

A NEW SPECIES OF *AGAPETES* (*ERICACEAE*) FROM THAILAND

S. WATTHANA*

A new species of *Agapetes* (*Ericaceae*) from Thailand is described and illustrated.

Keywords. *Agapetes*, *Ericaceae*, Thailand.

INTRODUCTION

Not many species of *Agapetes* have been recorded from Thailand. It is on the fringe of the area including Sikkim, Bhutan, SE Tibet to Assam, Myanmar and W Yunnan which includes the bulk of the nearly 100 species recorded. Only one species occurs immediately to the SW, the strange *A. scortechinii* (King & Gamble) Sleumer, which is known from Peninsular Malaysia. To the east of this is a major discontinuity in distribution before the genus reappears at the eastern end of the island of New Guinea, where 10 species are endemic and a further four species occur as outliers in N Australia and on islands in the Pacific, although these species are very different from the mainland species of the genus (Stevens, 1972). This new species, known as it is from several sites in the north-west of Thailand, will almost certainly be found in Myanmar and possibly further into the foothills of the Himalaya.

***Agapetes thailandica* S. Watthana, sp. nov. Fig. 1A–F.**

Type: S. Watthana, P. Suksathan & G. Argent 587 (holo. QBG, iso. E). Thailand, Chiang Mai Province; Doi Song Mea, Chom Thong District, epiphytic shrub on tree branches in mountain forest. Alt. 1500m.

Affinis *A. kanjilalii* A. Das sed ramis pedicellis et calycibus totis glabris (haud pilosis), foliis longioribus (6.0–15.0 × 2.6–6.0cm, non 2.5–3.0 × 0.7–0.9cm), corollis brevioribus (2.0–2.5cm, non c.3.8cm) et pedicellis longioribus (2.0–2.8cm, non 0.5–0.6cm) ad apicem haud articulato differt.

Epiphytic shrub to 1m high. *Roots* thickened but not forming a basal tuber. *Plant* entirely glabrous. *Stem* thickened at the base, grey. *Leaves* spiral; lamina oblong, oblong-elliptic, oblong-lanceolate to lanceolate, 6.0–15.0 × 2.6–6.0cm, obtuse or retuse at the apex, cuneate at base, margin revolute, midrib subprominent above, prominent beneath; veins 8–10 on each side, anastomosing near the margin and sometimes forming a weak intramarginal vein; petiole thickened, 2.0–4.0mm long. *Flowers* 5-merous, solitary or fasciculate on old branches; bracts 0.5mm long, elliptic, ciliate; pedicel filiform, 2.0–2.8cm long, not articulated with the calyx. *Calyx tube*

* Queen Sirikit Botanic Garden, Botanical Garden Organization, Mae Rim, Chiang Mai, Thailand.

