

Notes on *Plectranthus* (Lamiaceae) from southern Africa

E.J. VAN JAARVELD* and T.J. EDWARDS**

Keywords: comb. nov., Lamiaceae, *Plectranthus* spp., southern Africa, spp. nov., stat. nov., taxonomy

ABSTRACT

Four new *Plectranthus* taxa from South Africa are described: *P. malvinus* Van Jaarsv. & T.J. Edwards, *P. saccatus* subsp. *pondoensis* Van Jaarsv. & S. Milstein, *P. purpuratus* subsp. *tongaensis* Van Jaarsv. & T.J. Edwards and *P. purpuratus* subsp. *montanus* Van Jaarsv. & T.J. Edwards. *P. aliciae* (Codd) Van Jaarsv. & T.J. Edwards and *P. lucidus* (Benth.) Van Jaarsv. & T.J. Edwards are given new status, and *P. pentheri* (Gürke) Van Jaarsv. & T.J. Edwards is transferred to this genus from *Coleus* and recognized as a species.

INTRODUCTION

Plectranthus includes 45 southern African species which are found in the subtropical forests and savannas of the summer rainfall region. The genus was revised by Codd (1975, 1985) who recognized 44 species in southern Africa. Subsequent collections and additional information have resulted in the recognition of another species and three new infraspecific taxa which are described here. Two varieties are raised to species level and one species, originally described under *Coleus*, is transferred to *Plectranthus*. The newly described taxa belong to the subgenus *Plectranthus*.

1. *Plectranthus malvinus* Van Jaarsv. & T.J. Edwards sp. nov. a *P. ciliato* E. Mey. ex Benth. foliis firmis, coriaceis, succulentis, marginibus serratis pagina foliorum strigosa floribusque malvinis differt.

TYPE.—Eastern Cape, 3129 (Port St Johns): Mount Sullivan, (-DA), E. van Jaarsveld & Bingham 10522 (NBG, holo.).

Decumbent, strigose, mat-forming herb; roots shallow, fibrous. *Stems* 4-angled, purple-green, ± 3 mm in diameter, strigose (white multicellular hairs), punctate; internodes 10-40 mm apart. *Leaves* fleshy, firm, ovate to obovate, 40-90 \times 30-50 mm, strigose, serrate with 8-10 pairs of teeth; abaxial surface strigose, veins purple, densely strigose, hairs white, gland dots colourless, sunken; base cuneate, apex acute; petiole 5-10 mm long, purple, densely villose on adaxial surface, decurrent. *Inflorescence* a raceme or lax panicle, 180-210 mm long; cymes 3-flowered, 10-15 mm apart; bracts ovate-lanceolate, 7 \times 2 mm long; pedicels ± 10 mm long. *Calyx* 4 mm long (enlarging to 10 mm), upper lobe ovate, 2 mm long (5 mm in fruit), lower lobes 4, linear, 1.5 mm long (4 mm after flowering). *Corolla* ± 12 mm long, pink (violet group 84c), tube laterally compressed, 6 mm long, saccate at base and 3 mm deep, narrowing to 2 mm at throat,

upper lip 7 mm long, 2-lobed, lateral lobes 3 mm long, lower lip boat-shaped, 5 mm long. *Nutlets* brown to black, ovoid, 1.5 \times 1.0 mm. *Flowering time:* March to May. Figure 1.

This species was collected along forest fringes on quartzitic sandstones of Mount Sullivan (W end). It has been cultivated as a ground cover at Kirstenbosch National Botanical Garden for a number of years under the name *P. ciliatus* 'Bingham'. Codd (1975) related this



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

** Botany Department, University of Natal, P.O. Box 375, Pietermaritzburg 3200.

MS. received: 1996-04-20.

FIGURE 1.—*P. malvinus*, E. van Jaarsveld & Bingham 10522, Port St Johns, Eastern Cape. Habit, $\times 0.5$. Scale bar: 12 mm. Artist: Vicky Thomas.

taxon both to *P. strigosus* and *P. ciliatus*. It is distinguished by its firm, succulent, ovate to obovate leaves which are serrate, have densely pilose purple veins and are densely punctate underneath. The latter feature immediately separates it from *P. strigosus* or *P. lucidus* which have red gland dots. The flowers are reminiscent of *P. ciliatus* but are generally smaller and are an attractive mauve. *P. ciliatus* has soft leaves and usually bears white flowers.

