

GERANIACEAE

PELARGONIUM PACHYPODIUM (SECT. *OTIDIA*), A NEW SPECIES FROM NORTHERN CAPE, SOUTH AFRICA

Pelargonium L'Hér. ex Aiton is a genus of \pm 250 species distributed throughout Africa and Madagascar into the Middle East, Australia, and St Helena (Vorster 2000). It has its centre of diversity in southwestern South Africa, where it constitutes the third largest genus in the Cape Floristic Region, with 148 species recorded (Goldblatt & Manning 2000).

Currently 16 sections are recognised in the genus (Bakker *et al.* 2004), of which several have been subject to full or partial taxonomic review. Sect. *Otidia* (Sweet) DC. is a group of \pm 25 species, some distinctive and isolated but others closely related and hardly distinguishable from one another (Becker & Albers 2009). Most species show xeromorphic growth with succulent stems and with the posterior (upper) petals eared above their bases (Becker & Albers 2005). Sect. *Otidia* is restricted to the dry areas of the winter rainfall region of Western Cape and the coastal region of Northern Cape (Dreyer *et al.* 1992). The section was partially reviewed by Becker & Albers (2005, 2009). *Pelargonium pachypodium* is a new species from the Hantam in Northern Cape.

***Pelargonium pachypodium* J.P.Roux, sp. nov.**

TYPE.—Northern Cape, 3119 (Calvinia), foot of Keiskie Mountain, farm Keiskie, 31°39.235'S, 19°53.811'E, (–DB), 1,257 m, 16 Dec. 2011, C. Ficq & J. Ball s.n. (NBG, holo.).

Suffrutex with subterranean or partially exposed subsucculent, globose caudex to 40 mm diam., from which 1–4 perennial aerial branches arise. *Aerial branches* golden-green, firmly herbaceous, terete, to 250 mm long, 2–4 mm in diam., mostly simple or with one or more short branches distally, retrorsely strigulose initially but later glabrous, hairs unicellular, subulate, to 95 μ m long, closely tuberculate. *Leaves* summer deciduous, mid-green, widely spaced; *stipules* firmly herbaceous, caducous, narrowly triangular, to 2.2 mm long, to 1.5 mm wide, strigulose; *petiole* terete, 8–12 mm long, strigulose, hairs to 160 μ m long; *lamina* pinnatisect, oblong to elliptic in outline, 10–70 \times 10–15 mm, carnosae, pinnae alternate, rhomboid to obtrullate, to 7 \times 6 mm, plicate, unequally lobed, lobes narrowly to broadly cuneate, adaxially and abaxially strigulose; *rachis* persistent as stramineous, fibre-like appendage. *Inflorescences* termi-