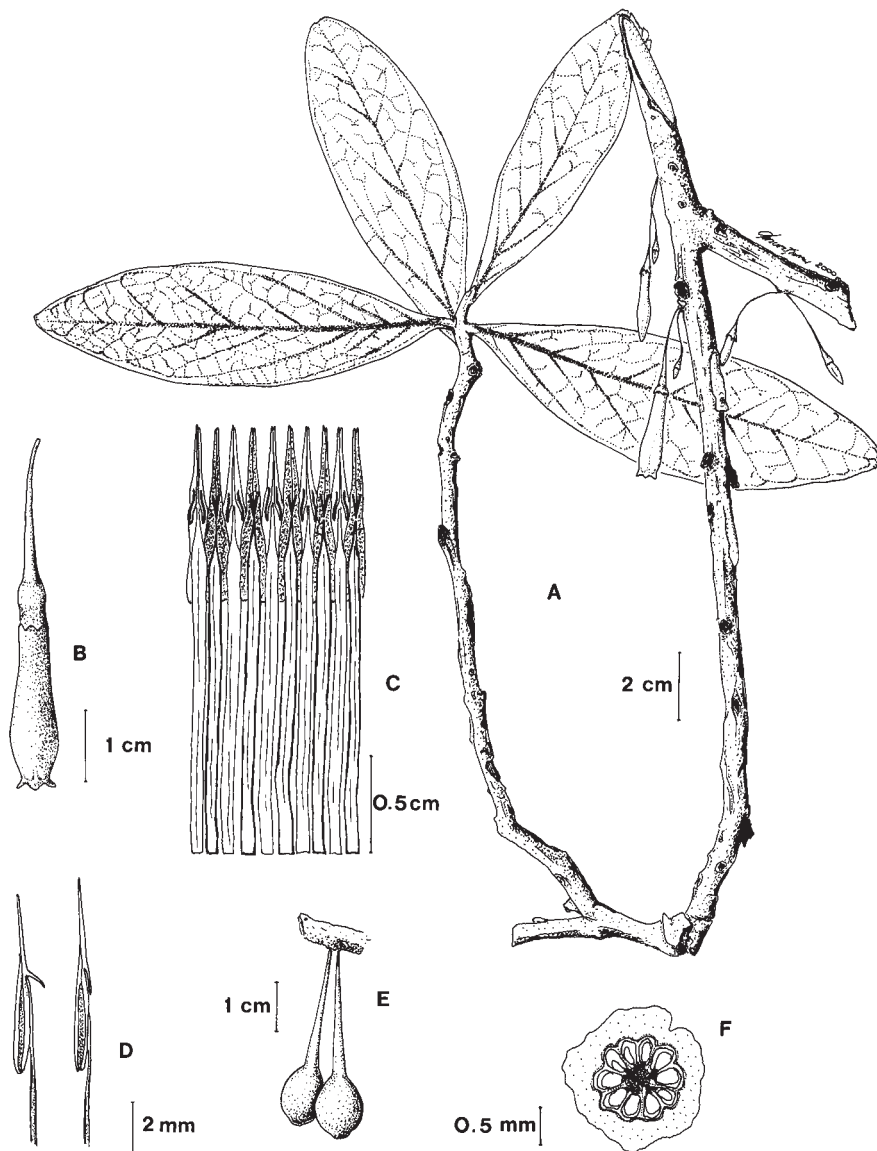


FIG. 1. *Agapetes thailandica* S. Watthana: A, branch with inflorescence (iso. Watthana *et al.* 587); B, flower; C, stamens; D, anthers showing different spur dispositions; E, fruits; F, ovary cross-section.

1.5–2.0 × 1.5–2.0 mm long; calyx limb 1.0–1.5 mm long; calyx lobes triangular, c. 1.0 mm long, acute at apex. *Corolla* at first solid bright red with green lobes, the lobes turning reddish, cylindric but slightly swollen in the upper half, 2.0–2.5 cm long, 0.4–0.6 cm in diameter, lobes triangular, each 1.0–1.5 mm. *Stamens* 10; filaments free, flattened, 1.5–1.7 cm, white; anthers 4.0–5.0 mm long, granular, with 2 recurved

spurs, 1.0–1.2mm long; tubules 4.0–5.0mm long, opening by elongate pores almost as long as the tubules. *Style* white, apex greenish, 2.1–2.5cm long; stigma truncate, green; ovary pseudo 10-locular. *Fruit* (immature) c.1.0cm diam., glaucous; seed flattened, ellipsoid, c.2.0 × 1.0mm.

Additional specimens. Maxwell 87-1623 (Chiang Mai; Doi Suthep) QBG!, 95-656 (Chiang Mai; Chiang Dao) QBG!

Distribution. Thailand; Chiang Mai (Doi Chiang Dao, Doi Suthep, Chom Thong) and Mae Hong Son (Khun Yuam, pers. obs.; Pang Mapha, pers. obs.). See Fig. 2.

DISCUSSION

Agapetes thailandica is a very distinct and interesting species. It is widely glabrous with large, spirally arranged leaves. The pedicel is filiform and not articulated with the calyx. The anthers are slightly dimorphic, not in size, but the spurs vary between widely and narrowly angled on alternate anthers (Fig. 1C,D). *Agapetes kanjilalii* A. Das from Assam has similar long, glabrous stamens with recurved spurs. It differs from *A. thailandica* in having pubescent stems, pedicel and calyx and although the leaves are of similar shape they are much smaller (2.5–3.0 × 0.7–0.9cm). The corolla also is longer in *A. kanjilalii* (c.3.8cm) and the pedicel is shorter (5.0–6.0mm) and, unlike the present species, is articulated at the apex. *Agapetes neo-caledonia* Guillaumia is also described as having the pedicel continuous with the calyx, a rare condition in the genus *Agapetes* (Stevens, 1972). This New Caledonian species is in any case widely removed geographically from the location of the new species and is in subgenus *Paphia* (Stevens, 1972); the present species is in subgenus *Agapetes*. The only other species of *Agapetes* subgenus *Agapetes* reported to have a continuous



FIG. 2. Distribution map of *Agapetes thailandica* S. Watthana.

pedicel is the distinctive *A. scortechinii* (King & Gamble) Sleumer (Sleumer, 1967). However, a living collection at the Royal Botanic Garden Edinburgh, authenticated by comparison with the type, shows the flower of *A. scortechinii* is, at least sometimes, clearly articulated (see Argent & Woods, 1986).