P. malvinus is one of the endemics of the region of quartzitic sandstone in KwaZulu-Natal and northern Eastern Cape. It is found on Mount Thesiger, Mount Sullivan and in adjacent territory on forest margins. Associated species in the habitat include *Mitriostigma axillare*, *Drimiopsis maculata* and *P. ciliatus*.

2. ***Plectranthus purpuratus* Harv.**, Thesaurus capensis 1: 53, t. 83 (1859). Type: ex Hort., Kew, from seed sent from Port Natal [KwaZulu-Natal: Durban], *R. Vause s.n.* (K, holo.!).

Procumbent to decumbent, perennial, succulent herb, up to 200 mm high; roots fibrous. *Stems* 4-angled, succulent. *Leaves* broadly trullate, broadly ovate, obovate to subrotund, 10–15 × 10–15 mm, entire to variably serrate to crenate with 2 or 3 pairs of teeth, strigose to subglabrous; lower surface occasionally purplish, rubropunctate; tip acute, base truncate to broadly cuneate; petioles 3–15 mm long. *Raceme* 30–290 mm long, racemose, occasionally with a pair of side branches; cymes 3-flowered, 5–10 mm apart; bracts linear-lanceolate, 3–4 mm long, persistent beyond flowering stage; pedicels 3–5 mm long. *Calyx* 3 mm long; fruiting calyx 5 mm long. *Corolla* 12–13 mm long, white or pale mauve, tube 5–8 mm long, basally ventricose, constricted about 3 mm from base and flared at throat, upper lobes emarginate, 3–5 mm long, lateral lobes ± 2 mm long, lower lip boat-shaped, 5–7 mm long. *Nutlets* brown or black, 1.5 mm long.

Plectranthus purpuratus is widely distributed in the eastern parts of southern Africa from Durban through KwaZulu-Natal and Swaziland to Mpumalanga (Eastern Transvaal), occurring in rocky gorges in savanna and grassland. The species has a diagnostic, medial constriction of the corolla tube which distinguishes it from *P. strigosus*, *P. lucidus* and *P. oertendahlii*.

Key to subspecies of *P. purpuratus*

- 1a Plants erect to decumbent; leaves entire to obscurely crenate, succulent, subrotund, subglabrous, subimbricate
 subsp. *purpuratus*
- 1b Plants procumbent; leaves not distinctly succulent, strigose, lax:
- 2a Leaves large, trullate (petioles 12–15 mm long), distinctly serrate, with 3 or 4 pairs of teeth subsp. *tongaensis*
- 2b Leaves broadly ovate to obovate (petiole 6–12 mm long), shallowly serrate with 2 or 3 pairs of teeth subsp. *montanus*

2a. ***Plectranthus purpuratus* Harv. subsp. *purpuratus***

Stems erect to decumbent, succulent. *Leaves* subimbricate, subrotund to broadly ovate, succulent, 15–45 × 15–38 mm, grey-green, entire, occasionally shallowly cre-

nate, with 3 pairs of teeth, subglabrous, rubropunctate beneath, apex rounded, base truncate to cuneate. *Raceme* 30–120 mm long, often with a pair of side branches; cymes 3-flowered, 5–10 mm apart; bracts ovate-lanceolate, 2 mm long, persistent; pedicel 2–3 mm long; fruiting calyx 5 mm long. *Corolla* 10–11 mm long, white, tube ± 4 mm long, constricted in middle. *Nutlets* brown, 1 mm long. Figure 2.

P. purpuratus subsp. *purpuratus* is confined to the Durban-Pietermaritzburg region of central KwaZulu-Natal (Figure 3) and occurs on rocky outcrops or south-facing cliffs in bushveld. It is commonly found in association with species such as *Aloe arborescens*, *Gasteria croucheri* and *Plectranthus hadiensis* var. *tomentosus*.

Subsp. *purpuratus* is distinguished from subsp. *montanus* and subsp. *tongaensis* by its decumbent habit and succulent, glabrescent, subrotund leaves which are crowded and often subimbricate. Its leaves are entire or, rarely, obscurely crenate. The typical subspecies was named for its purple abaxial leaf surfaces. The plants have an erect to decumbent habit.

