

Studies in the genus *Lotononis* (Crotalariaeae, Fabaceae). III. A new species of the *L. angolensis* group from the northern Cape Province

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A new species of *Lotononis* (DC.) Eckl. & Zeyh. is described, namely *L. minima* B-E. van Wyk. It is closely related to *L. listii* Polhill and *L. marlothii* Engl. but the flowers are amongst the smallest of the chasmogamous type recorded in the genus. The species is known only from a single locality and was collected in a seasonal pan near Kenhardt in the northern Cape.

'n Nuwe spesie van *Lotononis* (DC.) Eckl. & Zeyh. word beskryf, naamlik *L. minima* B-E. van Wyk. Dit is naverwant aan *L. listii* Polhill en *L. marlothii* Engl. maar het die kleinste blomme van die chasmogame tipe wat nog in die genus aangeteken is. Die spesie is slegs bekend van 'n enkele lokaliteit en was versamel in 'n seisoenale pan naby Kenhardt in die Noord-Kaap.

Keywords: Cape Province, Fabaceae, *Lotononis* section Polylobium, new species

Introduction

The section Polylobium (Eckl. & Zeyh.) Benth. of *Lotononis* (DC.) Eckl. & Zeyh. is not only a poorly defined section, but is also undoubtedly an artificial one. As presently circumscribed (Dümmer 1913), the section comprises at least three very distinctive groups:

1. *L. umbellata* (L.) Benth. and related species. These species are very similar to species of the section Aulacanthus (E. Mey.) Benth. and are doubtfully distinct from them at the sectional level. All are shrubs or shrublets with persistent branches. Stipules are absent or single at each node, never paired.
2. *L. involucrata* (Berg.) Benth. and related species. All of these have a woody, subterranean caudex. Stipules, if present, are paired.
3. *L. angolensis* Welw. ex Bak. and related species. Within the genus *Lotononis*, this is perhaps the most distinct group. It has several unique features, such as well-developed bracteoles, glabrous mature leaves, very small seeds and the phenomenon that root formation may occur on side shoots.

This last group includes, amongst others, the closely related *L. bainesii* Bak., *L. barberae* Dümmer, *L. listii* Polhill, *L. listioides* Dinter & Harms and *L. marlothii* Engl. A study of these species has shown the presence of an allied undescribed species.

Description

Lotononis minima B-E. van Wyk, sp. nov.

L. listii Polhill et *L. marlothii* Engl. valde affinis, sed habitu valde minore (minus quam 0,2 m lato), floribus valde minoribus, vexillo anguste elliptico (late ovato vel cordate in speciebus aliis), petalis aliis leniter evolutis et ovario breve oblongo (lineare in speciebus aliis) et glabro (in speciebus aliis certe pubescente).

TYPUS. — Cape Province: Kenhardt: Kenhardt Div., Jagbult, floor of Uilpan (-DA), 12/5/1946, Acocks 12664 (PRE, holotypus).

Prostrate perennial herb, ca. 0,2 m in diameter. Branches smooth, glabrous; twigs glabrescent, sparsely pubescent when young. Leaves digitately trifoliolate; petiole (3-)4-7(-12) mm long; leaflets oblanceolate to obovate, (2-)4-7(-14) mm long, (1-)2-3(-4) mm wide, sparsely pubescent when young, almost totally glabrous when

mature. Stipules consistently present, paired at each node, often very dissimilar in size and shape, broadly lanceolate to broadly ovate, usually asymmetrically lobed at the base, up to 2,5 mm long, or small and linear. Inflorescences leaf-opposed, short congested racemes, up to 10 mm long, 1-4-flowered; bracts up to 1,5 mm long; bracteoles consistently present, small but well-developed, up to 0,5 mm long. Flowers 4-5 mm long, yellow; pedicel 1-2 mm long. Calyx up to 3,5 mm long, with the lateral lobes on either side fused higher up in pairs, glabrous. Standard narrowly elliptic, 4-5 mm long, glabrous. Wing petals weakly developed, very narrowly elliptic, shorter than the keel; auricle and pocket absent; sculpturing absent. Keel petals oblong, obtuse, only slightly auriculate; pocket absent. Anthers dimorphic, spherical and ovoid. Carpel 4-4,5 mm long; ovary short, oblong, 2,5-3 mm long. Immature fruit 6 mm long, 2,5 mm wide, flat, not inflated or twisted, surface slightly wrinkled, glabrous. Mature fruit and seeds unknown (Figure 1).