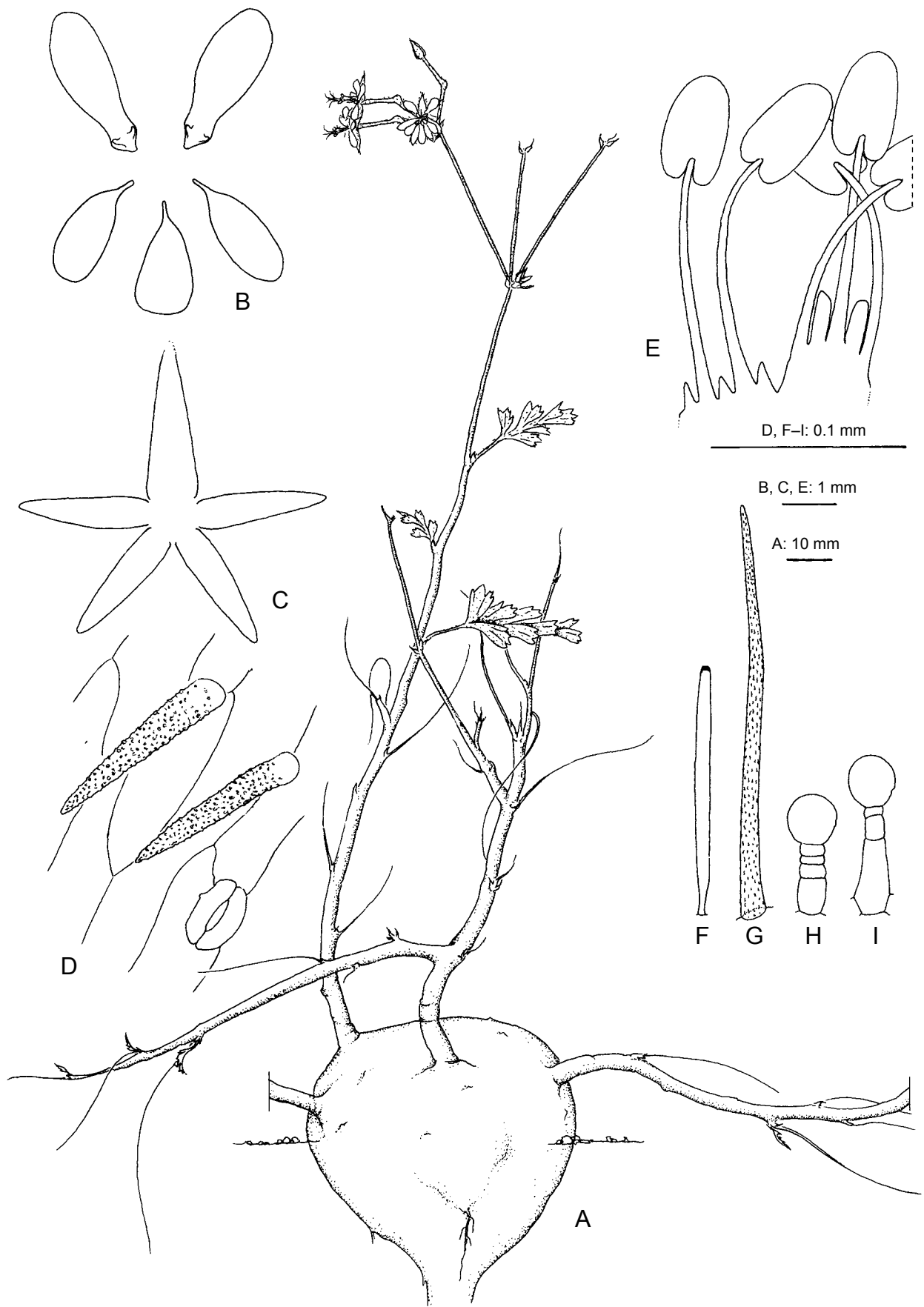


FIGURE 1.—Habit and floral parts of *Pelargonium pachypodium*. A, habit; B, petals; C, sepals; D, verruculate retrorse hairs on abaxial surface of sepals; E, androecium; F, cylindrical hair from carpel; G, verruculate hair from style; H & I, glandular hairs from style. Scale bars: A, 10 mm; B, C, E, F, 1 mm; D, G–I, 0.1 mm. Illustrated by J.P. Roux.

