

Current taxonomic understanding of the genus *Strobilanthes* and allied genera (Acanthaceae) in Thailand

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Abstract

The Acanthaceae genera *Diceratotheca*, *Dyschoriste*, *Eranthemum*, *Phaulopsis*, *Sanchezia* and *Strobilanthes* have been revised for the *Flora of Thailand*. The revision was based on extensive field observations in Thailand, the examination of herbarium specimens, including type materials, from many herbaria (AAU, BCU, BK, BKF, BM, C, CMU, CMUB, FHO, G, GZU, K, KCU, KYO, K-W, L, LD, M, P, PSU and QBG), and the consultation of protologues and other taxonomic literature. A total of six genera in the *Strobilanthes* alliance are recognised, comprising c. 93 species. The genera *Diceratotheca*, *Dyschoriste*, *Phaulopsis* and *Sanchezia* are represented by one species each. *Eranthemum* has six species, two of which are newly recorded for Thailand, and one species, *E. decumbens*, is new to science. There are c. 83 species of *Strobilanthes* in Thailand, five of which are new species and 17 are new records. Most species of these genera are native although some species such as *Eranthemum pulchellum*, *Sanchezia parvibracteata* and *S. reptans* are introduced and cultivated as ornamental plants. Twelve species are endemic to the country, one in *Diceratotheca* (*D. bracteolata*) and 11 in *Strobilanthes* (*S. articulata*, *S. bilabiata*, *S. chiangdaoensis*, *S. consors*, *S. corrugata*, *S. fragrans*, *S. graminea*, *S. maxwellii*, *S. phyllocephala*, *S. ranongensis* and *S. rivularis*). **KEYWORDS:** endemic, floristic, new record, new species

Introduction

Diceratotheca, *Dyschoriste*, *Eranthemum*, *Phaulopsis*, *Sanchezia* and *Strobilanthes* were formerly classified as belonging to subtribe Ruelliinae by having left-contorted aestivation, filament curtain and jacobulators (Scotland & Vollesen, 2000; Olmstead, 2005; Wood, 2012) (Fig. 1). Recently, based on the investigation of historical literature and the present phylogenetic study these genera were placed into different subtribes.

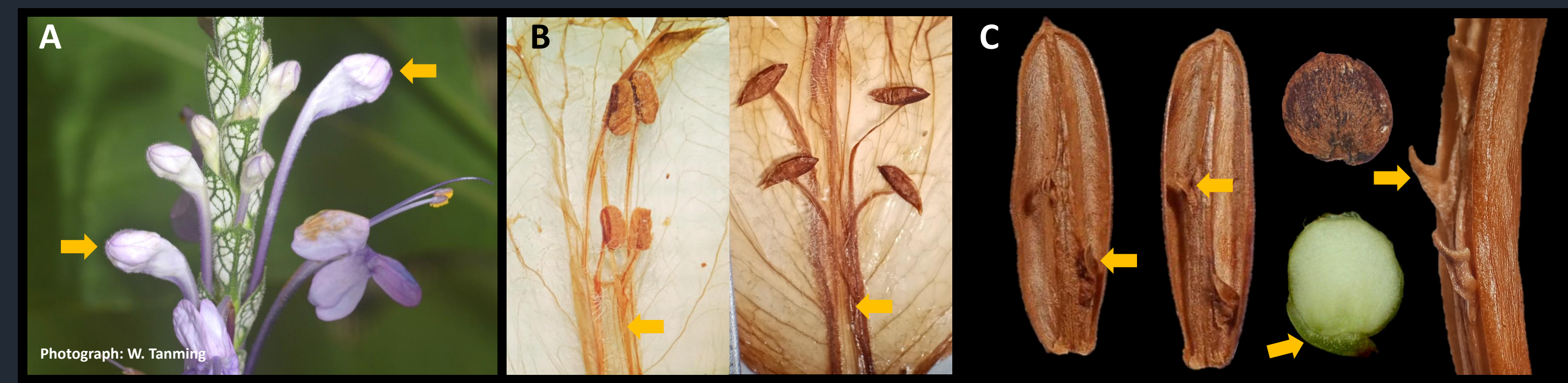


Figure 1. Common characters of subtribe Ruelliinae; left-contorted corolla, A, filament curtain, B and jacobulators, C

Strobilanthes Blume comprises c. 400 species and it is the second largest genus of the family Acanthaceae after the genus *Justicia* (Fig. 2). There are c. 65 species, c. 30 species, and c. 22 species are known for *Eranthemum*, *Dyschoriste* and *Phaulopsis*, respectively. One species of *Diceratotheca* is presented.

