

A NEW SPECIES OF *POLYGALA* (*POLYGALACEAE*) FROM NYIKA PLATEAU (MALAWI)

by

JORGE PAIVA* & RICHARD K. BRUMMITT**

Resumen

PAIVA, J. & R. K. BRUMMITT (1986). Una especie nueva de *Polygala* (*Polygalaceae*) de la Meseta de Nyika (Malawi). *Anales Jard. Bot. Madrid* 43(1): 21-24 (en inglés).

Se describe *Polygala lactiflora* Paiva & Brummitt, nueva especie de *Polygala* de la Meseta de Nyika (Malawi), perteneciente al complejo *P. virgata*. Se incluyen claves para diferenciar los diversos "táxones" de este complejo.

Palabras clave: *Polygalaceae*, *Polygala*, taxonomía, Malawi, África.

Abstract

PAIVA, J. & R. K. BRUMMITT (1986). A new species of *Polygala* (*Polygalaceae*) from Nyika Plateau (Malawi). *Anales Jard. Bot. Madrid* 43(1): 21-24.

Polygala lactiflora Paiva & Brummitt, a new species of *Polygala* from Nyika Plateau (Malawi) belonging to the *P. virgata*-complex, is described. Keys to distinguish the several "taxa" of this complex are given.

Key words: *Polygalaceae*, *Polygala*, taxonomy, Malawi, Africa.

When we published our note about *Polygala virgata* (BRUMMITT & PAIVA, 1976), we preferred not to make any formal taxonomic judgement about the Nyika whitish flower *Polygala*. That note included only preliminary observations about the evaluation of the taxonomic status of the variation pattern of the polymorphic *Polygala virgata* Thunb. throughout its range.

Polygala is a very large genus (about 750 species) widely distributed, almost cosmopolitan, being absent only from New Zealand, Arctic areas and Polynesian Islands (introduced only). In Africa there are about 206 species. There are several endemic species and, on the other hand, there are other ones which have a great variation pattern and a widespread distribution, such as *P. virgata* Thunb., *P. capillaris* E. Mey. ex Harv., *P. fruticosa* Berg., *P. myrtifolia* L., *P. abyssinica* R. Br. ex Fresen., *P. sphenopetra* Fresen., *P. persicariifolia* DC., *P. erioptera* DC., etc.

* Botanical Institute, University of Coimbra (Portugal).

