dense, few to many-flowered, 25–80 mm long, with short sterile apex; peduncle erect or suberect, slender or sturdy, pale green with many small to large purplish maroon spots or blotches, 50–130 mm long; rachis pale green with dull purplish blue blotches; pedicels pale green, erect or suberect, 2–4 mm long; bracts purplish maroon and cup-shaped at base of inflorescence, becoming lanceolate and translucent white above, 1–3 × 1–3 mm. *Flowers* small to very small, oblong-campanulate, suberect or patent, white and pale blue with dark magenta or greenish brown markings, fading to purplish blue; perianth tube very short, pale blue or white, 0.5–1.0 mm long; outer tepals ovate, 3–4 × 5 mm, white, or pale blue at base, shading to white above, with dark magenta or greenish brown gibbosities and keels; inner tepals oblong obovate, 5–7 × 3 mm, protruding well beyond outer segments, canaliculate, translucent white or cream with very narrow dark magenta or greenish brown keels. *Stamens* shortly exserted, decli-

nate; filaments white, 4–6 mm long. *Ovary* ovoid, bright green, 2–3 × 2 mm; style white, 4–5 mm long. *Capsule* ovoid, membranous, 5–6 × 4–5 mm. *Seed* globose, shiny black, 1 mm long, with a terminal, inflated arillode 0.5 mm long. *Flowering time*: September to October. Figures 7A, B; 8.

*Etymology*: named *L. lactosa* to describe the milky white colouring of the flowers.

#### Diagnostic characters

*L. lactosa* is characterised by a dense raceme of small or very small, oblong-campanulate, suberect or patent, white and pale blue flowers with shortly exserted, declinate stamens. The peduncle is usually heavily marked with purplish maroon spots or blotches, and the one or two lorate, suberect or slightly arcuate leaves are plain green, usually unmarked, with depressed longitudinal veins on the upper surface, and tinged with purple or maroon on the lower surface.

*L. lactosa* is related to *L. peersii* Marloth ex W.F. Barker, which has a similar many-flowered inflorescence of white flowers with greenish brown markings and one or two lorate, unmarked leaves tinged with purple or maroon. *L. peersii* differs, however, in being a larger plant with much larger, urceolate flowers without pale blue bases and with distinctly recurved inner tepals, included, spreading stamens and an unspotted peduncle. The two species have similar globose seeds with a terminal, inflated arillode.



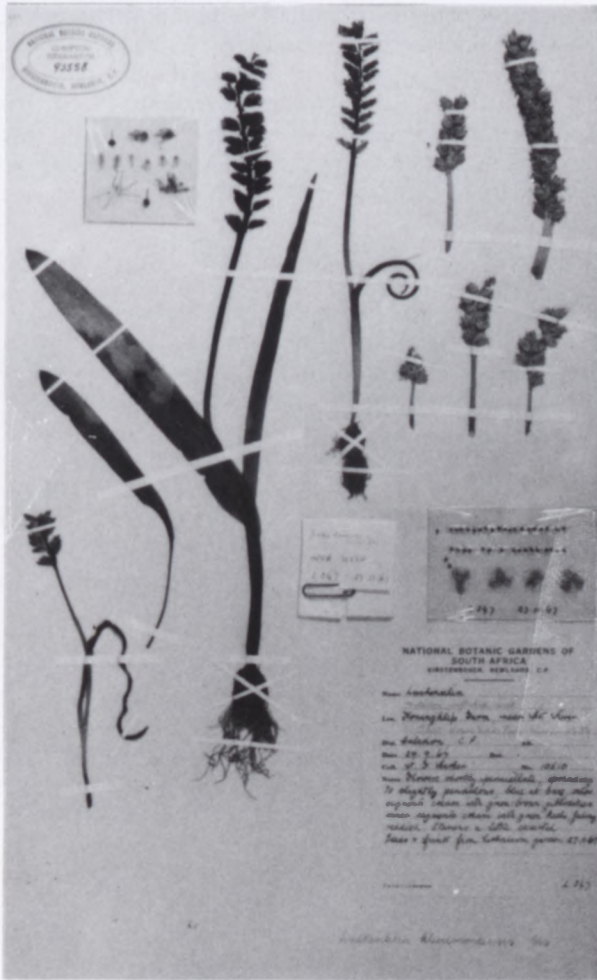


FIGURE 8.—Holotype of *Lachenalia lactosa*, Barker 10510.