nal on vegetative stems, rachis to 90 mm long, of 3–4 internodes up to 37 mm long, each node bearing 3–5 pseudo-umbels in succession, with pinnatifid leaves to 6 mm long at nodes, stipules broadly cuneate, to 1.5×1 mm, maroon, peduncles terete, to 40 mm long, to 1 mm in diameter, strigulose, pseudo-umbels 3–4 flowered. *Flowers* sub-regular, to 8 mm diam.; *pedicels* terete, 2.5–7.0 mm long, to 0.2 mm diam., closely set with hyaline, unicellular subulate hairs and pluricellular glandular hairs; *hypanthium* 4–8 mm long, closely set with hairs similar to those on pedicels; *sepals* narrowly elliptic, olive green with narrow hyaline margins, uppermost to 6.6×1.5 mm, lateral and lower sepals to 5.5×1.4 mm, glabrous adaxially, abaxially closely set with hairs and glandular hairs similar to those on stems and leaves, glandular hairs 4- or more-celled with basal cell enlarged and often conical and with 2–4 narrow neck cells, the apical cell globose, glandular, to 40 μ m in diameter; *petals* 5, white to pale cream, immaculate, upper two narrowly elliptic, shortly clawed, to 6×2.2 mm, lateral petals narrowly elliptic, to 5×2 mm, clawed in basal 1 mm, basal petal narrowly obovate to obovate, to 4.5×2.2 mm, clawed in basal 1 mm long, claw in lateral and basal petals simple. *Androecium*: staminal column ± 1 mm long, hyaline, *fertile stamens* 5, exerted, posterior to 6.2 mm long, median 3.0–5.6 mm long, filaments white to pale mauve in basal half and deep mauve distally; *staminodes* of unequal length, superior two narrowly triangular, to 3 mm long, acute or truncate, proximally hyaline with mauve apices, the inferior three hyaline, acute, to 1.4 mm long; *anthers* ellipsoid, to 2.3×1.1 mm, orange. *Gynoecium*: *ovary* obclavate, to 2.8×0.8 mm, densely set with white, appressed hairs, the hairs unicellular, cylindrical, to 220 μ m long, smooth, truncate; *style* reddish and glabrous in distal half, filiform, to 3 mm long, proximally densely set with mix of hyaline, unicellular, acicular, verruculate hairs to 380 μ m long and few-celled capitate glandular hairs to 70 μ m long, glabrous distally; *stigma* 5-branched, branches to 1.5 mm long, mauve. *Fruits* unknown. *Flowering time*: December and January. Figure 1.

Etymology: from the Greek *pachys*, thick, and *podion*, foot, alluding to the tuber-like subterranean or partially exposed stem of the plant.

Distribution and ecology: *Pelargonium pachypodium* is currently known from a single population at the foot of Keiskie Mountain southeast of Calvinia (Figure 2) at 1 250 m. Vegetation at the type locality is Roggeveld Shale Renosterveld (Mucina & Rutherford 2006), a moderately tall shrubland dominated by the asteraceous renosterbos, *Elytropappus rhinocerotis*, and with a rich geophytic community. The mean annual rainfall for the region is 146 mm and largely occurs during the period May to August. *P. pachypodium* is a cryptic species, with the aerial stems supported by and concealed among the surrounding vegetation. Flowering takes place during the hot and arid mid-summer months of December and January when few other plants in the region are in bloom. During this time the plants are devoid of functional leaves.

Pelargonium pachypodium appears to be the larval host plant of the recently described butterfly *Lepidochrysops frederickeae* (Lycaenidae) (Henning & Ball

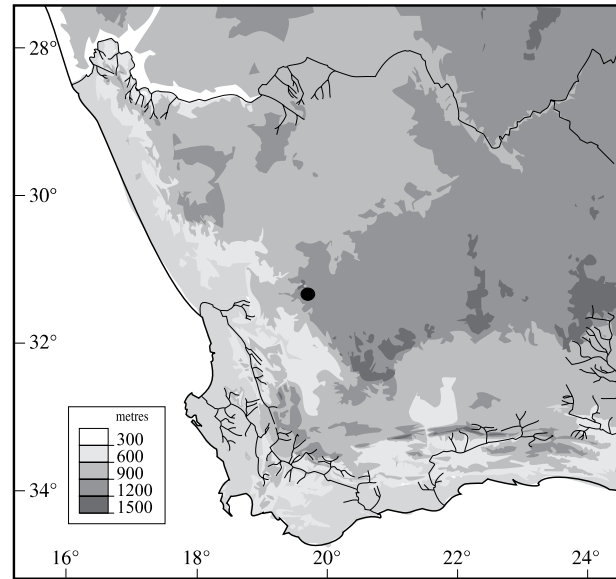


FIGURE 2.—Distribution of *Pelargonium pachypodium*.

2012), with oviposition taking place on the flowers. Adult butterflies were observed feeding on the flowers and may be an important pollinator, while the later-developing leaves presumably constitute the main food source of the larval instars (Henning & Ball 2012).

Diagnostic features and relationships: the relationship of *Pelargonium pachypodium* with other species in the section is unclear. The most diagnostic feature of *P. pachypodium* is the tuber-like stem or rootstock from which one or more vegetative stems arise. The persistent, fibre-like leaf rachises are also highly distinctive.

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