



Contents lists available at ScienceDirect

Asian Pacific Journal of Tropical Biomedicine

journal homepage: www.elsevier.com/locate/apjtb



Document heading

doi:

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A new variety of *Crotalaria ramosissima* (Fabaceae) from Tamil Nadu, India

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ARTICLE INFO

Article history:

Received 8 August 2012

Received in revised form 15 August 2012

Accepted 7 December 2012

Available online 28 December 2012

Keywords:

Crotalaria ramosissima var.

kanwayensis

New variety

Fabaceae

Western ghats

ABSTRACT

Objective: A new variety of *Crotalaria ramosissima* is described from the Western Ghats of India. *Crotalaria ramosissima* Roxb. var. *kanwayensis* Binu T., K. M. Prabhu et A. Rajendran (Fabaceae) from Kanuvai hills, Coimbatore district of Tamil Nadu. **Methods:** Compare this species with available varieties of *Crotalaria* and cross checked with previous literature for authentication of this taxa. **Results:** The current paper provides a detailed description of the new taxa along with illustrations, colour plates and other relevant notes. **Conclusions:** The present study concluded that this taxa is new to science from the Southern Western Ghats of Tamil Nadu, India.

1. Introduction

Crotalaria is the largest legume genus in India, having 93 species, 1 sub species, 17 varieties and 2 formae^[1–3]. During 19th century and beginning of 20th century vigorous collections are made by many researchers in India^[4–6]. The genus *Crotalaria* L. with c. 700 species is centered mainly in tropical and subtropical regions of the world^[7–9], with highest concentration in Africa^[10–12]. In Southern India the genus is represented by 67 species and 4 intraspecific taxa^[13–15].

While working on the chasmophytic diversity of Kanuvai hills, Coimbatore, Tamil Nadu the first and second authors came across an interesting *Crotalaria* species grown in the slopes of scrub jungle. The critical examination on the collected specimen revealed that the species is allied to *Crotalaria ramosissima* Roxb., an Indian endemic species

distributed in Peninsular India, Orissa and Uttar Pradesh. Detailed taxonomic studies with the perusal of relevant literature proved this to be a species hitherto unknown to the southern Western Ghats, which is described and illustrated here as a new variety of *C. ramosissima*. A taxonomic key to the varieties is also provided.

2. Key to the varieties of *C. ramosissima* Roxb.

1. Bract and bracteoles recurved, calyx margins reflexed.....2

1.Bract and bracteoles not recurved, calyx margins entire *C. ramosissima* var. *ramnadensis*

2. Erect herb, Leaves linear-oblong or oblanceolate with apiculate apex 1–3.5 x 0.3–0.8 cm in length..... *C. ramosissima* var. *ramosissima*

2. Decumbent herb, leaves linear with obtuse apex, 0.6–0.8 x 0.15–0.2 cm in length*C. ramosissima* var. *ramosissima*

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Crotalaria ramosissima Roxb. var. *kanuvayensis* Binu T.,
K. M. Prabhu et A. Rajendran var. nov. (Figure 1 and 2).

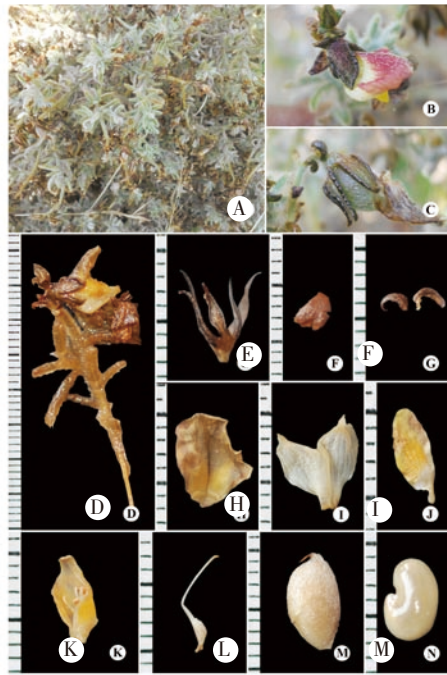


Figure 1. *Crotalaria ramosissima* Roxb. var. *kanuvayensis* B. Thomas, K. M. Prabhu et A. Rajendran A. Habit; B. Flower; C. Fruit with calyx; D. Flowering twig; E. Bract; F. Bracteole; G. Vexillum; H. Wing petal; I. Keel petal; J. C. S. of flower; L. Ovary; M. Fruit; N. Seed.