*Distribution and habitat*

Material of *L. lactosa* was first collected by Miss W.F. Barker in October 1933 near Kleinmond, where most of the records of this species have been made, and it has since been collected on the Houw Hoek Pass, as well as at Bot River and beyond Baardscheerdersbos, which is the most easterly record (Figure 9). It is a fairly rare species with a restricted distribution, occurring in Lowland Fynbos on flats and gentle slopes in full sun. Plants occur singly, and unless in flower are extremely difficult to detect in their natural habitat, due to their relatively small size compared to the surrounding fynbos vegetation. As with the related *L. peersii*, which occurs in the same area, veld fires would most probably benefit the flowering performance of *L. lactosa*, resulting in more robust specimens more easily noticeable in their habitat. Unfortunately, the populations of this species in the Kleinmond area are now under real threat due to housing development.

*Material examined*

WESTERN CAPE.—3419 (Caledon): Houw Hoek Pass, (–AA), Sept. 1946, *Lewis 2434* (SAM); Honingklip Farm, near Bot River, (–AC), Sept. 1966, *Barker 10476* (NBG); 29-9-1967, *Barker 10510* (NBG); near Kleinmond, (–AC), Oct. 1933, *Barker 163* (BOL); Kleinmond, along rocky coast, (–AC), Oct. 1946, *De Vos 238*, (NBG); Kleinmond, W of Malherbe Street, between Piet Le Roux and Bob Laubscher Streets, (–AC), Oct. 1996, *Mostert 194* (NBG); Shaw's Pass, (–AD), Oct. 1955, *Van Niekerk 672* (BOL); beyond Baardscheer-

dersbos, on Elim Road, (–DA), Oct. 1966, *Chater s.n. sub NBG93633* (NBG).

***Lachenalia leipoldtii* G.D.Duncan, sp. nov.** *L. physocaulotis* W.F.Barker affinis propter inflorescentiam similem dense subspicatam floribus oblongo-campanulatis staminibus valde exsertis declinatis pedunculo dense maculato saepe tumido, sed floribus viridi-flavis et albis folioque lanceolato canaliculato margine undulato coriaceo basin conspicue dilatanti, basi folii arcte amplexententi differt.

TYPE.—Western Cape, 3219 (Wuppertal): 4.8 km N of Citrusdal, (–CA), 11-9-1933, *T.M. Salter 3608* (BOL, holo., BM; K).

Deciduous, winter-growing geophyte 100–280 mm high. *Bulb* subglobose, 10–15 mm diam., white with dark brown outer tunics. *Leaf* solitary, lanceolate, canaliculate, pale green or yellowish green, suberect or slightly arcuate, 30–95 × 3–12 mm, upper surface unmarked or with few purplish magenta spots or blotches, lower surface marked with purplish magenta spots or blotches in lower third, margin coriaceous and undulate; clasping base tight, white in lower half with magenta spots or blotches, yellowish green in upper half with purplish magenta spots or blotches. *Inflorescence* subspicate, many-flowered, erect or suberect, dense, 35–130 mm long, with a short or long sterile apex up to 20 mm long; peduncle slender or sturdy, erect or suberect, yellowish green, lightly to densely marked with purplish magenta spots or blotches, slightly to conspicuously swollen in upper half, 45–60 mm long; rachis pale brownish mauve, slightly swollen in lower third; pedicels white or pale green, very short, 1–2 mm long; bracts ovate in lower third, becoming lanceolate above, white, 2–3 × 1–2 mm. *Flowers* oblong-campanulate, suberect, patent or slightly cernuous, pale creamy white or pale greenish yellow and white, sometimes fading to purplish maroon on herbarium sheets, with greenish brown or pinkish brown markings; perianth tube pale blue, 1–2 mm long; outer tepals ovate, pale greenish yellow, 4–5 × 2–3 mm, with greenish brown or pinkish brown gibbositities; inner tepals obovate, 6–7 × 2–3 mm, translucent white with greenish yellow keels and recurved tips. *Stamens* well

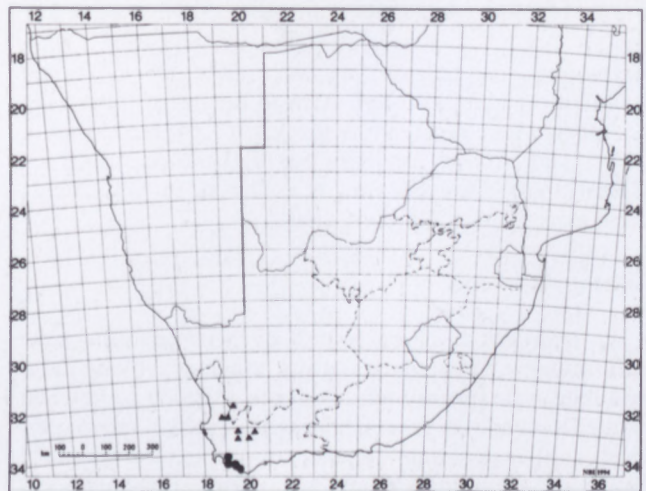


FIGURE 9.—Distribution of *Lachenalia lactosa*, ●; and *L. leipoldtii*, ▲.



