

The Soutpansberg Centre of Endemism is situated in the Limpopo Province and comprises the Soutpansberg and Blouberg Massifs. The highest point in the Soutpansberg is Lejuma at an altitude of 1 748 m, while the Blouberg rises to 2 051 m. The vegetation of the Soutpansberg is mainly bushveld and thicket, with Afro-montane forest patches on the south- and east-facing slopes. At higher altitudes, grasslands are found on particularly the southern slopes, and a fynbos-type vegetation grows in the mist belt at places along the summit. This centre of endemism shows clear floristic links with other Afro-montane areas such as the Wolkberg Centre to the south and the Chimanimani-Nyanga Centre in Zimbabwe to the north (Van Wyk & Smith 2001).

The Soutpansberg Centre harbours an estimated total of 3 000 vascular plant taxa of which ± 45 (1.5%) are endemic to the area. The genus *Aloe* L. is well represented in this centre of endemism. At least 13 *Aloe* taxa have been recorded along a 9 km transect from Hanglip in the south to Tshikuwi in the north (Van Wyk & Smith 2001).

There has long been doubt as to the exact identity of maculate aloes occurring in the Soutpansberg, previously identified as *Aloe swynnertonii* Rendle (= *A. chimanimaniensis* Christian) (Christian 1936). According to Carter (2001), *A. swynnertonii* only occurs in Montane grassland in the mountainous border between Zimbabwe and Mozambique, and the eastern outliers of these mountains. Carter (2001) further states that the disjunct population of *A. swynnertonii* near Lake Fundudzi in the Limpopo Province of South Africa, as reported by Christian (1936) and Reynolds (1950), probably represents an extreme form of a species from the Soutpansberg. The Lake Fundudzi plants have shorter bracts, pedicels and perianths than *A. swynnertonii* (Christian 1936; Reynolds 1950; Carter 2001).

The separate specific status of these plants was recently confirmed by Dr Norbert Hahn (pers. comm.). After extensive fieldwork in the Soutpansberg, he came to the conclusion that populations hitherto regarded as *A. maculata* All. from the Blouberg and Lejuma and *A. swynnertonii* from the eastern Soutpansberg (Hahn 2002, 2006) are the same taxon and represent extremes of a very polymorphic taxon. This taxon is considered to be endemic to the Soutpansberg region and is here described as *Aloe hahnii* Gideon F.Sm. & R.R.Klopper.

Aloe hahnii Gideon F.Sm. & R.R.Klopper, sp. nov., a *A. swynnertonii* differt bracteis, pedicellis, perianthisque brevioribus et floribus nitidioribus scarlatinis magis decurvatisque.

TYPE.—Limpopo, 2230 (Musina): Soutpansberg, Lejuma, due E of Lejuma peak, (–AB), 2007-06-08, *Hahn 2172* (PRE, holo.), *Hahn 2171* (PRE, para.).

A. chimanimaniensis auct. sensu Christian: t. 639 (1936), p.p. quoad spec. et loc. reg. Transvaal; sensu Reynolds: 220 (1950), p.p. quoad spec. et loc. reg. Northern Transvaal.

A. maculata auct. sensu Hahn (2006), quoad loc. reg. Blouberg et Soutpansberg.

A. swynnertonii auct. sensu Glen & Hardy: 52 (2000), p.p. excl. ref. *A. petrophila* Pillans et *A. vogtsii* Reynolds; sensu Hahn (2006), quoad loc. reg. Soutpansberg.

Small, slow-growing, herbaceous, succulent, perennial herb, 200–400 mm tall, with rosettes solitary, not forming clusters, 250–400 mm diam. *Stems* usually absent, rarely up to 120 × 40–50 mm diam, creeping along ground, with persistent dried leaves. *Leaves* laxly rosulate, distinctly spreading, attenuate, tapering to dried, reflexed apex, 130–400 mm long, 40–60 mm broad at base, upper surface dull pale green to brown, with pale milky green to whitish spots, variously shaped and sized, sometimes \pm confluent in transverse bands, densely dotted with tiny whitish dots, lower surface uniformly pale to milky green, with dense whitish to milky green spots, \pm confluent in transverse bands, usually with longitudinal darker greenish or purplish striations; margin not distinctly coloured, with very pungent, straight, brownish orange teeth, 2–4 mm long, 7–14 mm apart, \pm evenly spaced; leaf exudate drying opaquely yellow, cut end eventually turning dark purple. *Inflorescence* single, 260–1 000 mm tall, erect, 4–8(–10)-branched from above middle, upper branches rarely re-branched, branches erectly spreading. *Peduncle* 5–8 mm wide at base, matt purplish brown with a soft, whitish bloom, basally plano-convex; without sterile bracts; branches subtended by up to 30 mm long, 5–10 mm wide at base, straw-coloured, thin, scarious, many-nerved bracts. *Racemes* cylindrical to head-shaped, 40–60 × 50–70 mm, varying in size according to age of plants, larger in old plants, smaller in young plants, laxly flowered; buds erect to spreading, somewhat congested at apex, flowers subpendulous when open. *Floral bracts* amplexicaul, 5–15 × 2–3 mm, dirty brownish white, margins the same colour, thin, scarious, many-