Typus: INDIA, Tamil Nadu, Coimbatore district, Kanuvai hills, 17 February 2012, Prabhu Kumar & Binu Thomas, 7498 (BUH); (Holotypus, MH; Isotype, CAL, CMPR).

Decumbent herb up to 20 cm in high. Stem densely pubescent with silky hairs, highly aromatic, sticky and fully covered with oils. Leaves Linear, sessile, simple, aromatic, obtuse at tip, densely pubescent in lower surface than upper, 6 – 8 × 1.5 – 2 mm in size. Bract 3 – 3.5 mm in size, upper glabrous, lower side densely pubescent with appressed hairs. Bracteoles 2 – 3 × 1.5 mm, upper glabrous, lower side densely pubescent, recurved. Calyx 5, 7 – 8.5 mm, upper glabrous, lower side densely pubescent, recurved. Flower 7–8 mm long; Vexillum: outer side red and inner side yellow coloured, not pointed, 6.5 – 7 mm, obovate, lower surface glabrous, upper surface pubescent except at the base; Wing petal: creamish white, elliptic- obovate, mucronate at tip, 6.5 – 7 × 4 mm in length, glabrous at lower and upper side; Keel petal: elliptic, obtuse at tip, upper surface glabrous, lower surface pubescent. 5 – 5.5 mm long. Ovary pubescent, 3 mm in length. Staminal column glabrous. Stamen 3 mm long. Fruit fully covered with silvery white hairs, oblong with apiculate apex, 7 – 9 mm in length. Seed glabrous, Kidney shaped, 5–7 mm long.

Phenology: October – March.

3. Habitat & Ecology

Seen in the slopes of scrub jungles in dry deciduous forests and rarely can prefer rock crevices also one of the habitat. Kanuvai Hills is situated at a distance of 15 km away from Coimbatore. It consists of an environment of scrub jungles and dry deciduous type of forest at an altitude of 300 – 450 m MSL, 11.04' E of longitude and 76.93' N latitude. The area predominant with red soil impregnated with organic matter and granite bedrock is overlaid with shallow, sandy loam and glacial soils are moderate to wet drained [12].

4. Distribution & Biotic association

Endemic to Kanuvai hills, Coimbatore, Tamil Nadu, India, hitherto known to the type locality (Figure 3). The taxa is growing in association with the *Barleria tamilnadensis* sp. nov., *Caralluma adscendens* (Roxb.) Haw. var. *attenuata* (Wight) Grav. & Mayur., *Caralluma diffusa* (Wright) N.E. Br., *Caralluma umbellata* Haw., *Senna auriculata* (L.) Roxb., *tribulus terrestris* L., *Priva cordifolia* (L.f.) Druce, *Trichodesma indica* (L.) Lehm., *Malvastrum coromandelianum* (L.) Garcke and *Striga angustifolia* (D. Don) Saldanha.

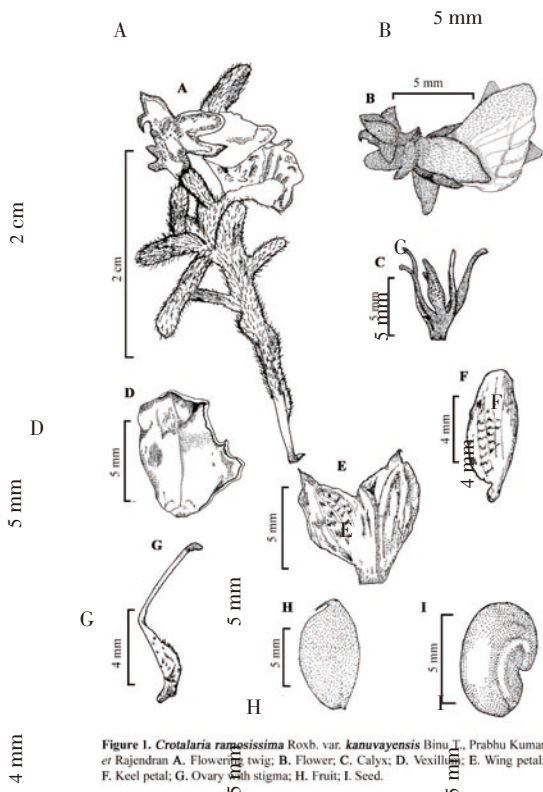


Figure 2. *Crotalaria ramosissima* Roxb. var. *kanuvayensis* Binu T., Prabhu Kumar et Rajendran A. Flowering twig; B. Flower; C. Calyx; D. Vexillum; E. Wing petal; F. Keel petal; G. Ovary with stigma; H. Fruit; I. Seed.

