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Secamone trichostemon Klack. (Apocynaceae, Secamonoideae), a new species from Madagascar

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ABSTRACT

KLACKENBERG, J. (2005). *Secamone trichostemon* Klack. (Apocynaceae, Secamonoideae), a new species from Madagascar. *Candollea* 60: 119-122. In English, English and French abstracts. *Secamone trichostemon* Klack., a new species of Apocynaceae (Secamonoideae) from N Madagascar, is described, illustrated and compared with related taxa.

RÉSUMÉ

KLACKENBERG, J. (2005). *Secamone trichostemon* Klack. (Apocynaceae, Secamonoideae), une nouvelle espèce de Madagascar. *Candollea* 60: 119-122. En anglais, résumés en anglais et français. *Secamone trichostemon* Klack., une nouvelle espèce décrite du N de Madagascar, de la famille des Apocynaceae (Secamonoideae), est décrite, illustrée et comparée aux taxons apparentés.

KEY-WORDS: APOCYNACEAE – *Secamone* – Madagascar – Taxonomy

The genus *Secamone* R. Br. is placed in subfamily *Secamonoideae* of *Apocynaceae*. It is a palaeotropic genus of suffrutescent twiners or small scrambling herbs, rarely erect shrubs, with usually small white to yellow flowers. In a series of publications, KLACKENBERG (1992, 1997, 1998, 2000a, 2000b, 2000c, 2002, 2003) has recognized 66 species in Madagascar. Among herbarium material sent to me recently from Geneva and collected during a continuous inventory work conducted in Madagascar by Swiss botanists in collaboration with Malagasy staff, one more specimen has proved to represent a new species, *Secamone trichostemon*, which is here described and illustrated.

***Secamone trichostemon* Klack., spec. nova (Fig.1)**

Typus: MADAGASCAR. Province de Diego-Suarez/Antsiranana: sous-préfecture de Vohemar, commune rurale de Daraina, forêt de Bekaraoka, 13°10.50'S 49°42.93'E, 330 m, 11.III. 2003, Gautier, Wohlhauser & Nusbaumer LG 4342 (holo-: G!; iso-: MO, P, S!, TAN).

Species haec habitu Secamoniae eleganti et S. bicolori primo adspectu maximo similes epidermide folii tuberculata et columna staminali parva, sed differt stylo distincte bifido vel staminibus pubescentibus; ab illa lobis coronae staminali divaricatis etiam differt (in illa erectis plus minusve falcatis).

Suffrutescent twiner or scrambling shrub; branches glabrous. Leaves opposite, herbaceous, thin, glabrous; blade 1.5-2 × 1-1.5 cm, broadly elliptic to obovate, cuneate at the base, acute to usually obtuse but apiculate at the apex with entire margin; venation pinnate, arched, with only the midrib and the secondary nerves visible when dry, only faintly visible above; midrib somewhat impressed above when dry, ± raised below; epidermis smooth above, tuberculate-papillate below; petiole 3-4 mm long. Inflorescences terminal to extra-axillary, about as long to slightly longer than the adjacent leaves; cymes lax, di- to monochasial, few-flowered, with thin internodes and pedicels diverging to spreading from each other and glabrous; internodes few, basal one ca 10 mm long; pedicels 3-7 mm long; bracts 0.5-1 mm long, narrow, ciliate. Flowers pentamerous, actinomorphic. Calyx lobes slightly longer than the corolla tube, 0.6-0.7 × 0.4-0.5 mm, ovate, obtuse at the apex, glabrous except for reddish hairs along the margin. Corolla in bud ovate in outline and rounded at the apex, fused for 1/5-1/7 of its length into a tube, contorted with the right lobe-margins overlying, slightly twisted to the right, glabrous, yellowish white, dark when dry except for pale margins; tube ca 0.4 mm long; lobes probably rotate, 1.8-2.4 × 1.1-1.3 mm, oblong to elliptic, rounded at the apex, thin. Corolline corona present in form of an epipetalous bilobed cushion in each lobe sinus. Stamens in a column inserted at the base of the corolla tube, 0.6-0.8 mm high, with upper half hairy; filaments with prominent sclerified margins (pollinium collectors) reaching almost to the base of the stamens; connectives produced into large membranaceous and papillate outgrowths. Staminal corona present in form of dorsal lobes; lobes small, 0.2-0.3 mm long, narrow, laterally compressed, attached at about the middle of the stamen, spreading from the column, not projecting above the staminal column. Pollinia two in each anther loculus, ascending, ellipsoidal, ca 0.1 mm long, adhering to a soft corpusculum. Ovary of 2 mostly separate carpels, subinferior, with few ovules. Style lacking. Style head distinctly projecting above the staminal column; apical portion about 1 1/2 times longer than the basal portion, 0.5-0.6 mm long, distinctly bifid at the apex with two broad lobes. Follicles not seen.

