

**NEW SPECIES IN *PETALACTE* (COMPOSITAE) AND  
*STRUTHIOLA* (THYMELAEACEAE)**

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Two species, *Petalacte vlokii* (Compositae) from the southern Cape fold mountains, and *Struthiola anomala* (Thymelaeaceae) from southernmost Natal, are newly described.

COMPOSITAE

***Petalacte vlokii* Hilliard species nova** ab affini *P. epaleata* Hilliard & Burt foliis primariis maximis 5–8 x 1.2–2mm (nec 8–15 x 2–4mm), persistenter lanatis (nec supra glabrescentibus), floribus masculis tubo corollae 2.3–2.7mm longo (nec 3–3.5mm), ovario abortivo 0.4–0.8mm longo (nec 0.15–0.5mm) distinguitur.

Perennial herb up to 60cm tall, loosely branched, young parts white-woolly, leafy. *Leaves* (largest primary ones) 5–8 x 1.2–2mm, narrowly panduriform to elliptic, apex somewhat tapered or rounded, shortly apiculate, base broad, half-clasping, margins strongly revolute, both surfaces persistently white-woolly. *Capitula* heterogamous, c.4 x 2mm, many in crowded corymbose panicles c.15mm in diameter at tips of branchlets. *Involucral bracts* in c.4 series, outer 2 series reduced, brown, shaft cobwebby, tip scarious, inner 2 series with greenish shaft and suborbicular opaque snow-white tip c.1 x 1mm. *Receptacle* smooth, without paleae or teeth. *Flowers* 4–6, 0–1(–2) female, 3–5 functionally male, corolla tube in female flowers 2mm long, in functionally male flowers 2.3–2.7mm. *Ovary* 1.2–1.5mm long, aborted ovaries 0.4–0.8mm, sparsely hairy. *Achenes* not seen. *Pappus bristles* very briefly fused in a ring, contorted, barbellate below, barbs longer at the tips, acute, opaque white.

Type: South Africa, Cape, Montagu division, 3320 CA, on crest of Waboomsberg, on farm Pypsteelfontein, 4200ft, 29 ix 1990, *Vlok* 2416 (holo. E; iso. BOL, K).

CAPE: Montagu-Swellendam division, [3420 AD], Goedgeloof Peak on the Langeberg near Swellendam, 3500ft, 3 ix 1955, *Esterhuysen* 24503 (BOL, E).

Hilliard & Burt (1989, p. 207) cited *Esterhuysen* 24503 (above) as *Petalacte epaleata*, but when Mr Vlok, in 1991, sent to Edinburgh a specimen that matched it precisely, it became clear that an undescribed species was under examination. The two species differ in habit: *P. vlokii* is much more loosely branched than *P. epaleata* (Mr Vlok described it as a perennial reseeding herb, Miss Esterhuysen as a shrub, soft but becoming woody). *Petalacte epaleata* is a well branched shrublet. The leaves of *P. vlokii* are smaller than those of *P. epaleata*, less markedly apiculate, the margins more strongly revolute, the midrib scarcely or not visible below (readily seen in *P. epaleata* even though covered in wool) and persistently lanate on both surfaces (glabrescent above in *P. epaleata*). *Vlok* 2416 has fully developed flowers (these of *Esterhuysen* 24503 are only in bud); these prove to be smaller than those of *P. epaleata* (corolla tube of functionally male flowers 2.3–2.7mm long, not 3–3.5mm) and are seated on generally longer aborted

ovaries (0.4–0.8mm, not 0.15–0.5mm). The compound inflorescences also appear to be smaller, about 15mm in diameter, not up to 35mm. Mr Vlok described the involucre bracts of *P. vlokii* as 'snowy-white, the florets yellow', but in a specimen of *P. epaleata* collected by him on Rooiberg Mountain (Vlok 2039) he noted 'flowers and involucre bracts pure white'. That there is a real difference in colour unrelated to age of the flowers needs confirmation. The flowers of *P. coronata* (L.) D. Don are said to be purple (and appear so when dried).

It is a pleasure to associate Mr Vlok's name with this third species of *Petalacte*; his deep interest in the Cape flora has led to many discoveries on the little-botanized Cape fold mountains. *Petalacte epaleata* is now known from three sites: the type locality on the Little Swartbergen near Ladismith (3321 AD) and two collections from the Rooiberg (3321 DA). The sites of *P. vlokii* lie further west, on the Waboomsberge (3320 CA) and the Langeberge near Swellendam ( $\pm$  3320 CD). Whether or not the two species are truly allopatric can only be resolved when the flora of these southern ranges is much better known.

I also want to thank Mrs P. Lorber, Curator of Bolus Herbarium, University of Cape Town, for gifting to Edinburgh a photocopy and fragment of the holotype of *P. epaleata*.

#### THYMELAEACEAE

***Struthiola anomala* Hilliard, species nova** a *S. angustiloba* Peterson & Hilliard habitu (caulibus multis tenuibus simplicibus vel subsimplicibus e caudice stolonifero, nec suffrutice bene-ramoso), foliis juvenilibus magis pilosis, petalis rudimentariis pilis circumcingentibus carentibus (nec petalis c.0.75mm longis) distinguenda.