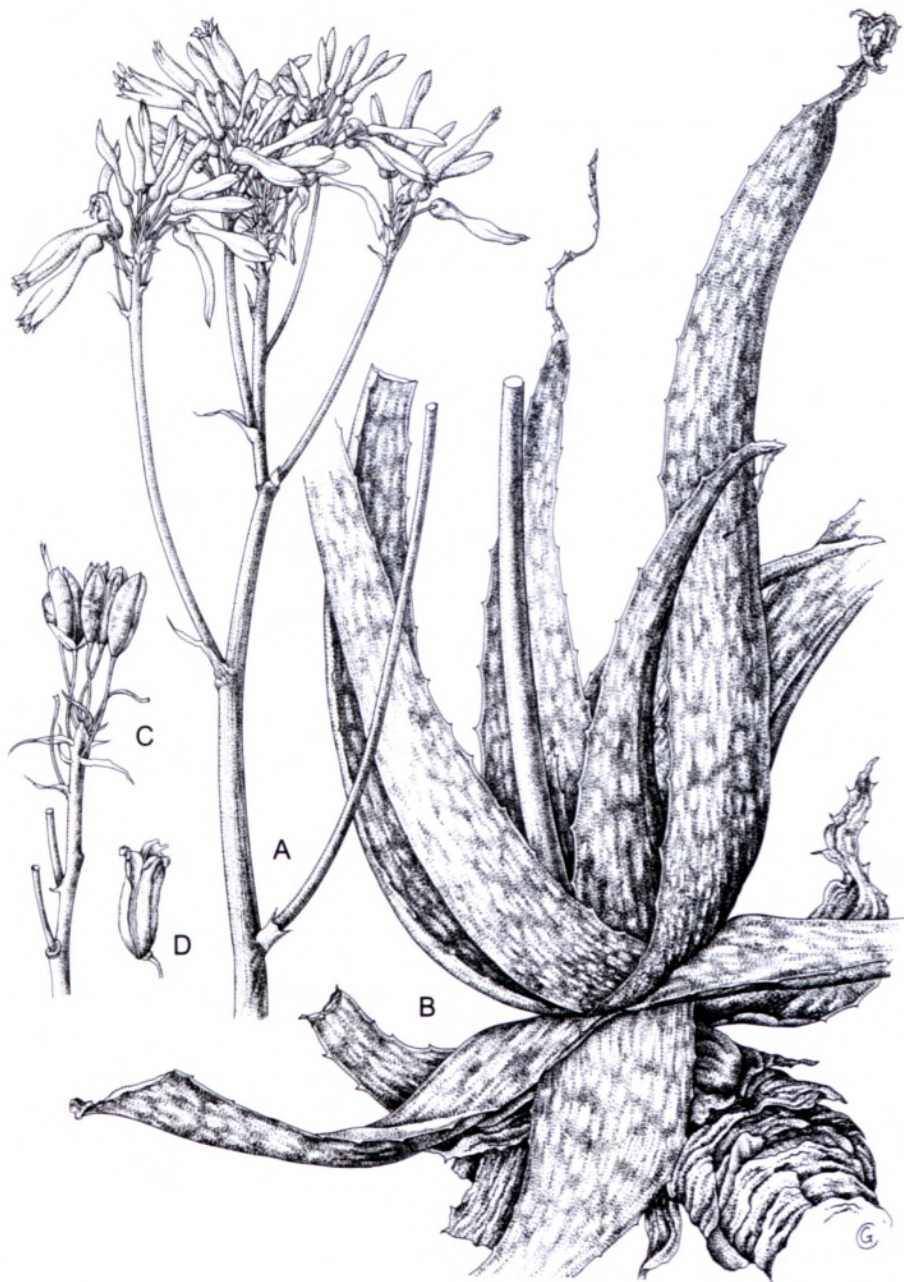


FIGURE 1.—*Aloe hahnii*, Smith & Klopper 1. A, inflorescence, $\times 0.6$; B, plant, $\times 0.6$; C, infructescence, $\times 0.6$; D, fruit capsule, $\times 0.6$. Artist: G. Condy.