Agapetes moorei Hemsl. and *A. macrostemon* Kurz are somewhat similar species in series *Robustae* Airy Shaw (1935). They also have long filaments, but unlike the present species have pedunculate corymbose inflorescences, pseudoverticillate leaves, and non-spurred anthers. They are not considered closely related but indicate the difficulty of assigning species to Airy Shaw's series, which have many exceptions in the diagnoses. *Agapetes thailandica* has the characteristics of subseries *Cuneatae* Airy Shaw (1958) – few-flowered fascicles, glabrous parts and leathery, obovate, entire leaves with cuneate bases. It differs from all other species in this subseries in having much larger leaves and filiform pedicels that are continuous with the calyx.

Costera J.J. Sm. is a related genus with solitary or fasciculate flowers and a continuous pedicel. It is a small, poorly understood genus with a discrete distribution in the SE Asian archipelago, unlikely to occur in Thailand. In any case the leaves have a distinctive palmate venation unlike the pinnate pattern displayed in this new species, the ovary is not pseudo 10-locular, and the cork cambium is deep-seated, not superficial in position of innovation.

Whether or not the pedicel and calyx are articulated has been considered of varying importance previously in *Vaccinieae*. It is a character that is thought to have evolved independently more than once (Kron, pers. comm.). It is the most important character in the definition of the genus *Costera* (Sleumer, 1967). It has been used for the separation of subgenera in South American *Vaccinieae* (*Agathothibaudia* of Hoerold, 1909), although Smith (1932) considered the character of subordinate importance to stamen structure and stated that it is 'a purely external character of little phylogenetic significance'. However, Luteyn (1984) has used this character (in combination with others) for separating two closely related S American genera, *Semiramisia* Klotzsch and *Ceratostema* Juss., although admitting an exception in *Ceratostema* and noting that the character varies within at least two other genera (*Psammisia* Klotzsch and *Thibaudia* Ruiz & Pav. ex J. St Hil.). Understanding the true relationships of *A. thailandica* must await a modern monograph of the genus that should also incorporate molecular data; these relationships are not necessarily in the subseries to which it keys.

ACKNOWLEDGEMENTS

I am grateful to Dr G. Argent for advice and help with the manuscript, B. L. Burt and I. Hedge of the Sibbald Trust who supported the visit that enabled me to complete this work. I am grateful to my colleague Piyakaset Suksathan for illustrating this paper and to Dr R. Mill for the Latin translation. I wish to thank the keepers of the Royal Botanic Garden Edinburgh and Royal Botanic Gardens, Kew, for their help. I wish to thank Dr J. F. Maxwell, and the keeper of Chiang Mai University,

Thailand, for providing supporting specimens for study. Finally, I also thank the Queen Sirikit Botanic Garden, Thailand, for their generous help and facilities for research.

REFERENCES

- AIRY SHAW, H. K. (1935). Studies in the *Ericales*: I. New and less-known species of *Agapetes*. *Bull. Misc. Inform.* 1935: 24–53.
- AIRY SHAW, H. K. (1958). Studies in the *Ericales* XI. Further new species and notes on the *Agapetes* of continental Asia. *Kew Bull.* 13: 468–514.
- ARGENT, G. C. G. & WOODS, P. J. B. (1986). *Agapetes* (*Ericaceae*) in cultivation. *The Plantsman* 8: 65–85.
- HOEROLD, R. S. (1909). *Bot. Jahrb. Engler* 42: 250–334.
- LUTEYN, J. L. (1984). Revision of *Semiramisia* (*Ericaceae: Vaccinieae*). *Syst. Bot.* 9: 359–367.
- SLEUMER, H. (1967). *Agapetes, Ericaceae*. In: VAN STEENIS, C. G. G. J. (ed.) *Flora Malesiana, Ser. 1*, Vol. 6, pp. 878–885.
- SMITH, A. C. (1932). The American species of *Thibaudeae*. *Contr. US Nat. Herb.* 28: 311–547.
- STEVENS, P. F. (1972). Note on the infrageneric classification of *Agapetes*, with four new taxa from New Guinea. *Notes Roy. Bot. Gard. Edinburgh* 32: 13–18.

Received 9 June 2000; accepted with revision 26 April 2001