2b. ***Plectranthus purpuratus* subsp. *tongaensis*** *Van Jaarsv. & T.J. Edwards* subsp. nov. a subspecies typica



FIGURE 2.—*P. purpuratus* subsp. *purpuratus*, E. van Jaarsveld 9843, Mamba Valley, KwaZulu-Natal. Plant, ×0.5. Scale bar: 10 mm. Artist: Vicky Thomas.

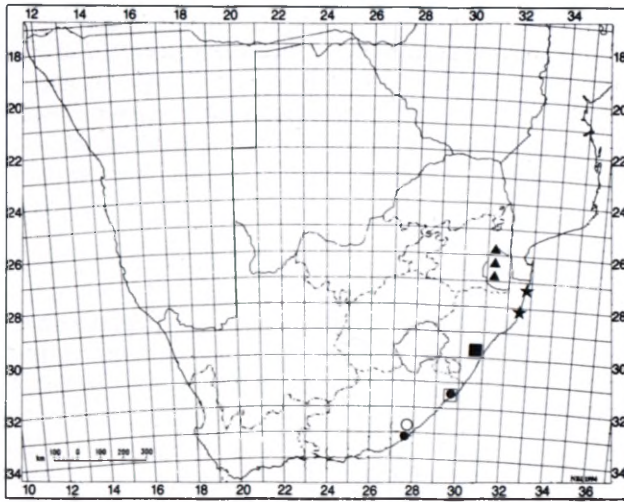


FIGURE 3.—Distribution of *P. lucidus*, ●; *P. purpuratus* subsp. *purpuratus*, ■; *P. purpuratus* subsp. *tongaensis*, ★; *P. purpuratus* subsp. *montanus*, ▲; *P. pentheri*, ○.

habitu procumbenti foliisque trullatis non congestis, marginibus serratis paribus dentium tribus vel quatuor differt.

TYPE.—KwaZulu-Natal, 2732 (Ubombo): Kosi Bay, (–BB), *Van Jaarsveld 12206* (NBG, holo.).

Procumbent, pubescent to glabrescent, succulent herb, rooting at nodes. *Stems* 4-angled, purplish to green, 2–3 mm in diameter, strigose (purplish to white hairs), rubropunctate; internodes 20–30(–60) mm long. *Leaves* ovate to broadly ovate, 30–34 × 15–18 mm, green or purple tinged, coarsely serrate, with 3 or 4 pairs of shallow teeth, abaxial surface strigose to glabrescent, rubropunctate, veins densely strigose, apex acute, base broadly cuneate; petiole 12–15 mm long, strigose, rubropunctate. *Raceme* 140–290 mm long, occasionally with a pair of basal side branches; cymes 3-flowered, 8–20 mm apart; bracts ovate-lanceolate, ± 3 mm long; pedicel ± 4 mm long. *Calyx* ± 3 mm long, enlarging to 6 mm, upper lip ovate, 2 mm long (± 4 mm after flowering), lower lobes 4, linear, ± 1.5 mm long (± 3.5 mm long after flowering), densely strigose (flushed with blue). *Corolla* 12–13 mm long, white, bilabiate, tube basally saccate, 7 mm long, upper lip 5–6 mm long, 2-lobed, lateral lobes 2–3 mm long, lower lip boat-shaped, 5–6 mm long. *Nutlets* black, ovoid, 1.5 × 1.0 mm. *Flowering time*: March to May. Figure 4A.



FIGURE 4.—*P. purpuratus*: A, subsp. *tongaensis*, *E. van Jaarsveld, Van der Walt & Crous 50*, Kosi Bay, KwaZulu-Natal; B, subsp. *montanus*, *E. van Jaarsveld 3386*, Barberton, Mpumalanga. A, B, habit, × 0.7. Scale bars: 14 mm. Artist: Vicky Thomas.



FIGURE 5.—*P. saccatus*: A–C, subsp. *saccatus*; D, subsp. *pondoensis*, E. van Jaarsveld 2201, Oribi Gorge, KwaZulu-Natal. Habit, $\times 0.5$. Artist: Vicky Thomas.

This subspecies is locally common or sporadic in coastal sand forest from St Lucia to Kosi Bay in northern KwaZulu-Natal (Figure 3). Plants are often found in association with *Crassula expansa* subsp. *fragilis*, *Plectranthus petiolaris* and *Cussonia arenicola*.

