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Short communication

A new species of *Lotononis* section *Oxydium* (Fabaceae, Crotalarieae)

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Abstract

A new species, *Lotononis macroloba* B.-E. Van Wyk and H. Kolberg, is described. It is similar to *L. rabenaviana* Dinter and Harms but differs in its greatly expanded sepals, larger leaves with short petioles, differently shaped petals and the silky rather than strigillose vestiture. The new species appears to be endemic to north-western Namibia, while the putative relatives, *L. rabenaviana* and *L. sparsiflora* (E. Mey.) B.-E. Van Wyk, are restricted to the southern parts of Namibia and the adjoining dry western region of South Africa.

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1. Introduction

During routine field work in the Kaokoveld of northern Namibia, an annual or short-lived perennial species of *Lotononis* with unusually large and foliose sepals was collected (Fig. 1). On closer inspection it became clear that the plant is morphologically somewhat similar to *L. rabenaviana* Dinter and Harms but that it represents a new, undescribed species. It is remarkable that such a distinct species has not been collected before. During the course of a revision of the genus *Lotononis* (Van Wyk, 1991; and references cited therein), the herbarium collections of all major herbaria were studied and all the specimens were carefully recorded, but this species seems to have escaped the notice of plant collectors until now.

2. Species treatment

Lotononis macroloba B.-E. Van Wyk and H. Kolberg sp. nov., *L. rabenaviana* similis sed lobis calycis valde maioribus late ovatis, habitu foliisque majore, petiolis minore, inflorescentiis saepe 2-vel 3-floris (semper unifloris in *L. rabenaviana*).

Type—Namibia, Kaokoveld, Kunene Region, Opuwo District, 30 km S on road to Sesfontein from turnoff on Opuwo-Kaoko Otavi road [18° 28' 52" S, 13° 48' 02" E], 12 May 2005, H. Kolberg, P. Craven & T. Tholkes 1607 (WIND, holo.; K, PRE, NBG, iso.).

Prostrate to ascending, annual or short-lived perennial herb, up to 0.2 m high and 0.3 m in diameter (Fig. 1). Branches silky, densely leafy. Leaves alternate, trifoliolate, occasionally unifoliolate; petiole much shorter than the leaflets, (4–) 6–8 (–12) mm long; leaflet lamina elliptic to oblanceolate, (14–) 24–28 (–42) mm × (4–) 6–8 (–13) mm, apex obtuse, silky on both surfaces. Stipules oblong to falcate, single at each node, sometimes reduced in size or absent, up to 20 × 4 mm. Inflorescence axillary, sessile, fasciculate, (1–) 2 to 3 flowers per node; pedicel 1.0–1.5 mm long; bract narrowly lanceolate, 3–8 mm long; bracteoles absent. Flowers relatively large, yellow, 14–16 mm long. Calyx large, foliose, ±equally lobed but the carinal lobe narrower, all sinuses of equal depth, upper and lateral ones on either side not fused higher up in pairs; tube very short; sepals ovate, 14–16 mm × 4–6 mm, sparsely silky. Standard obovate, 12 mm long, claw very short, 2–3 mm long, with prominent venation and a line of hairs along abaxial midrib. Wings narrowly oblong, 10 mm × 1.5 mm, claw 1.0 mm long, strongly auriculate on both sides of claw. Keel broadly boat-shaped, 12 mm long, shortly beaked. Anthers dimorphic, 4 long, basifixed anthers alternating with 5 ovate, dorsifixed anthers,

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Fig. 1. *Lotononis macroloba* at the type locality: (a) flowering plant showing habit; (b) close-up of flowers; (c) close-up of leaves and flowers. Photographer: H. Kolberg.

carinal anther intermediate in size and shape. *Pistil* sessile, silky, ovary oblong, 4 mm × 1.2 mm, with 6 to 8 ovules; style 6 mm long (measured along curvature), curved upwards, glabrous. *Fruit* laterally inflated, broadly oblong, 7–9 mm × 3.5–4.5 mm, 4 to 8-seeded, dehiscent; sericeous. *Seeds* small, rounded, ca. 1.5 mm in diameter, brown, rugose; funicles long (Figs. 1 and 2).

3. Diagnostic characters and relationships

L. macroloba is immediately recognisable by the very large calyx lobes that almost completely conceal the petals (Fig. 2a). It is superficially similar to *L. rabenaviana* (Fig. 2b) and probably related to it but differs in the larger and more densely foliose habit; larger, elliptic leaves with very short petioles less than half as long as the terminal leaflet; clusters of 2 to 3 flowers per node; narrow wing petals; broad, acute keel; and sparsely silky fruits. *L.*

rabenaviana has smaller, usually obovate leaflets with petioles as long as or much longer than the terminal leaflet; usually solitary flowers at each node, broadly oblong petals; a strongly beaked, acuminate keel; and fruits with distinctive, transversely oriented strigillose hairs.