Secamone trichostemon is characterized by its bifid style head, being topped by two thick lobes, and by its hairy stamens. It is known only from the type and was found in open forest on ridge in a deciduous forest fragment at 330 m elevation. It was collected in flower in the middle of March.

The epithet of this species alludes to the hairy staminal column.

Discussion

Secamone trichostemon belongs to a species group comprising eight additional taxa, viz. *S. australis* Klack., *S. bicolor* Decne., *S. bifida* Klack., *S. discolor* Schum. & Vatke, *S. elegans* Klack., *S. elliottii* Schum., *S. triflora* Klack., and *S. tuberculata* Klack. (here called *S. bicolor* group). The species of this group are distributed locally over a large part of Madagascar, and are characterized by glabrous corollas, small staminal columns with thin corona lobes and by tuberculate-papillate leaf epidermis (see KLACKENBERG, 1992: 37). The tubercles/papillae are seen clearly when dry on the lower side of the leaves in a binocular at 25 times magnification, seemingly as a pale powder covering the surface.

Secamone trichostemon was found in the northeasternmost part of Madagascar. It differs from the sympatric *S. elegans*, *S. bicolor*, distributed in the Central plateau, as well as from *S. elliottii*, found in the eastern rain forest, by its distinctly bifid style head. In addition, it differs from *S. elegans* by the spreading staminal corona lobes (vs. upright and slightly falcate in *S. elegans*), and from *S. elliottii* by having distinctly protruding style head (vs. not visible above the staminal column in *S. elliottii*).

Secamone trichostemon shares the character of having bifid style heads with *S. australis*, *S. bifida* and *S. tuberculata*, which all have distinctly bilobed style heads, and also to some extent with *S. discolor* and *S. triflora*, which, however, have only shallowly cleft style heads (KLACKENBERG, 1992). These five taxa are distributed in northwestern, western and southern Madagascar.

Secamone australis and *S. tuberculata* both differ from *S. trichostemon* by their style heads that protrude more than twice as long as the staminal column and are deeply cleft with narrow lobes (vs. protruding only ca 1/2 time and with thick short lobes in *S. trichostemon*). *Secamone bifida* and the closely related *S. discolor* are endemics to northwesternmost Madagascar. *Secamone trichostemon* differs from both these species by its broad leaves (vs. usually narrowly ovate in *S. bifida* and *S. discolor*) and particularly by its spreading staminal corona lobes that diverge from the column about halfway along the stamens (vs. upright and parallel to the staminal column and diverging from near the base in *S. bifida* and *S. discolor*). Furthermore, in *S. bifida*, the lobes of the style head diverge outwards (directed horizontally) and are not thickened (vs. erect and somewhat clavate in *S. trichostemon*) and the corolla lobes are 4 times as long as broad (vs. 2 times in *S. trichostemon*). The style head of *S. discolor* is short and only faintly bilobed. *S. triflora* is distinguished by its 3-flowered cymes with the flowers on long and delicate internodes and pedicels. The flowers are twice as large as in *S. trichostemon* and do not darken upon drying. In contrast, the corolla lobes turn dark when dry, except for a paler margin, in *S. trichostemon* as well as in the other species of *S. bicolor* group. The style head in *S. triflora* is distinctly broadened at apex but only slightly bilobed.

In addition to the characters discussed above, *S. trichostemon* is also distinguished from all other species of *S. bicolor* group by its stamens being distinctly hairy. The corolline corona in form of epipetalous bilobed papillate cushions in the lobe sinuses is also more pronounced in *S. trichostemon* than in the other species.