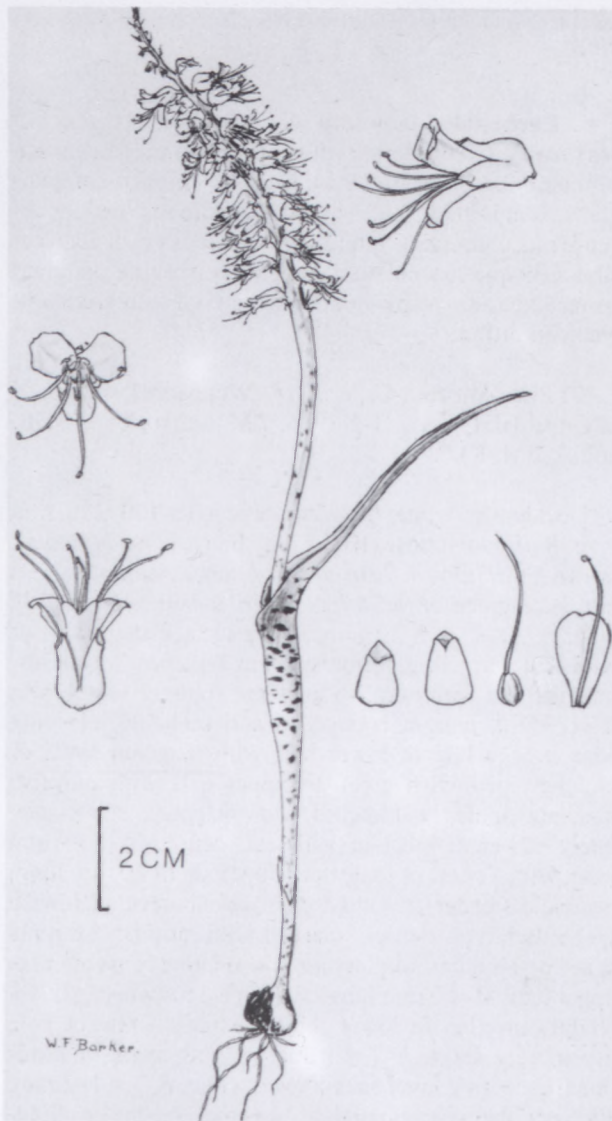


FIGURE 10.—*Lachenalia leipoldtii*, drawn from Salter 3608, reproduced from the original watercolour by Miss W.F. Barker.

exserted, declinate; filaments white, 9–10 mm long. Ovary ovoid, pale green, 2 × 3 mm; style white, protruding beyond stamens, 9–10 mm long. Capsule ovoid, membranous, 5 × 4 mm. Seed globose, 1 mm long, matt black, with terminal inflated arillode 0.8 mm long. Flowering time: August to September. Figures 10 & 11.

**Etymology:** named *L. leipoldtii* after Dr C. Louis Leipoldt, celebrated South African naturalist, physician and poet, who collected this species at Piekenierskloof in 1931, and whose fondness for lachenalias from the Clanwilliam-Citrusdal area is reflected in his famous Afrikaans poem 'Oktobermaand'.

#### Diagnostic characters

*L. leipoldtii* is characterised by a dense, subspicate inflorescence of patent or slightly cernuous, oblong-campanulate, pale creamy white or pale greenish yellow and white flowers with greenish brown or pinkish brown gibbosities. The declinate stamens are well exserted, and the lower surface of the solitary, lanceolate, canaliculate leaf is marked with purplish magenta spots or blotches. The tightly clasping leaf base is white in the lower half and

yellowish green in the upper half, with purplish magenta spots or blotches. The leaf margin is thickened, and slightly to distinctly undulate. The specimens recorded from the Olifants River Valley, Piekenierskloof and Bidouw only have a slightly swollen peduncle and rachis, whereas those from Ceres, Karooport and Little Karoo have a conspicuously swollen peduncle and rachis.