Van Wyk (1991) described the new subsection *Fragilis* B-E. Van Wyk to accommodate *L. rabenaviana* and the closely related *L. sparsiflora* within the section *Oxydium* Benth., a group of 35 species (now 36) with beaked keel petals, more or less equally lobed calyces, and pyrrolizidine alkaloids as in the genus *Crotalaria* L. These species are generally easily recognised by the stipules, which are single at each node and not paired as in *Crotalaria*. The new species has the typical fragile branches of the two other species of subsection *Fragilis* but lacks the distinctive vestiture of the pods. The short claw of the standard petal and the shape of the wing and keel petals are also quite different (Fig. 2). The new species is superficially similar to some species of the section *Leptis*, but the short calyx

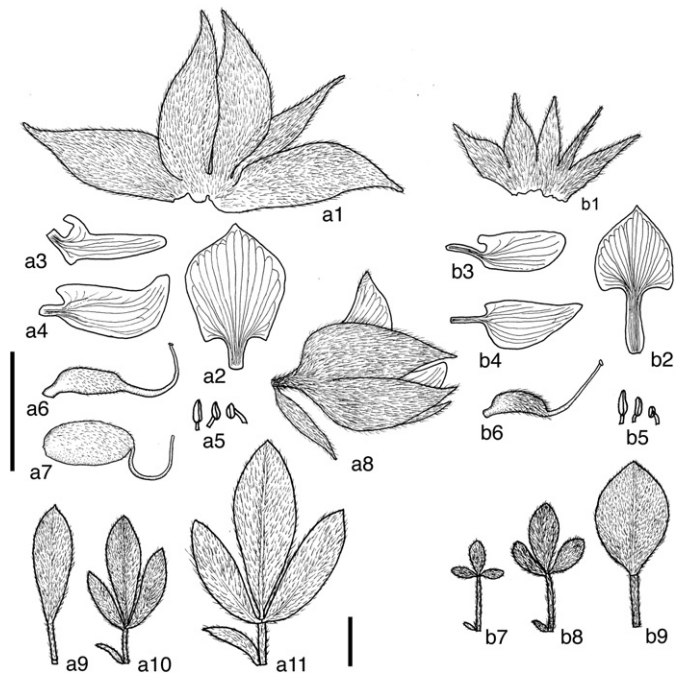


Fig. 2. Details of the leaves, stipules, flowers and fruits of *Lotononis macroloba* (a1–a11) and *L. rabenaviana* (b1–b9). *L. macroloba*: (a1) calyx opened out, with the upper lobes to the left (note the short tube, broad lobes and equal depth of the sinuses); (a2) standard petal (note the short claw); (a3) wing petal (note the narrow shape and prominent auricle); (a4) keel petal (note the shortly beaked apex); (a5) basifixed, carinal and dorsifixed anthers (note the dimorphism and intermediate carinal anther); (a6) gynoecium (note the curvature of the style); (a7) fruit in side view; (a8) flower in side view (note the single bract, absence of bracteoles and enormous calyx lobes); (a9) unifoliate leaf, (a10, a11) trifoliate leaves with single stipules. *L. rabenaviana*: (b1) calyx; (b2) standard petal (note the long claw); (b3) wing petal (broadly oblong); (b4) keel petal; (b5) basifixed, carinal and dorsifixed anthers; (b6) gynoecium (note the curvature of the style); (b7, b8) trifoliate leaves with single stipules; (b9) unifoliate leaf. Voucher specimens: (a1–a11) all from Kolberg, Craven & Tholkes 1607 (WIND); (b1–b7) from Müller & Leach 331 (WIND); (b8) from Merxmüller & Giess 3411 (WIND); (b9) from Giess & Müller 12176 (WIND). Scales: 10 mm (upper one for flower parts, lower one for leaves).

tube and almost equally lobed calyx (so-called “lebeckioid” calyx) are more typical of species in section *Oxydium*. In the section *Leptis*, the upper and lateral lobes of the calyx are almost invariably fused higher up into pairs (the typical “lotononoid” calyx).

4. Distribution and habitat

L. macroloba is known from only a single locality in northern Namibia (Fig. 3), where it is locally common. Plants were found on a disturbed roadside on a rocky calcrete slope. The species is geographically well separated from its putative relatives (*L. rabenaviana* and *L. sparsiflora*), both of which

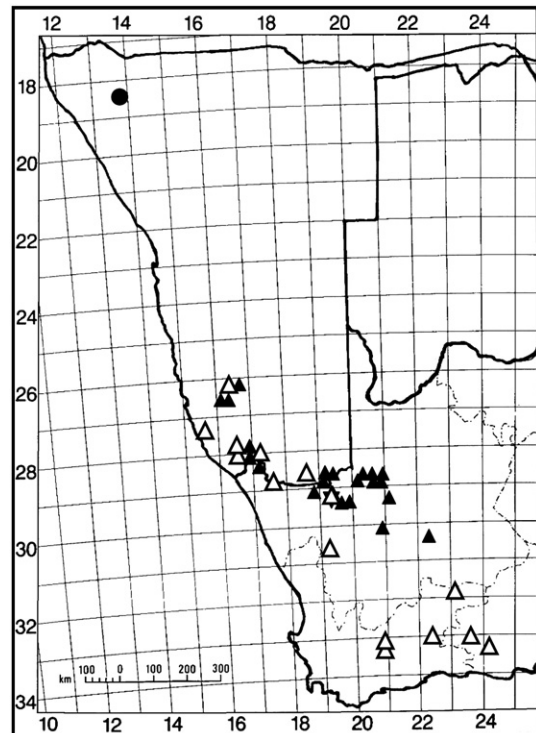


Fig. 3. The known geographical distribution of *Lotononis macroloba* (●) compared to those of *L. rabenaviana* (▲) and *L. sparsiflora* (△).

occur in the dry western parts of the Cape region of South Africa, extending northwards into southern Namibia.

4.1. Additional specimens examined

Namibia—1813 (Opuwo): Kaokoveld, Kunene Region, Opuwo District, 30 km S on road to Sesfontein from turnoff on Opuwo-Kaoko Otavi road (–BD), H. Kolberg 2228 (JRAU, WIND).

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Reference

Van Wyk, B.-E., 1991. A synopsis of the genus *Lotononis* (Fabaceae: Crotalariaeae). Contributions from the Bolus Herbarium 14. University of Cape Town.