L. minima is closely related to *L. listii* Polhill and *L. marlothii* Engl., but differs in the much smaller habit (less than 0,2 m in diameter) and flowers, the narrowly elliptic standard (broadly ovate to cordate in other species), the weakly developed wing petals, and the ovary which is short,

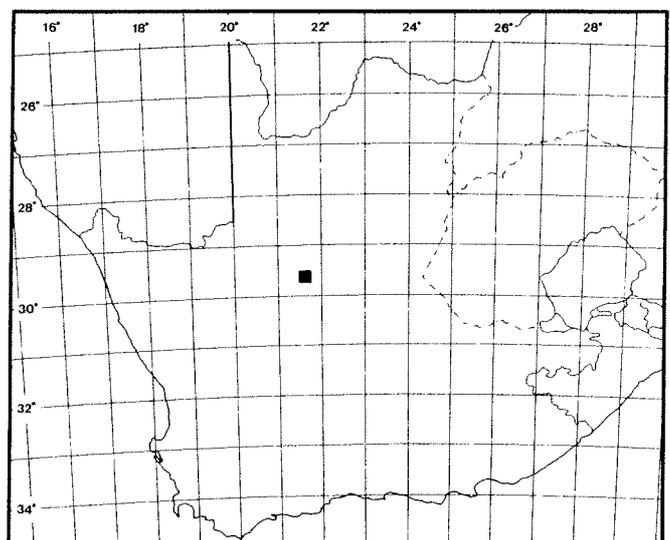


Figure 2 The known geographical distribution of *Lotononis minima*.