*L. leipoldtii* is closely related to *L. physocaulos* W.F.Barker which has a similar dense subspicate inflorescence, oblong-campanulate flowers, well-exserted, declinate stamens and usually a distinctly swollen peduncle and rachis. It differs from *L. leipoldtii* in having a subterranean, very loosely clasping leaf base, a linear, conduplicate, glaucous leaf without markings or thickened margin, and pale magenta inner tepals and filaments. The two species have similar very small, globose seeds with a short, terminal inflated arillode.

#### Distribution and habitat

Material of *L. leipoldtii* was collected for the first time by C.L. Zeyher in 1931 on the farm Brakfontein in the Olifants River Valley (Gunn & Codd 1981) and it has subsequently been recorded from Piekenierskloof and Bidouw Valley, and to the southeast near Ceres and

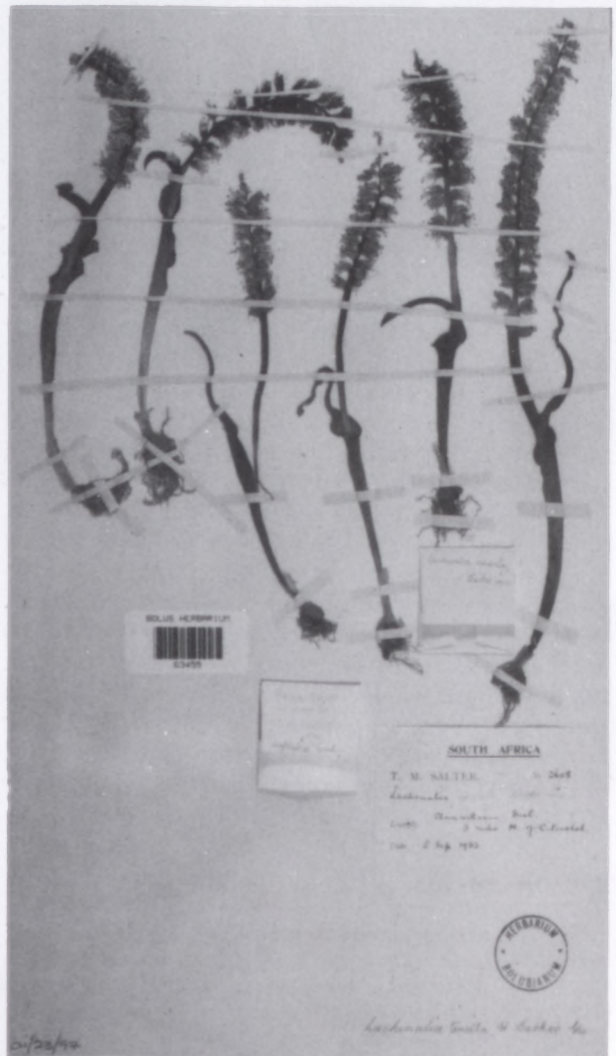


FIGURE 11.—Holotype of *Lachenalia leipoldtii*, Salter 3608.



Karooport, and further north between Touwsrivier and Montagu (Figure 9). Plants occur in colonies in sandy soil in full sun.

#### Material examined

WESTERN CAPE.—3218 (Clanwilliam): Farm Brakfontein, Olifants River Valley, (-DB), *Ecklon & Zeyher 45* (SAM); Piek-nierskloof, (-DB), Aug. 1931, *Leipoldt s.n. sub BOL20456* (BOL); 3219 (Wuppertal): Bidouw, (-AB), Aug. 1945, *Bolus s.n. sub BOL23641* (BOL); 4.8 km N of Citrusdal, (-CA), 11-9-1933, *Salter 3608* (BM, BOL, K); 3319 (Worcester): 38.6 km on Ceres-Calvinia-Sutherland road, (-BA), Sept. 1971, *Thomas s.n.* (NBG); Karoo Poort, (-BC), Sept. 1941, *Barker 1110* (NBG); Hottentots Kloof, Ceres Dist., (-BC), Sept. 1944, *Barker 3064* (NBG); 3320 (Montagu): Tweedside, Laingsburg Dist., (-AB), Sept. 1932, *Barker 162* (BOL); Touwsrivier, (-AC), Sept. 1974, *Obermeyer s.n. sub NBG108599* (NBG). Without precise locality: between Montagu and Touwsrivier, Sept. 1933, *Lewis & Leighton s.n.* (BOL).

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