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Notes on African plants

VARIOUS AUTHORS

PROTEACEAE

A NEW SPECIES OF *LEUCOSPERMUM* FROM THE SOUTHWESTERN CAPE

Since the last revision of *Leucospermum* R. Br. was published (Rourke 1972), undescribed taxa in this prominent genus continue to be found (Rourke 1979; 1983). The singular species here described as *Leucospermum harpagonatum* Rourke was discovered during August 1993 at the northeastern end of the Riviersonderend Mountains by Dr A.E. Rebelo of the Protea Atlas Project.

Leucospermum harpagonatum *Rourke*, sp. nov. distinctissima, habitu prostrato conferto; foliis glabris secundis integris; inflorescentia 8–10 floribus; 25–35 bracteis involucralibus; perianthio curto, tubo inflato distaliter dense lanato; stylo distaliter retrorse hamato adaxialiter valde arcuato, distinguitur.

TYPE.—Cape Province 3419 (Caledon): Groot Toren, north slopes of Riviersonderend Mountains above Olifantsdoorn Farm on west side of a koppie NW of Aasvoëlkrans, (–BB), 20-10-1993, *J.P. Rourke 2030* (NBG holo.!; B, BOL, E, K, MO, NSW, PRE, S, STE, iso.!).

Prostrate sprawling shrublet forming dense mats 1–3 m in diam., 100–150 mm tall, with trailing branches radiating horizontally along ground, arising from a single main stem. *Flowering branches* usually produced at perimeter of mat, 3–5 mm in diam., puberulous initially, soon glabrous, reddish flushed, bearing numerous pedunculate axillary inflorescences. *Leaves* secund, linear to narrowly oblong, 55–110 × 2–10 mm, tapering in petiolar region; apex entire, obtuse to rounded with a single amber callosity; lamina broadly concave on upper surface, margins slightly incurved. *Inflorescence* 8–10(12)-flowered, turbinate, 28–30 mm in diam.; pedunculate, peduncle 10–20 mm long. *Involucre* prominent, 3-seriate; composed of 25–35 ovate to broadly ovate, densely sericeous, cartilaginous involucral bracts, 6–8 × 2–4 mm; imbricate but apices patent, acuminate. *Receptacle* obconic-flattened, 3–5 mm diam. *Floral bracts* tightly clasping perianth, broadly ovate, acute, 5 × 6–7 mm, very densely sericeous. *Perianth* cream to pale carmine, very strongly adaxially curved, utriculose, 10–15 mm long; tube prominently inflated, 9–10 × 5–6 mm distally, narrowed and glabrous proximally, densely lanate distally; claws 4–5 mm long, abruptly narrowed above tube, strongly deflexed on opening, densely lanate, especially along margins, carmine in live state; limbs lanceolate-acute, 3 mm long, recurved on opening, densely villous. *Anthers* 4, sessile, 1 mm long. *Style* 20–25 mm long, strongly adaxially cygneous, tapering terminally, upper half retrorsely barbed, cream or reddish in live state, tapering to a narrow neck below pollen presenter. *Pollen presenter* inwardly curved, conic-acute 1.5 mm long with a distinct proximal corona. *Stigmatic groove* terminal. *Ovary* not differentiated from style, minutely sericeous, 0.5 mm long. *Hypogynous scales* linear-acute 2 mm long, yellow. *Fruit* a minutely puberulous, cylindric, greyish-white achene, 8 × 5 mm, broadly emarginate at apex. Figures 1 & 2.

Diagnostic characters

This species is clearly related to *L. hamatum* Rourke on account of its few-flowered inflorescences, adaxially curved styles beset with minutely retrorse barbs and inflated perianth tubes. It is distinguished from *L. hamatum* by having linear to narrowly linear, entire leaves (usually tridentate in *L. hamatum*) and by the utriculose perianth tube, densely lanate in the upper half (glabrous in *L. hamatum*). Another marked difference is that *L. harpagonatum* has a well-developed involucre of 25–35 bracts, whereas in *L. hamatum* the involucre consists of 3 or 4 bracts or is completely absent and is replaced by a false involucre formed from 4 or 5 floral bracts. On average there are more flowers in each inflorescence in *L. harpagonatum* (8–10 flowers) and fewer (4–7 flowers) in *L. hamatum*.