nerved. *Pedicels* 10–20 mm long, red. *Flowers*: perianth varying from uniformly red to tri-coloured with green, creamy white and reddish tips, 25–28 mm long, 5–7 mm across ovary, abruptly constricted to 3–4 mm above ovary to form basal swelling, widening towards middle to 5 mm, widening towards throat and wide open mouth, cylindric-trigonus; outer segments free for 12–14 mm, tips recurved and slightly spreading. *Stamens* with slightly flattened, pale lemon-yellow filaments, hardly exserted. *Ovary* 5–6 \times 2 mm, bright light green; style not exserted. *Fruit* cylindric-oblong, matt light green capsule, 20–25 \times 7–10 mm. *Seed* not seen. *Flowering time*: June to July. *Chromosome number*: unknown. Figure 1.

Habitat: *Aloe hahnii* occurs in the mist belt regions of the Blouberg and most of the Soutpansberg in Soutpansberg Arid Mountain Bushveld (Mucina & Rutherford 2007). The altitude ranges from 1 000 m in Venda to 2 050 m on the Blouberg. It commonly grows on sandy soil derived from the Soutpansberg Group Quartzites (Barker *et al.* 2006). This aloe has been found in *Coleochloa set-*

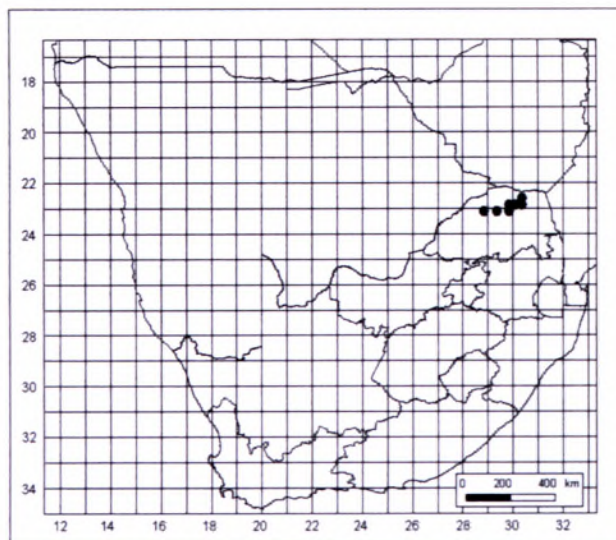
ifera-dominated grassland up to the margins of forests on the Blouberg and similar vegetation on the Soutpansberg, whereas in the western Soutpansberg it sometimes grows in low closed woodland in full shade (N. Hahn pers. comm).

Illustration: Smith & Van Wyk: 48 (2008).

Distribution: this aloe occurs on the Blouberg and Soutpansberg massifs in the Limpopo Province of South Africa (Figure 2).

Etymology: the taxon is named for Dr Norbert Hahn, expert on the flora of the Soutpansberg.

Diagnostic characters: *Aloe hahnii* differs from *A. swynnertonii* in the shorter bracts, pedicels and perianths, as well as flowers that are a glossier scarlet-red and more decurved. It is distinguished from *A. vogtsii* Reynolds, with which it occasionally grows sympatrically in the central regions of the Soutpansberg mist belt, by the latter species having buds that are borne horizontally in more elongated (not capitate) racemes (Table 1).

FIGURE 2.—Distribution of *Aloe hahnii*.