** The Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey (United Kingdom).

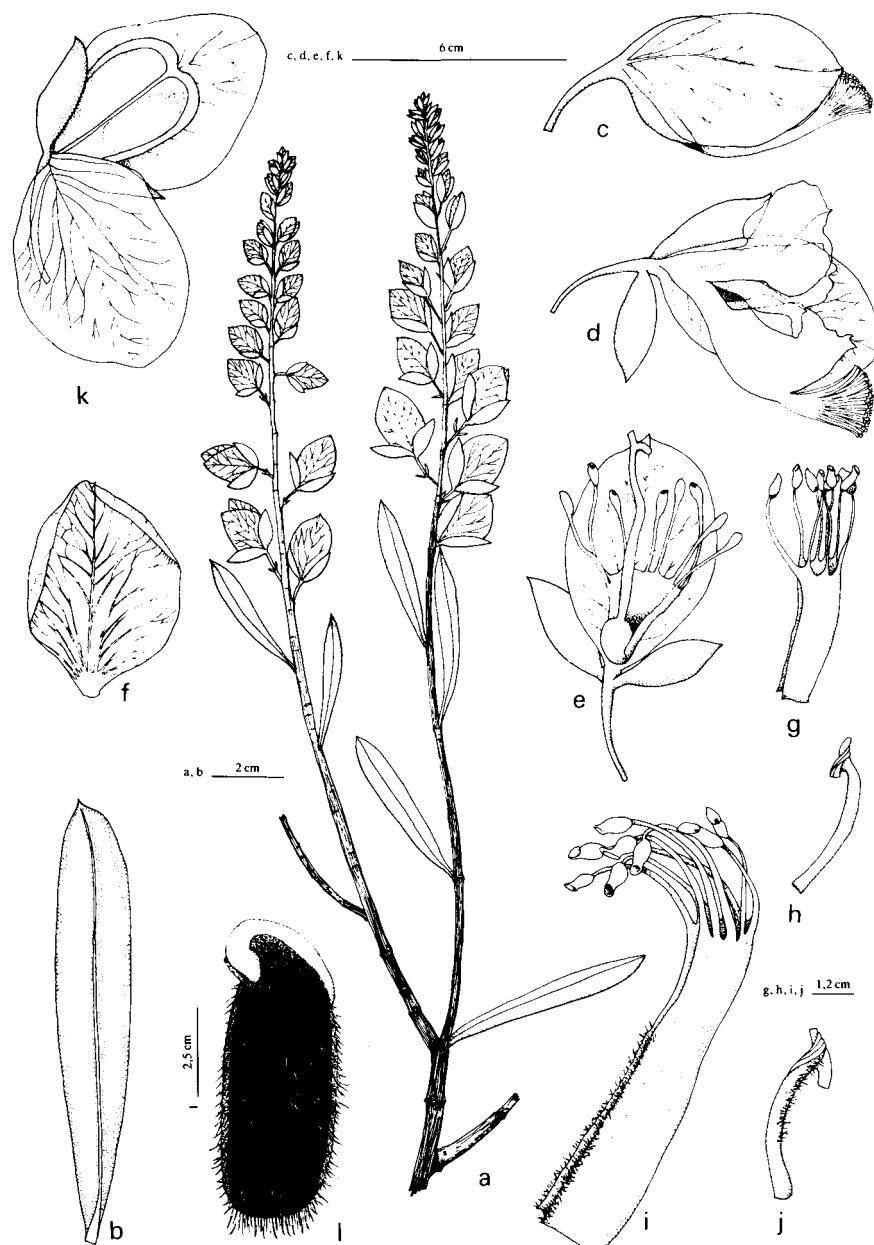


Fig. 1.—*Polygala lactiflora* Paiva & Brummitt: a) habit; b) leaf; c) flower; d) flower with a wing sepal removed; e) flower with petals removed; f) wing sepal; g) staminal tube; h) style; k) calyx and capsule; l) seed. All from Brummitt & Syncé WC 246 (K). *Polygala virgata* Thunb. var. *decora* (Sond.) Harv.: i) staminal tube; j) style. All from Leach & Cannell 14282 (COI).

What we call the *P. virgata*-complex is a very good example which includes several species widespread in tropical and subtropical Africa.

While preparing a treatment of African *Polygala* for a monographic study, one of us (J. Paiva) has already studied about 20,000 specimens from several Herbaria, and, at present, it is possible to come to the conclusion that the whitish flower *Polygala* from Nyika Plateau is a different species, but very close to *P. wittei* Exell.

As we have already recorded (BRUMMITT & PAIVA, 1976), the species seems to occur only on the north-eastern flanks of the Nyika, on valley sides rather than on the plateau grasslands. It would appear that the species is probably characteristic of the slopes of the more deeply dissected eastern side of the plateau, rather than the rolling grasslands of the western side.

The new species is easily distinguishable from *P. virgata* Thunb. by having a glabrous staminal tube and style, wing sepals whitish or cream, and smaller flowers (wings 9-11 × 5-7 mm, carina 7-8 × 3-4 mm), while the latter has the staminal tube and style pubescent, wing sepals deep purple to pale lilac, and larger flowers (wings 9-18 × 9-17 mm; carina 13 × 4-5 mm). It is not so easy to distinguish it from *P. wittei* Exell, from Zaire, but the new species has a conspicuous pruinose bloom on the stem, which can be wiped off with a finger, and flowers and fruit larger than in *P. wittei*. The new species has pedicels 4 mm long, carina 7-8 × 3-4 mm, and capsule 7-8 × 4-5 mm, while the latter has pedicels 4-7 mm long, carina 6 × 4.5 mm, and capsule 5.5-6 × 5 mm. With the following keys we can easily distinguish the several "taxa" of the *P. virgata*-complex:

1. Stems with very few and scattered leaves, leaves always linear, 1-1.5 mm broad; bracts and bracteoles up to 1 mm long; crest up to 3 mm long; caruncle strongly asymmetric, the odd lobe twice or longer as the two others; seed with long hairs exceeding the base of the seed up to 1.5 mm *P. ephedroides*
1. Stems leafy, leaves linear, narrowly elliptic, oblongo-spathulate or obovate-linear, 2-20 mm broad; bracts and bracteoles 2-3 mm long; caruncle asymmetric with the odd lobe less than twice as long as the two others; seed with rather short pubescence, never exceeding the seed base more than 1 mm 2
2. Wing sepals whitish, 8-11 × 5-7 mm; carina 6-8 × 3-4.5 mm, glabrous; crest 2.5-3.5 mm long; staminal tube glabrous; style 7-8 mm long, glabrous; capsule 5.5-8 × 4-5 mm; seeds 3-4.5 × 1.2-1.5 mm 3
3. Stems with a conspicuous pruinous bloom; pedicels up to 4 mm long; carina 7-8 × 3-4 mm; capsule 7-8 × 4-5 mm *P. lactiflora*
3. Stems without a conspicuous pruinous bloom; pedicels 4-7 mm long; carina 6 × 4.5 mm; capsule 5.5-6 × 5 mm *P. wittei*
2. Wing sepals deep purple or pale lilac (rarely whitish), 9-18 × 9-17 mm; carina 13 × 4-5 mm, ciliolate; crest 4-10 mm long; staminal tube minutely ciliolate; style 10-12 mm long, ciliate on the inside of the curve; capsule 8-10 × 6.5-8 mm; seeds 4-4.5 × 1.5 mm 4
4. Stems sparsely or densely pubescent (rarely almost glabrous); wide leaves, 5-20 mm broad; seeds with sparsely and rather short pubescence, never exceeding the seed base *P. virgata* var. *decora*
4. Stems glabrous or almost glabrous (rarely very sparsely pubescent); narrow leaves, up to 5 mm broad; seed with densely long pubescence, exceeding the seed base up to 1 mm 5
5. Leaves oblong-spathulate, obtuse, mucronate; flowers on laxly pauci-