Stock stoloniferous, many stems tufted from base, simple or subsimple, 15–40cm tall, 1–2mm in diameter near base, young parts with patent hairs c.1mm long, closely leafy, lower parts nude, rough with leaf scars. *Leaves* opposite, erect, imbricate, 9–11 x 2–2.5mm, lanceolate, acute, base slightly narrower, initially with white hairs c.1mm long on margins and midline below, eventually glabrescent. *Flowers* solitary in axils of leaves. *Bracteoles* c.4–5 x 0.5–0.8mm, linear-lanceolate, hairy as leaves. *Calyx* very pale creamy- or greenish-yellow, tube c.7–9mm long, narrowly cylindrical, abruptly expanded in throat, lobes 4, c.2–3.8 x 0.5–1mm, lanceolate-acuminate, glabrous or with a few hairs on swollen part of tube and near tips of the two larger calyx lobes. *Petals* rudimentary, consisting of 2 very small fleshy lobes at base of each calyx lobe, encircling bristles wanting. *Stamens* 4, inserted c.1.5mm below mouth; anthers c.1mm long, filaments c.0.2mm. *Ovary* c.0.8 x 0.3mm; style and stigma c.4mm long, included. *Fruit* c.2.5 x 1.5mm, pericarp papery. *Seed* c.2.5 x 1.5mm, black, shining.

Type: South Africa, Natal, Alfred distr., Weza State Forest, beside road to Lovedale Plantation, 1100m, 8 xii 1984, *Balkwill et al.* 2394 (holo. E; iso. J, K, NU, PRE, S).

NATAL: Alfred distr., 3029 DA, Weza State Forest, Ngele Mountain, on right of Lovedale road 1km before the Umtamvuna, 1100m, 17 i 1993, *Abbot* 5908 (E, K, PRU, S); Ngele Mountain, slopes west of Kwa Shwili, 1400m, 22 i 1993, *Abbott* 5915 (E, J, K, MO).

This interesting plant lends emphasis to the difficulty of generic delimitation within the ambit of *Gnidia* Linn. Dyer (1975, p. 393) adopted a broad generic concept for *Gnidia*,

saying 'Consensus of opinion favours the reduction of the number of genera, mainly because of the variable nature of the differentiating characters', but gave no indication of the basis for that consensus. Moreover, neither Dyer's key nor his generic description of *Gnidia* make provision for *Basutica* E.P. Phillips and *Pseudognidia* E.P. Phillips, reduced by him under *Gnidia*.

Dr B. Peterson (1982, p. 81) endorsed Dyer's view, and made several new combinations in *Gnidia*. Earlier, E. P. Phillips (1944, p. 61) had discussed the problem and concluded that 'the number of stamens and the number of the calyx lobes, in conjunction with other considerations such as distribution and general similarity, must be taken as characters to separate the genera *Gnidia*, *Lasiosiphon*, *Arthrosolen* and *Struthiola*.' Phillips then went on to describe three new genera, *Pseudognidia*, *Basutica* and *Struthiopsis*. Dyer and Peterson recognized only *Struthiola* and a heterogeneous *Gnidia*, and so harked back to Gilg's treatment in the *Pflanzenfamilien* (1895).

The plant described here as *Struthiola anomala* bears so striking a resemblance to *S. angustiloba* (known only from the Natal Drakensberg between Royal Natal National Park and Giant's Castle) and *S. tetralepis* Schltr. (SW Cape) that the pragmatic course is to give the species a name in *Struthiola* despite its lack of well-developed petals encircled by stiff hairs, which will lead to difficulty in using currently available keys to genera. In Phillip's key (1944, p. 67 and 1951, p. 527), *Struthiola* keys out under '2. Stamens as many as the calyx lobes' and then (lead 3) 'Petals surrounded by stiff hairs.' *Struthiola anomala*, lacking hairs, would then have to be distinguished (at lead 4) from *Pseudognidia* as they share the characters of opposite leaves and eight petals (only rudimentary in *Struthiola anomala*); the inflorescence in *Struthiola* is a spike, in *Pseudognidia* a pseudohead.

In Dyer's key (1975, p. 392), under the lead 'Petals free .....', *Struthiola* is distinguished from *Gnidia* by four versus eight stamens; under the lead 'Petals absent' (which might be taken to apply to *S. anomala*), choice is restricted to *Gnidia*.

I sent the late Dr Peterson a specimen of *Struthiola anomala* in 1985, when the plant first came into my hands; he suggested that the petals and hairs had either been eaten by beetles or that the flowers were abnormal (note that he accepted it as a species of *Struthiola*). Neither alternative satisfied me, and I therefore asked Mr Tony Abbott to try to re-collect the plant during the course of his botanical expeditions to Ngele Mountain. After considerable effort over several seasons he succeeded; I am very grateful to him. He sent both dried and spirit material as well as photographs showing great stands of it on rocky grassy slopes. The material shows conclusively that the petals are reduced to rudiments similar to the fleshy bases from which the petals of *S. angustiloba* arise, and that the bristles are aborted, which characters, together with differences in habit and indumentum, mark it as a species distinct from *S. angustiloba*.

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