Relationships

Leucospermum hamatum and *L. harpagonatum* are clearly a pair of geographical vicariads, their distribution areas separated by approximately 200 km. They share the remarkable character of having styles beset with minutely retrorse barbs. Their perianths are also similar in form, having very reduced shortened claws and a large tube prominently inflated distally to form a bladder-like nectar reservoir. In this character they appear to be allied to *Leucospermum* section *Tumiditubus* and may even have been derived from that section as a specialised offshoot.

However, the two species should be placed within a distinct section of their own. With its well-developed involucre and greater number of flowers in each inflorescence, *L. harpagonatum* represents a very much less reduced stage than *L. hamatum*.

Distribution, habitat and biology

Present information suggests that *L. harpagonatum* is endemic to a few hectares at the northeastern end of the Riviersonderend Range near McGregor in the southwestern Cape. A single population of approximately 60 plants has been located on the farm Groot Toren above Olifantsdoorn homestead at an elevation of approximately

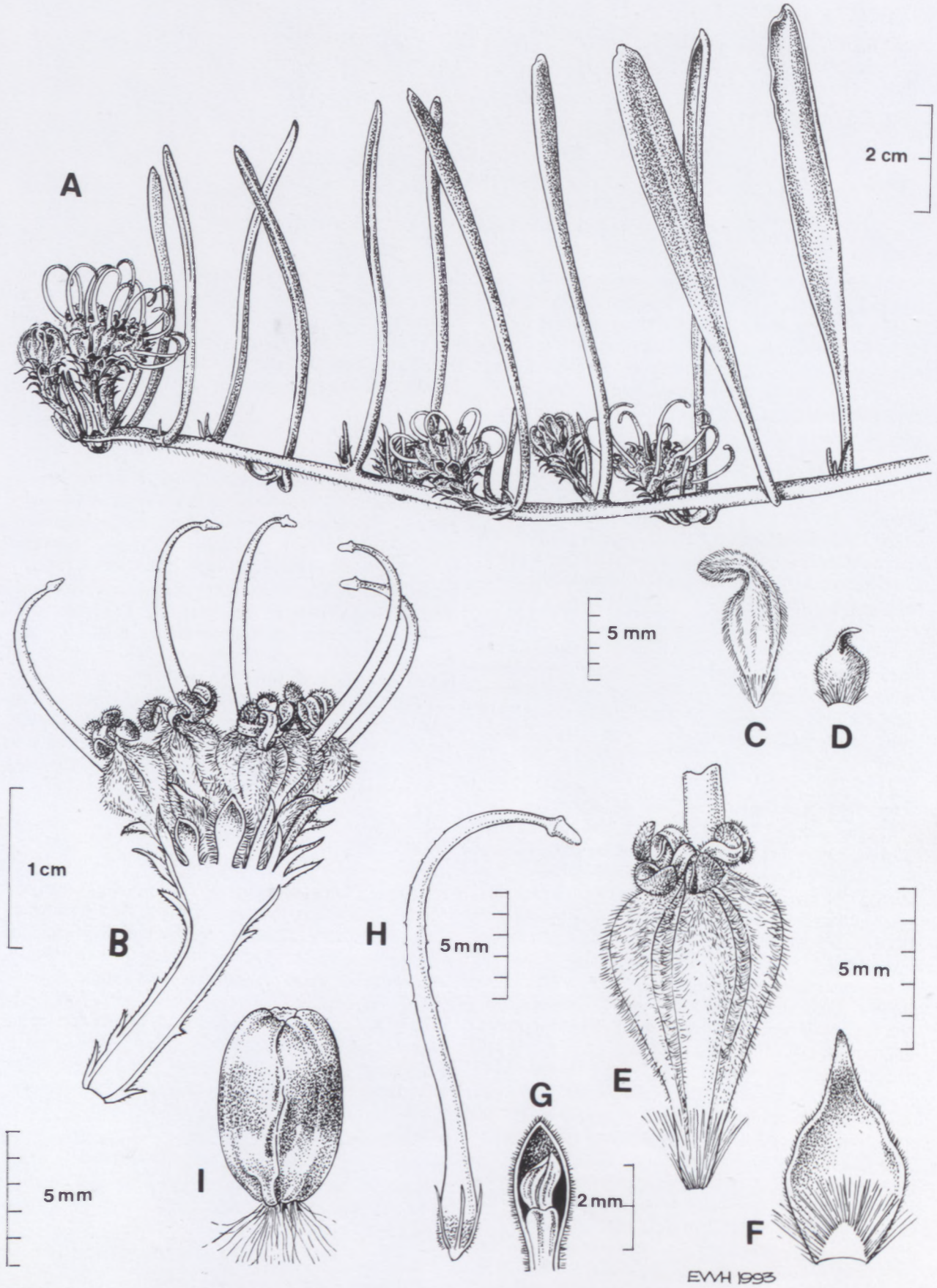

FIGURE 1.—*Leucospermum harpagonatum* Rourke. A, flowering shoot:, B, lengthwise section through inflorescence; C, perianth in bud; D, involucral bract; E, perianth at anthesis showing inflated tube region; F, floral bract; G, perianth limb and anther; H, gynoecium showing retrorsely barbed style, pollen presenter, ovary and hypogynous scales; I, mature achene. From the type material *Rourke 2030*.