Figure 2. *Crotalaria ramosissima* Roxb. var. *kanuvayensis* B. Thomas, K. M. Prabhu et A. Rajendran A. Flowering twig; B. Flower; C. Calyx; D. Vexillum; E. Wing petal; F. Keel petal; G. Ovary; H. Fruit; I. Seed.

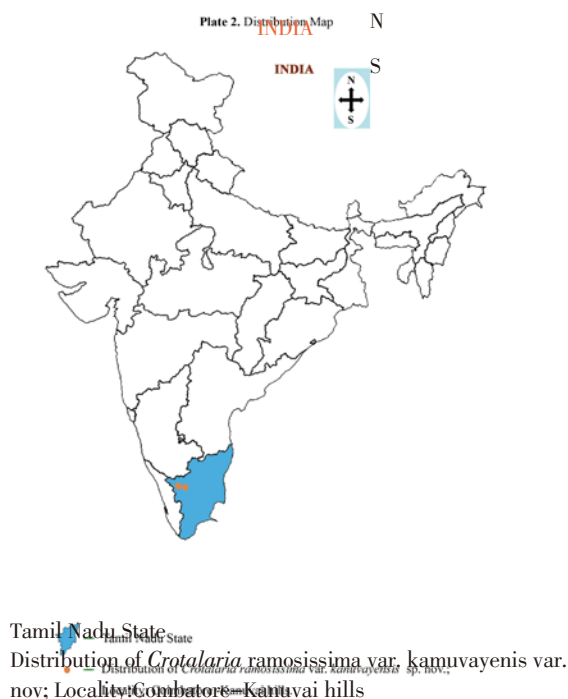


Figure 3. Distribution Map

5. Comparison

Allied to *C. ramosissima* in having recurved bract and bracteole and relaxed calyx margins, but mainly differs from it having the decumbent nature of plant, too small linear leaves with acute apex and presence of aroma and oils throughout the plant. In *C. ramosissima* leaves show a size of 1–3.5 × 0.3–0.8 cm with apiculate apex but in this taxa the leaf size is 0.6–0.8 × 1.5–2 mm with obtuse apex.

6. Etymology

The specific epithet “kanuvayensis” indicates the place of collection, Kanuvai Hills, a part of Southern Western Ghats.

7. Specimens examined

INDIA. Tamil Nadu. Coimbatore Dt., Kanuvai hills: Prabhu Kumar & Binu Thomas, 17.02.2012, 7498 (BUH); Prabhu Kumar & Binu Thomas, 18.02.2011, 7500 (BUH), Prabhu Kumar & Binu Thomas, 18.02.2011, 7502 (BUH).

8. IUCN Red list Category

The species is confined in its type locality. Due to the rarity and very restricted distribution of this taxa, a provisional threat status has been assigned to the taxa, “Critically Endangered”. However, more field surveys are needed to confirm the status. (IUCN 2001, IUCN Standards and Petitions Subcommittee 2010).

Conflict of interest statement

We declare that we have no conflict of interest.

Acknowledgements

We express our sincere gratitude to the authorities of Arya Vaidya Sala, Kottakkal for financial assistance. The authors are thankful to Dr. Sibichan M. Thomas and Dr. Santhosh Nampy, Department of Botany, St. Joseph’s College, Devagiri, Calicut, Dr. A. K. Pradeep, Herbarium Curator, CALL, Department of Botany, Calicut University, Dr. S. V. Predeep, Department of Botany, SVR NSS College, Vazhoor, Kottayam and M. V. Krishnaraj, JNTBGRI, Palode, Trivandrum for their valuable suggestions regarding the identity of this taxa. We are also indebted to Dr. G. V. S. Murthy, Director, BSI, Coimbatore for giving permission to examine the MH herbarium. Thanks are also due to Dr. M. Sabu, Professor and Mr. Alfred Joe, Research Scholar, Department of Botany, Calicut University for various helps. We are also thankful to Mr. Sreeraj V. and Mrs. Ambili Binu, Research Scholars, Bharathiar University for their valuable support in this work.

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