Other specimens examined

LIMPOPO.—2229 (Waterpoort): Louis Trichardt, Hanglip, (–DD), *Rossouw 131* (PRE); Louis Trichardt, Plaas Beeston, ± 17 km from Louis Trichardt-Messina road, on Bluegum road, (–DD), *Rossouw 170* (PRE). 2230 (Musina) [Messina]: Dzanani, (–CB), *Hahn 534* (PRE); Thohoyandou, between Mohepu Resort and Khakhu, (–CC), *Grace, Van Wyk, Nkuna & Mabatha 59* (PRE); Khaku, (–CC), *Hahn 2173* (PRE); Thohoyandou, Vhufuli, NE of Donald Frasers, (–CD), *Hahn 127* (PRE); Thate Vondo, (–CD), *Hahn 2176* (PRE); Sibasa, Lake Fundudzi, mountain slopes, (–CD), *Hardy & Van Graan 3687A&B* (PRE); Sibasa Dist., Tate Vondo Forest Reserve, (–CD), *Hemm 119* (PRE); Sibasa, Lake Fundudzi, (–CD), *Reynolds 1873* (PRE); Zoutpansberg Dist., Sibasa, 10 miles [16 km] W of Sibasa and about 30 miles [48 km] NE of Wyliespoort, (–CD), *Reynolds 2501* (PRE); Lake Fundudzi, (–CD), *Reynolds PRE38019* (PRE); Venda, Tate Vondo, (–CD), *Van Wyk 5572* (PRE); Zoutpansberg Dist., Lake Fundudzi, (–CD), *Vogts & Galpin PRE21202* (PRE). 2328 (Baltimore): Blouberg Nature Reserve, Ga-Monnaasnamoriri, kloof E of mountain on cliffs, (–BB), *Archer 535* (PRE); Soutpansberg Dist., Blaauwberg, (–BB), *Meeuse 10343, Van der Merwe 1362* (PRE); Pietersburg Dist., Blaauwberg, top near beacon, (–BB), *Strey & Schlienben 8536* (PRE). 2329 (Polokwane): Soutpansberg, Lejuma, 500 m W of home, (–AB), *Hahn 2168, 2169* (PRE); Soutpansberg, Lejuma, *Smith & Kloppe 1* (PRE); Soutpansberg, Llewelly 35 LS, hill on W boundary leading to high point, (–AB), *Venter 6174* (PRE); Soutpansberg Dist., Louis Trichardt, summit of Hanglip peak, (–BB), *Galpin 9681* (PRE).

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TABLE 1.—Differences between *Aloe hahnii* and *A. swynnertonii*

	<i>A. hahnii</i>	<i>A. swynnertonii</i>
Bract length (mm)	5–15	8–20
Pedice length (mm)	10–20	20–35
Perianth length (mm)	25–28	25–35
Flower colour	Glossy scarlet-red	Orange-red to pinkish red
Flower shape	Decurved	Slightly curved

tional material and information regarding this new aloe; Ms Hester Steyn, Data Management Unit, SANBI, Pretoria, for producing the distribution map; Dr Otto Leistner for providing the Latin diagnosis; Ms Gill Condry for the line drawing; two referees for suggesting improvements to the manuscript.

REFERENCES

- BARKER, O.B., BRANDL, G., CALLAGHAN, C.C., ERIKSSON, P.G. & VAN DER NEUT, M. 2006. The Soutpansberg and Waterberg Groups and the Blouberg Formation. In M.R. Johnson, C.R. Anhaeusser & R.J. Thomas, *The geology of South Africa*: 301–318. Johannesburg/Council for Geosciences, Pretoria.
- CARTER, S. 2001. Aloaceae. In G.V. Pope, *Flora zambesiaca*, vol. 2,3: 48–98. Royal Botanic Gardens, Kew.
- CHRISTIAN, H.B. 1936. *Aloe chimanimaniensis*. *The Flowering Plants of South Africa* 16: t. 639.
- GLEN, H.F. & HARDY, D.S. 2000. Aloaceae (First part): *Aloe*. In G. Germishuizen, *Flora of southern Africa*, vol. 5, part 1, fascicle 1: 1–159. National Botanical Institute, Pretoria.
- HAHN, N. 2002. *Endemic flora of the Soutpansberg*. M.Sc. thesis, University of Natal, Pietermaritzburg. Unpublished.
- HAHN, N. 2006. *Floristic diversity of the Soutpansberg, Limpopo Province, South Africa*. Ph.D. dissertation, University of Pretoria, Pretoria. Unpublished.
- MUCINA, L. & RUTHERFORD, M.C. (eds). 2006. The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.
- REYNOLDS, G.W. 1950. *The aloes of South Africa*. The Aloes Book Fund, Mbabane, Swaziland.
- SMITH, G.F. & VAN WYK, A.E. 2008. *Aloes in southern Africa*. Struik, Cape Town.
- VAN WYK, A.E. & SMITH, G.F. 2001. *Regions of floristic endemism in southern Africa. A review with emphasis on succulents*. Umdaus Press, Pretoria.

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