2c. ***Plectranthus purpuratus* subsp. *montanus*** Van Jaarsv. & T.J. Edwards subsp. nov. a subspecie typica foliis non congestis laminis obovatis marginibus vix serratis paribus dentium duobus differt.

TYPE.—Swaziland, 2631 (Mbabane): Mbabane, (–AC), Compton 32207 (NBG, holo.).

Procumbent, pubescent, succulent herb; roots shallow, fibrous. *Stems* 4-angled, purplish to green, 2.5 mm in diameter, strigose, rubropunctate; internodes 5–12 mm long. *Leaves* ovate to broadly ovate, 12–15 \times 10–15 mm, green to purplish, teeth (2 pairs) shallow, serrate to crenate-dentate, abaxial surface sparsely strigose, rubropunctate, veins densely strigose, base cuneate, apex obtuse to acute; petiole 6–12 mm long, strigose, rubropunctate. *Raceme* 30–100 mm long, occasionally with a pair of side branches at base; cymes 3-flowered, 5–12 mm apart; bracts ovate-lanceolate, ± 2 mm long; pedicels 2–4 mm long. *Calyx* 3 mm long, enlarging to 6 mm; upper lobe 2 mm long (4 mm after flowering), ovate and lower lobes 4, linear, ± 1.5 mm long (3.5 mm after flowering), densely strigose. *Corolla* 14–15 mm long, white, tube 7 mm long, upper lip 5–6 mm long, 2-lobed, lower lip boat-shaped, 3–4 mm long. *Nutlets* black, ovoid, 1.5 \times 1.0 mm. *Flowering time*: March to May. Figure 4B.

The obovate leaves of this subspecies are usually covered in a grey indumentum. The lamina margin is obscurely serrate with two pairs of teeth. The subspecies occurs along the Mpumalanga (Eastern Transvaal) Drakensberg (Figure 3), usually among rocks in grassland and forest margins. Associated species include *Aloe suprafoliata* and *P. verticillatus*.

3. ***Plectranthus saccatus* Benth. subsp. *pondoensis*** Van Jaarsv. & S. Milstein subsp. nov. a subspecie typica foliis manifeste succulentis, inflorescentia brevi, tuboque corollae brevi 6–7 mm longo differt.

TYPE.—KwaZulu-Natal, 3030 (Port Shepstone): Oribi Gorge, (–CA), E. van Jaarsveld 2201 (PRE, holo.).

Trailing, glutinous succulent herb. *Stems* obscurely four-angled; young stems 2–5 mm in diameter, purplish, minutely glandular pubescent, becoming glabrous; older stems striate; internodes 6–40 mm long. *Leaves* ovate to broadly trullate, 12–27 \times 10–28, both surfaces minutely glandular pubescent, abaxial surface slightly costate; petiole 5–25 mm long. *Racemes* secund, 30–50 mm long; bracts linear, ± 1 mm long, caducous; pedicels 6–7 mm long. *Calyx* 3–6 mm long (enlarging to 8 mm), upper lip ascending, ovate, 1 mm long, lower lobes 4, narrowly linear-lanceolate, 1 mm long. *Corolla* saccate, tube 6–20 \times 3–7 mm, upper lip 2-lobed, 9–13 \times 7–12 mm, erect, lobes folded back, lower lip horizontal or slightly drooping, blue to pale mauve-pink, inner surface speckled with purple (often in 4 rows), lower lip 8 mm long, speckled with purple. *Stamens* ± 14 mm long, declinate in lower lip, free for 8 mm; anthers purple, bent upwards. *Style* 11–12 mm long. Figure 5D.

P. saccatus subsp. *pondoensis* is distinguished from the typical subspecies by its distinctly succulent leaves and decumbent to procumbent habit with flexible stems up to 4 m long. The secondary growth of the species is anomalous with many broad collenchymatous rays which impart flexibility.

The two subspecies are ecologically separated, with subsp. *pondoensis* being common in scrub along gorge lips, and subsp. *saccatus* being common in forest. Succulence occurs in a number of cliff-dwelling species (*P. ernstii*, *P. purpuratus* and *P. strigosus*). The two subspecies maintain their vegetative characteristics under uniform cultivation. No hybrids between them have been observed.

P. saccatus subsp. *pondoensis* is restricted to the quartzitic sandstone cliff faces of the Msikaba River of northern Eastern Cape (northern Transkei) and southern KwaZulu-Natal (Figure 6). Associated species include *Cryptocarya wyliei* and *Crassula sarmentosa* var. *sarmentosa*.