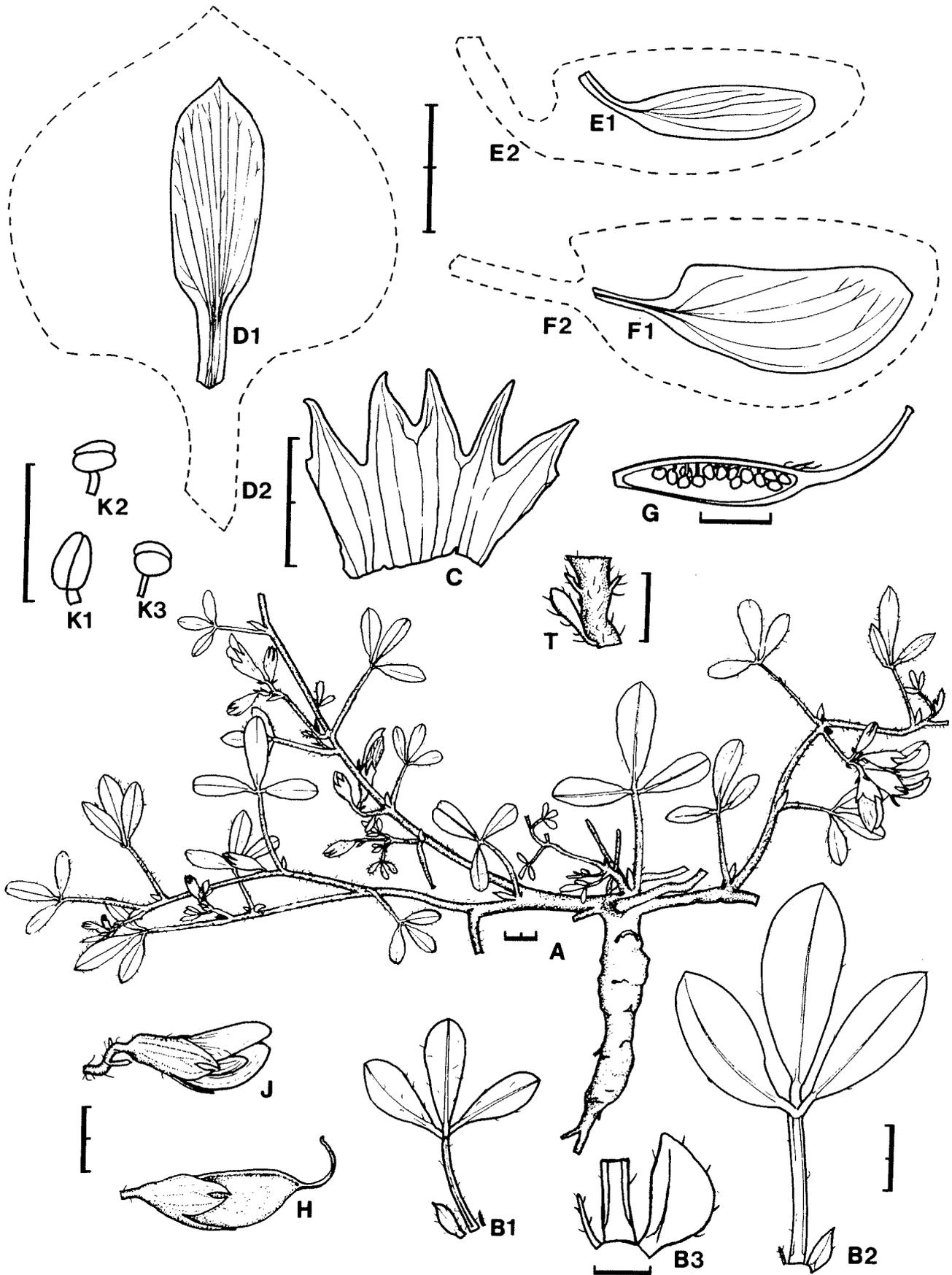


Figure 1 *Lotononis minima*. A, habit, showing the woody perennial caudex and prostrate flowering branches; B1, B2, mature leaves, showing the variation in size, the almost totally glabrous surface and the paired stipules: B1, adaxial view, B2, abaxial view; B3, petiole base with stipules; C, calyx opened out (outer face), with the upper lobes to the left; D1, standard petal; E1, wing petal (note the absence of an auricle and of sculpturing); F1, keel petal; G, carpel; H, immature fruit; J, flower in side view; K1, K2, K3, long anther, carinal anther and short anther respectively; T, pedicel, showing the bract and paired bracteoles. (all from Acocks 12664). *Lotononis marlothii*. D2, E2, F2, outlines of petals, showing the size and shape of the standard, wing and keel petal respectively. (all from Acocks 23340). Scale in mm.

oblong (linear in other species) and glabrous (distinctly hairy in other species). The young fruit is flat and not twisted between the seeds as in *L. listii*.

The flowers of the new species are extremely small, hence the specific epithet. It is comparable in size only to the cleistogamous flowers occasionally found in some species of the section *Leptis*. Byth (1964) has reported precocious bud pollination in the closely related species *L. bainesii* Bak. I have, however, found no evidence of the usual flower dimorphism that results from true cleistogamy in the *L. angolensis* group.

The only known locality (Figure 2) is situated in an arid area where seasonal pans are a conspicuous feature of the landscape. *L. marlothii* and *L. listii* occur in similar habitats. The distribution of most of the species in the group appears to be associated with moist or at least seasonally wet habitats.

Specimen examined

—2921 (Kenhardt): Kenhardt Div., Jagbult, floor of Uilpan (-DA), 12/5/1946, *Acocks 12664* (PRE).

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References

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