The *Strobilanthes* alliance are distributed in pantropical Asia, Africa and America (Kobuski 1928; Manktelow 1996; Mabberley 2008; Christenhusz *et al.* 2017). In Thailand, the taxonomic accounts of these genera were reported by several botanists. However, the accounts have not been completed. Therefore, this study aims to investigate the morphology of the Thai species of these genera and to provide a taxonomic account of these genera for the FoT.

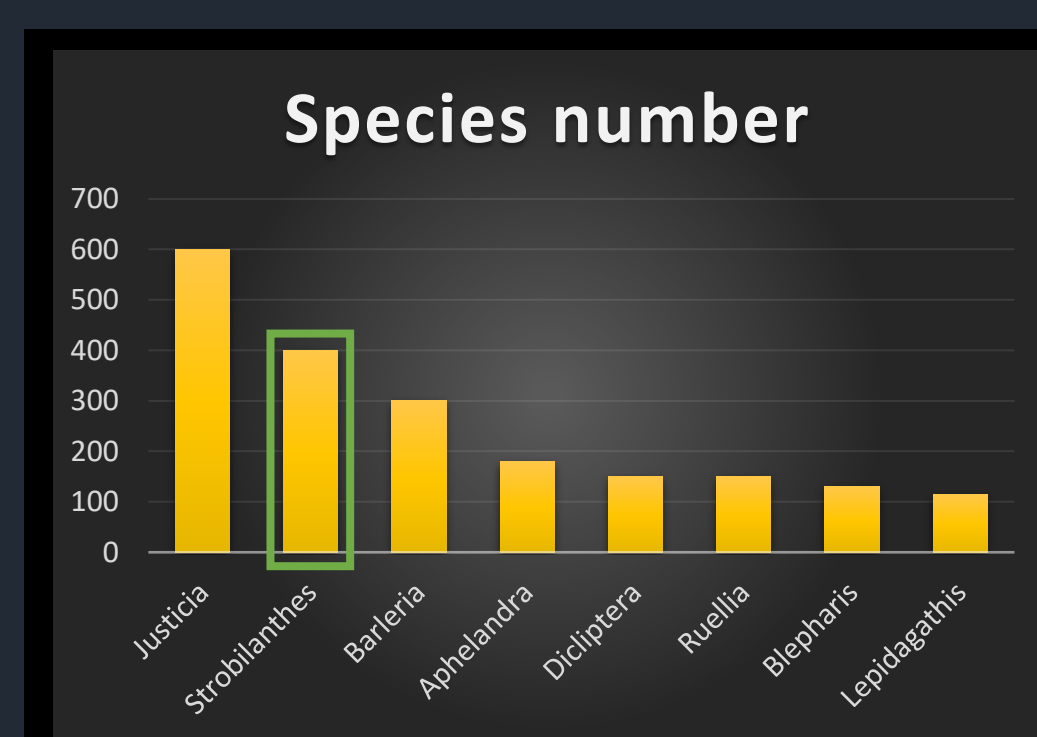


Figure 2. Species numbers of the large genera of Acanthaceae

Material and methods

The first publications and other taxonomic literature in Thailand and Asia are examined. The examination of type and non-type specimens was made from various herbaria, AAU, BCU, BK, BKF, BM, C, CMU, CMUB, FHO, G, GZU, K, KCU, KYO, K-W, L, LD, M, P, PSU and QBG. The specimens were collected during the fieldwork undertaken throughout Thailand.

Results and discussion

Strobilanthes alliance are herbs, subshrubs, shrubs or rarely small trees, isophyllous or anisophyllous, some species plesiosial. The leaves are petiolate or sessile, vary in shape. The inflorescences are axillary and/or terminal cymes, spikes, secund spikes, thyrses or capitate or rarely panicle and solitary. The corolla is cylindrical, subsalverform, funnel-shaped, campanulate or gibbous. The stamens are 4, didynamous or rarely 2. The capsules are cylindrical, ovoid or fusiform. Seeds are 2–16, compressed, discoid or ovate (Fig. 3).