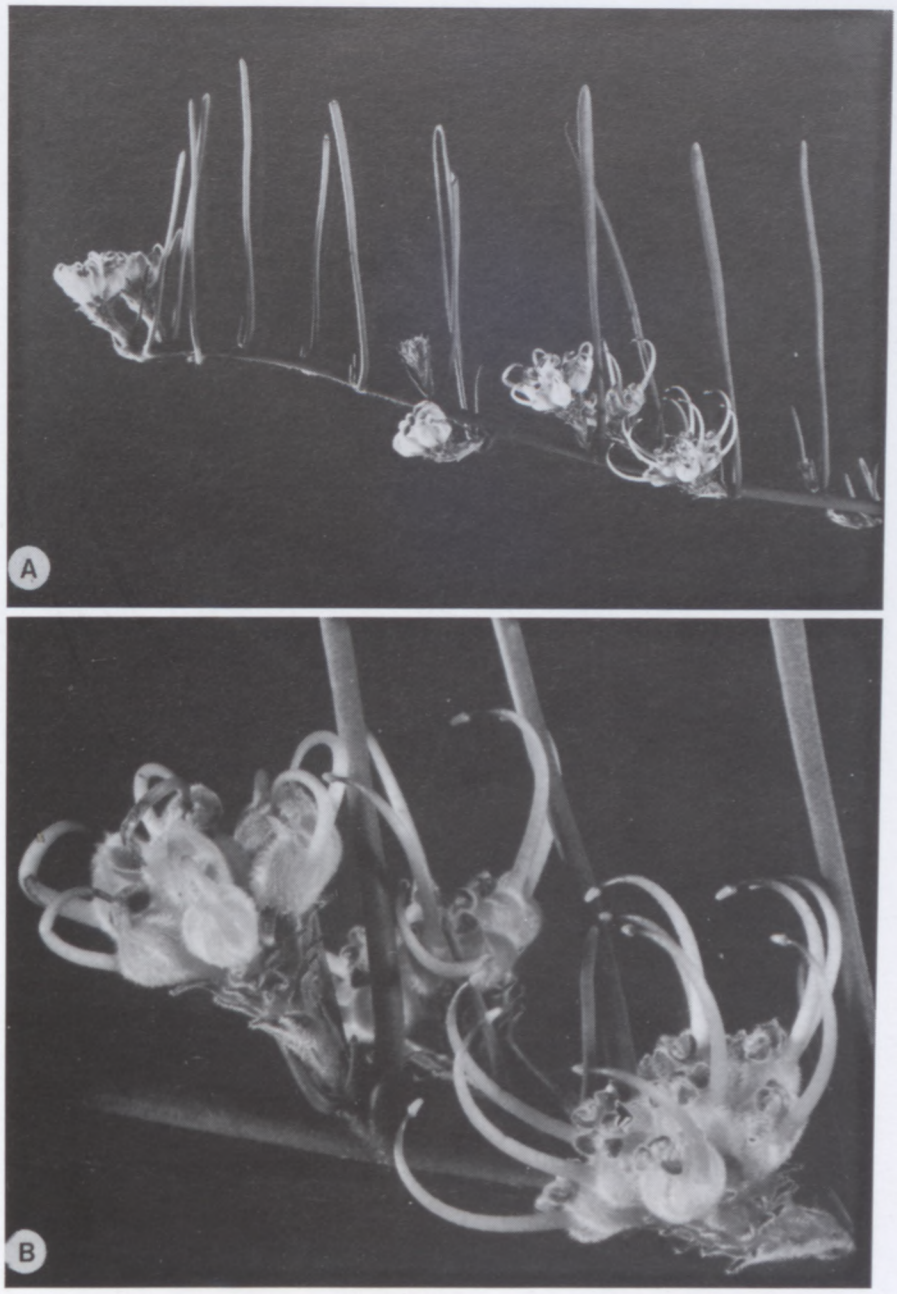

FIGURE 2.—*Leucospermum harpagonatum* Rourke. A, flowering branch; B, close-up view of inflorescences about to open (left) and fully open (right). *Rourke 2030*. Photo by J. Loedolff.

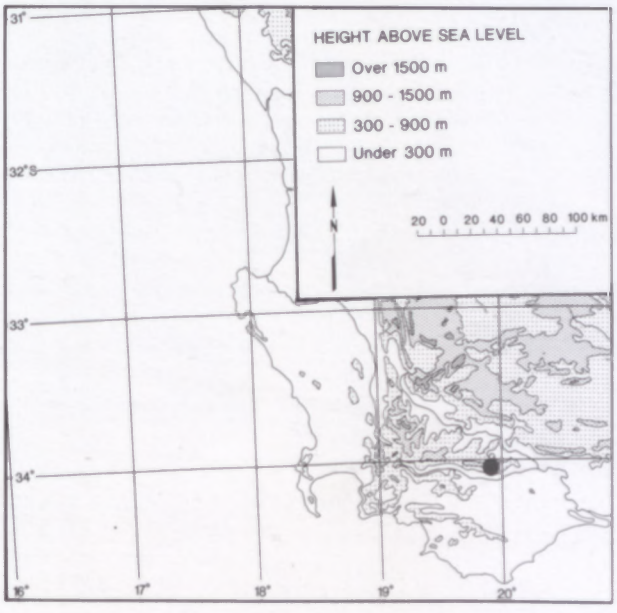

FIGURE 3.—Distribution of *Leucospermum harpagonatum* Rourke.

790 m, growing in a dry variant of Mesic Mountain Fynbos (Figure 3).

Mature adult plants form dense mats 0.5–3.0 m in diameter which resemble *Carpobrotus edulis* when viewed from a distance. Flowering takes place on short shoots as well as on the long trailing branches produced at the perimeter of the mats. These trailing branches are particularly floriferous producing up to twenty-five axillary inflorescences along their length. The flowers are cream at first, changing to pink and carmine in the post-pollination phase. They produce no perceptible odour and open between late August and the end of November. Both styles and perianths are chewed by rodents which gnaw open the bladder-like perianth tube apparently to gain access to the large volume of nectar which is produced in each swollen perianth.

The specific epithet is derived from *harpago*—a grappling iron and the suffix *-atum* indicating likeness or possession, alluding to the distinctive form of the styles.

Specimens examined

WESTERN CAPE.—3419 (Caledon): above Olifantsdoorn, Riviersonderend Range, (–BB), Aug. *A.G. Rebelo s.n. Protea Atlas 9308121* (NBG); Groot Toren, north slopes of Riviersonderend Mountains above Olifantsdoorn Farm on west side of a koppie NW of Aasvoëlkrans, (–BB), Oct., *Rourke 2030* (B, BOL, E, K, MO, NBG, NSW, PRE, S, STE).

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