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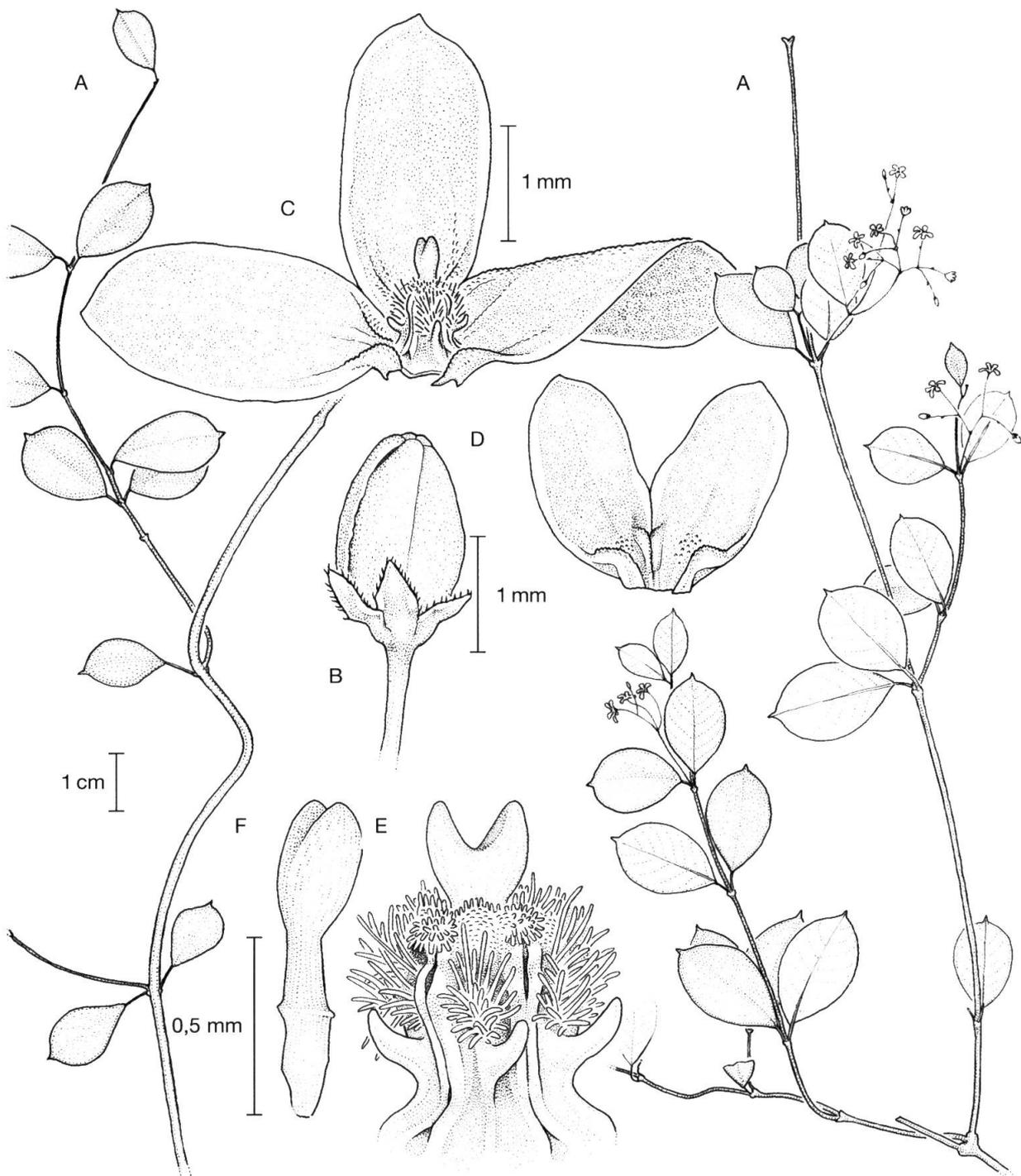


Fig. 1. – *Secamone trichostemon* Klack. **A.** habit.; **B.** flower in bud; **C.** flower with calyx and two corolla lobes removed; **D.** portion of corolla from within; **E.** gynostegium; **F.** style head.

[Gautier & al. 4342]. (Drawn by Andrea Klintbjer, Stockholm).