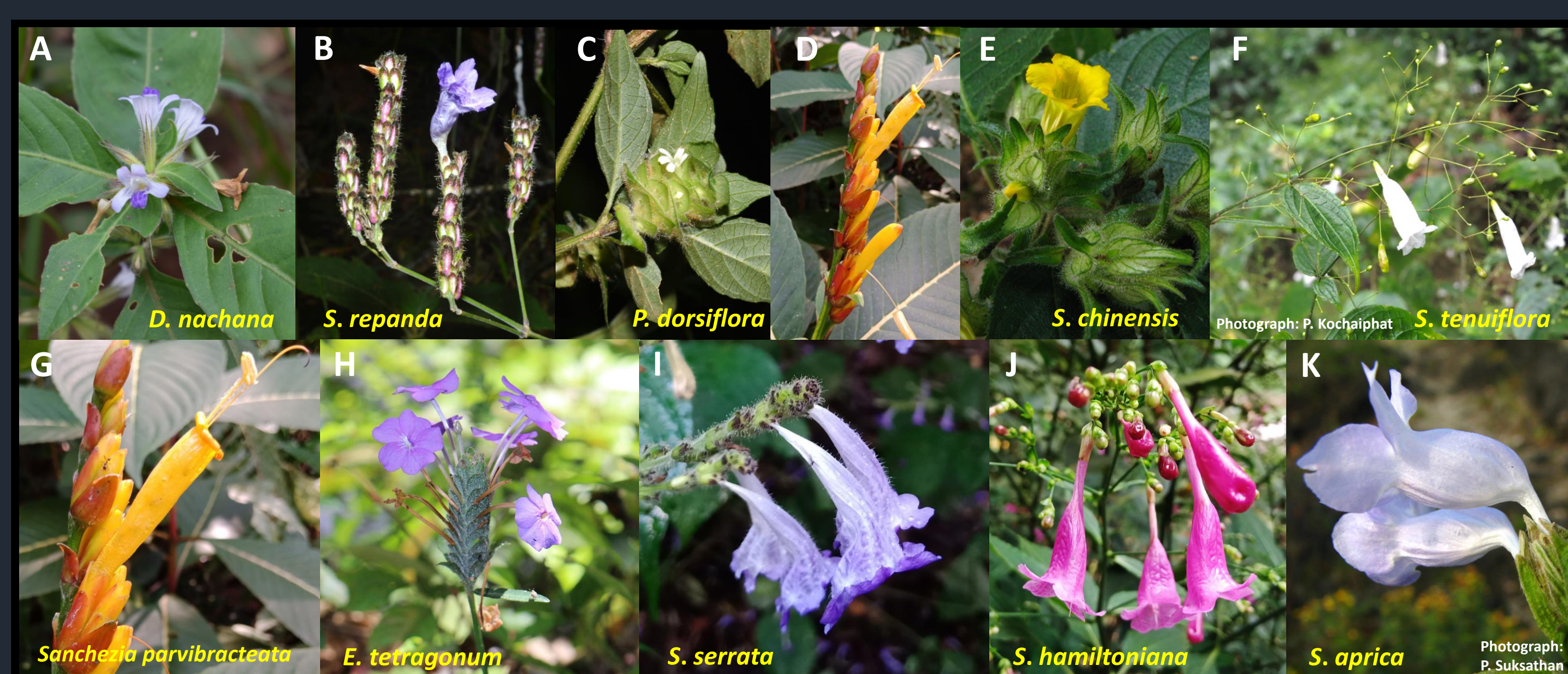


Figure 3. Morphology of the *Strobilanthes* alliance: inflorescences types, cymes, A, spikes, B, secund spikes, C, thyrses, D, capitate, E and panicle, F; corolla shapes, cylindrical, G, subsalverform, H, funnel-shaped, I, campanulate, J and gibbous, K

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Results and discussion (Cont.)

The taxonomic accounts of the genus *Strobilanthes* and allied genera in Thailand are enumerated. The genera *Diceratotheca*, *Dyschoriste*, *Phaulopsis* and *Sanchezia* are represented by one species each (Tab. 1). The genus *Eranthemum* has six species, two species are newly recorded and one species is new to science (Kladwong & Chantaranonthai, 2021) (Fig. 4).

Table 1. Accounts of *Strobilanthes* and allied genera in Thailand

Genus	Species number	New record	Endemic
<i>Diceratotheca</i>	1	-	1
<i>Dyschoriste</i>	1	-	-
<i>Eranthemum</i>	6	2	-
<i>Phaulopsis</i>	1	-	-
<i>Sanchezia</i>	1	-	-
<i>Strobilanthes</i>	c. 83	17	11