P. saccatus subsp. *saccatus* is very variable, with several local forms (Figure 5A–C). The recognition of var. *longibus* Codd within this species is contentious. The corolla tube length is highly variable and appears to form a continuum.

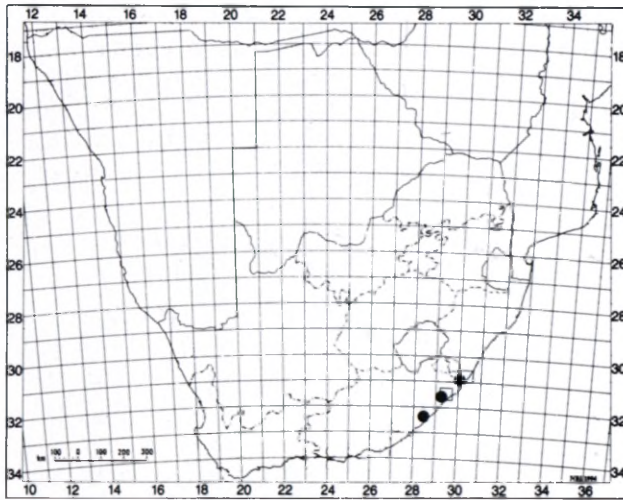


FIGURE 6.—Distribution of *P. aliciae*, ●; *P. saccatus* subsp. *pondoensis*, □.

4. ***Plectranthus aliciae*** (Codd) Van Jaarsv. & T.J.Edwards stat. nov. Type: Transkei, Butterworth, Kentani, Pegler 909 (PRE, holo.).

P. madagascariensis var. *aliciae* Codd in Bothalia 11: 404 (1975).

Erect to decumbent, soft, semi-succulent herb to 400 mm high. *Leaves* 25–40 × 22–40 mm, broadly ovate, sparsely strigose, adaxial surface rubropunctate, serrate, teeth in 3 or 4 pairs, base truncate, apex acute. *Raceme* up to 130 mm long; cymes 3–6-flowered. *Calyx* 3 mm long (enlarging to 5 mm). *Corolla* white, 5–14 mm long, tube widening to throat. *Nutlets* 1 mm long, light to dark brown. Figure 7.

P. aliciae is distinguished by its ascending habit, membranous, sparsely pubescent lamina with 2 or 3 pairs of teeth and short corolla tube. It is distributed from East London to southern KwaZulu-Natal (Figure 6) occurring in subtropical lowland forest. Associated species at Oribi Gorge include *Cryptocarya woodii*, *P. oertendahlii*, *P. oribiensis*, *P. zuluensis* and *P. petiolaris*.

P. aliciae is sympatric with *P. madagascariensis* and is therefore accorded specific status. *P. madagascariensis* is a species of open subtropical thickets and forms dense stands, whereas *P. aliciae* is a forest dweller and retains its habit in cultivation. *P. aliciae* commemorates Alice Pegler (1861–1929), teacher and amateur botanist in the E Cape.

5. ***Plectranthus lucidus*** Van Jaarsv. & T.J.Edwards stat. nov. Type: Eastern Cape, Bathurst, Burchell 3924, (K!, holo.).

P. strigosus Benth. var. *lucidus* Benth. 12: 68 (1848).

Procumbent, succulent herb, rooting at nodes, glabrous or sparsely pubescent; roots fibrous. *Stems* 4-angled, purplish to green, 2.5 mm in diameter, strigose (white multicellular hairs), rubropunctate; internodes 5–20 mm long. *Leaves* ovate to broadly ovate, 12–15 × 10–15 mm, serrate to crenate-dentate, with 3 or 4 pairs of teeth, green to purplish, abaxial surface sparsely strigose, veins densely strigose, rubropunctate, base cuneate, apex obtuse to acute; petioles 5–15 mm long, strigose and rubropunctate.