- flowered racemes up to 15 flowers; wing sepals strongly larger than the capsule, 15-18 mm diam.; crest 7-10 mm long. *P. virgata* var. *speciosa*
5. Leaves linear or obovate-linear, acute; flowers in dense and multiflowered racemes; wing sepals not conspicuously larger than the capsule, 9-11 mm diam.; crest 4-6 mm long *P. virgata* var. *virgata*

Polygala lactiflora Paiva & Brummitt, sp. nov.

Suffrutex virgatus, 2-2.5 m altus, ramis teretibus, glabris, pruinosis. Folia alterna, breviter petiolata, petiolo 0.5-1 mm longo, glabro, lamina linearis vel anguste elliptica, 15-35(40) × 2-5 mm, apice acuta vel rarius obtusa et mucronata, basi cuneata, glabra. Flores lilacino-lacteae, pedicellati, pedicello gracili, 4 mm longo, glabro, in racemos terminales, multifloros, rhachi 5-10 cm longa, glabra, dispositi; bractea et bracteolae similes, lineares, 2-3 mm longae, glabrae, caducae. Sepalum posterius naviculare, 4-5 mm longum, lilacinum, glabrum; alae oblique ellipticae, 9-11 × 5-7 mm, lacteae, lilacino-nervatae, glabrae; sepala anteriora libera, linearia, 4-4.5 mm longa, lilacina, glabra. Petala superiore late spatulata, 5-6 × 3-3.5 mm, lilacina; carina 7-8 × 3-4 mm, lilacina, glabra, cristata, crista 2.5-3.5 mm longa, lilacina. Stamina 8, filamentorum parte libera 2-2.5 mm longa, tubo fisco basin versus glabro, 3-3.5 mm longo; antheris 0.5-0.7 mm longis. Ovarium appланato-ellipsoideum, 1.5 × 1-1.25 mm, glabrum; stylo uncinato, 7-8 mm longo, ramis similibus, c. 0.4 mm longis. Capsula appланato-ellipsoidea, 7-8 × 4-5 mm, vix alata, ala 1 mm lata, glabra. Semina ellipsoidea, 3-3.5 × 1.25-1.5 mm, breviter pubescentia, carunculata, caruncula 1-1.25 mm longa, inappendiculata.

Habitat inter rupes inque graminosis ad orientem montis Nyika, Malawi.

Typus: MALAWI, Nyika Plateau, E. foot of Nganda, 2075 m, 1-VIII-1972, Brummitt & Sync'e WC 111 (EA; K, holotypus; LISC; MAL; PRE; SRGH).

Affinis speciei P. wittei Exell a qua carina 7-8 × 3-4 mm, non 6 × 4.5 mm, et capsula 7-8 × 4-5 mm, non 5.5-6 × 5 mm, differt.

Specimina visa

MALAWI: Nyika Plateau, 1830-2135 m, VI. 1890, Whyte s. n., (K); Nyika Plateau, 2470 m, 5-I-1959, Robinson 3075 (BM; K); Nyika Plateau, L. foot of Nganda, 2075 m, 1-VIII-1972, Brummitt & Sync'e WC 111 (EA, K, LISC, MAL, PRE, SRGH); Nyika Plateau, Vallis Mondwe, 2285 m, 15-VIII-1972, Brummitt & Sync'e WC 246 (K, LISC, MAL, SRGH).

BIBLIOGRAPHIC REFERENCES

BRUMMITT, R. K. & J. PAIVA (1976). A notable variant of *Polygala virgata* (Polygalaceae). In: R. K. Brummitt (Ed.), Notes arising from the Wye College Expedition. *Kew Bull.* 31(1): 163-164.

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