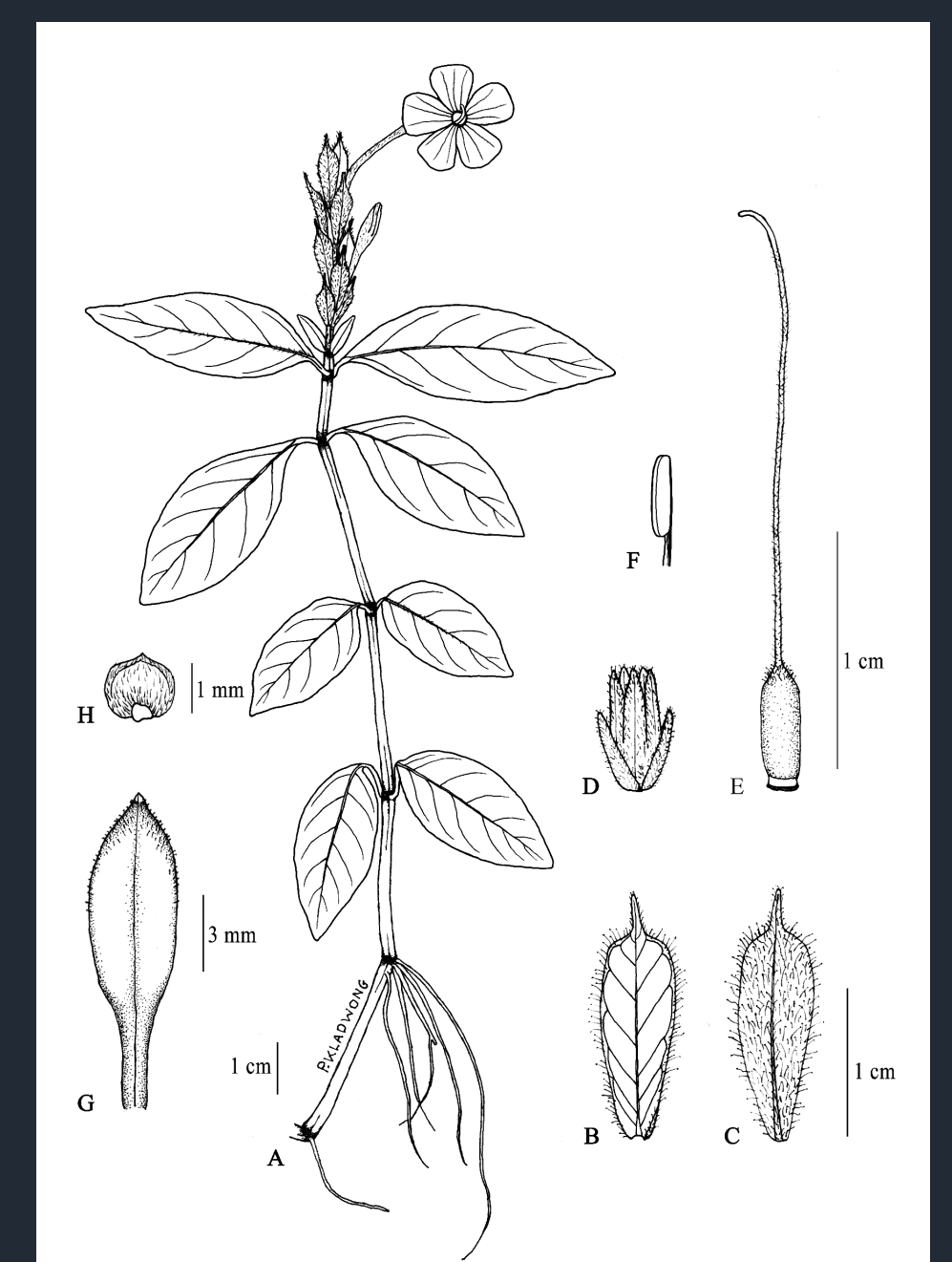


Figure 4. *Eranthemum decumbens*, a new species from Thailand

There are c. 83 species of *Strobilanthes* in Thailand. 17 species are new records. Five unknown species are discovered and be in the process of preparing to publish as new to science. Twelve species are endemic to the country, one in *Diceratotheca* and 11 in *Strobilanthes*, namely *D. bracteolata*, *S. articulata*, *S. bilabiata*, *S. chiangdaoensis*, *S. consors*, *S. corrugata*, *S. fragrans*, *S. graminea*, *S. maxwellii*, *S. phyllocephala*, *S. ranongensis* and *S. rivularis* (Fig. 5).