Raceme simple, 30–100 mm long, rarely with a pair of side branches; cymes 1-flowered, verticillasters 5–10 mm apart; bracts ovate-lanceolate, 2–3 mm long; pedicel 4–5 mm long. *Calyx* at flowering 3–4 mm long, enlarging to 7 mm, consisting of a large, ovate upper lip 2 mm long (4 mm after flowering) and 4 subulate lower lobes, 3.5 mm long (5 mm long after flowering), densely strigose, with longer purplish hairs. *Corolla* 9–11 mm long, white or mauve; tube straight, 5 mm long, basally saccate, constricted distally; upper lip 5 mm long, 2-lobed, upper lobes 3 mm long, lateral lobes 2 mm long, with long multicellular white hairs, lower lip boat-shaped, margins strongly involute. *Nutlets* brown to black, ovoid, 1.5 × 1.0 mm. *Flowering time*: March to May. Figure 8.

Plectranthus lucidus forms mats on stabilized coastal sand dunes below trees (with mainly *Mimusops obovata* and *Allophylus natalensis*), from Bathurst in the south-eastern part to Port St Johns in the northeastern part of Eastern Cape. It shares its habitat with other shade-loving coastal plant species such as *P. madagascariensis* and *Scadoxus membranaceus*.

P. lucidus is closely related to *P. verticillatus* (L.f.) Druce and *P. strigosus* Benth. (section *Plectranthus* series *Plectranthus*); it is distinguished by its 2-flowered verticillasters and short corolla (9–11 mm) of which the lower lip margins are conspicuously inrolled. In both *P. strigosus* and *P. lucidus* the corolla is constricted at the throat, unlike *P. verticillatus* where the corolla is linear.

6. ***Plectranthus penteri*** (Gürke) Van Jaarsv. & T.J.Edwards comb. nov. Type: Eastern Cape, Albany Dis-



FIGURE 7.—*P. aliciae*, Umtamvuna, KwaZulu-Natal. E. van Jaarsveld & Campher 117. Plant, × 0.5; habit much reduced. Scale bar: 20 mm. Artist: Vicky Thomas.



FIGURE 8.—*P. lucidus*, E. van Jaarsveld 3827, Port St Johns, Eastern Cape. Plant, $\times 0.6$; flowers and calyx, $\times 1.3$. Artist: Vicky Thomas.

trict, Breakfast Vlei, *Krook in Herb. Penther 1716* (W, holo.; PRE!).

Coleus pentheri Gürke in *Annalen des Naturhistorischen Museums in Wien* 20: 48 (1905).

Decumbent, succulent herb up to 100 mm tall; basal tuber 30×15 mm, white. *Stems* 4-angled, 2–4 mm in diameter, sparsely pilose, punctate, glands orange; internodes 3–6 mm long. *Leaves* conduplicate, succulent, firm, ovate to subrotund, 9–14 \times 9–14 mm, entire to dentate-serrate in upper half, teeth shallow, in 4 or 5 pairs; sparsely pubescent, punctate, glands orange, base broadly cuneate, apex obtuse; petiole 2 mm long. *Raceme* 50–70 mm long, simple; cymes 3-flowered, 5–10 mm apart; bracts broadly ovate to subrotund, mucronate, 4 \times 4 mm, initially imbricate, caducous; pedicels 5 mm long. *Calyx* 3 mm long (enlarging to 5 mm), upper lip broadly ovate, 2.0 \times 2.5 mm, lower lobes 4, linear, 2 mm long. *Corolla* 15 mm long, white; tube laterally compressed, slightly geniculate, 5.0 \times 1.5 mm, expanding to 3 mm at throat, upper lip 3 mm long, 2-lobed, lateral lobes 2.5 mm long, lower lip



FIGURE 9.—*P. pentheri*, E. van Jaarsveld, Sardien & Peterson 13774, Kei River, Eastern Cape. Plant and rootstock, $\times 0.5$. Scale bar: 20 mm. Artist: Vicky Thomas.

boat-shaped, 9 mm long. *Nutlets* brown to black, ovoid, 1.5 \times 1.0 mm. *Flowering time*: March to May. Figure 9.

Codd (1985) regarded *P. pentheri* (as *Coleus pentheri*) as a synonym of *P. neochilus*. The two entities, however, differ markedly. Both belong to subgenus *Calceolanthus* but *P. pentheri* is at once distinguished by its oblong tuberous roots and white flowers. It also lacks the strong aroma of the closely related *P. neochilus*, which is a widespread species with fibrous roots and mauve to purple flowers.

P. pentheri is known from a few gatherings. It grows with *Crassula ericoides* on lithosols of granite boulders in grassland.

ACKNOWLEDGEMENTS

Dr O. A. Leistner is thanked for preparing the Latin diagnoses and editing the text.

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