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 majorae, 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 sinusae 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,
carinal anther intermediate in size and shape. Pistil subsessile, 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 foliase 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

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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.
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 calcere slope. The species is geographically well separated from its putative relatives (*L. rabenaviana* and *L. sparsiflora*), both of which 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