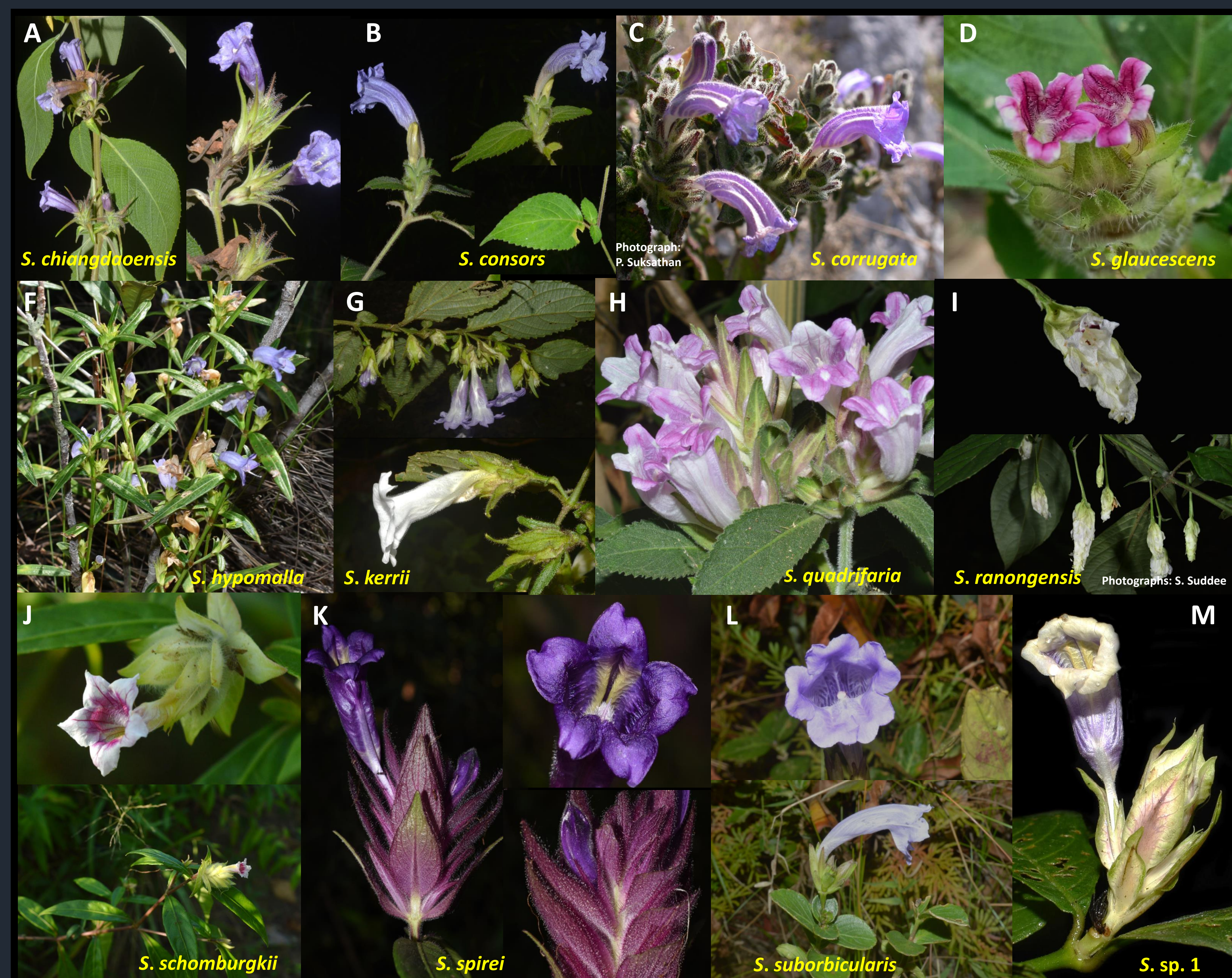


Figure 5. Native species of *Strobilanthes* in Thailand: endemics, *S. chiangdaoensis*, A, *S. consors*, B and *S. corrugata*, C; new records, *S. glaucescens*, D and *S. hypomalla*, F; *S. sp. 1*, M

Conclusions

The taxonomic account of the genera *Diceratotheca*, *Dyschoriste*, *Eranthemum*, *Phaulopsis*, *Sanchezia* and *Strobilanthes* in Thailand are revised. A total of six genera in the *Strobilanthes* alliance are recognised, comprising c. 93 species. The genera *Diceratotheca*, *Dyschoriste*, *Phaulopsis* and *Sanchezia* are represented by one species each. *Eranthemum* has six species, two of which are newly recorded for Thailand, and one species is new to science. There are c. 83 species of *Strobilanthes* in Thailand, five of which are new species and 17 are new records.

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