

Evolutionary history of the genus *Aeschynanthus* (Gesneriaceae) inferred from morphological, molecular phylogenetic and geographical data.

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PROGRAM & ABSTRACTS

**EVOLUTIONARY HISTORY OF THE GENUS *AESCHYNANTHUS* (GESNERIACEAE)
INFERRED FROM MORPHOLOGICAL, MOLECULAR PHYLOGENETIC AND
GEOGRAPHICAL DATA**

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Poster

There are approximately 160 species of *Aeschynanthus*, occurring from northern India to southern China and throughout Indo-China and Malesia to the Solomon Islands. Despite this wide distribution there is a high degree of endemism within the genus. Scanning electron microscope studies of seed and appendage morphology of 99 species show that the genus may be divided into two groups within which the existing seed-based classification fits. There is strong correlation between seed type and geographical distribution; one group is almost entirely Malesian whereas the other is largely confined to mainland S and SE Asia. Studies on the molecular phylogeny of 50 species demonstrate that the genus is divided into two clades, Clade I centred in mainland SE Asia and Clade II almost entirely Malesian. Each clade is defined morphologically by testa cell orientation. There is some overlap of clades particularly on the Sunda Shelf islands, and the majority of these, including all the known Clade I species east of Huxley's line, possess a coma of seed appendages making wind-dispersal very effective. The molecular results, together with SEM studies of seed development, suggest that the possession of more than one appendage is derived and species with short smooth seed appendages are ancestral.

Combining these results confirms the division of *Aeschynanthus* into two major groups defined by molecular phylogeny, morphology and geography. Basal to each molecular clade are species with short smooth seed appendages, occurring in China and Indo-China and in the Philippines respectively. Results imply that the possible origin of the genus was in Indo-China and that there was an ancient vicariance event between that area and the Philippines, followed by dispersal and speciation. The overlap of the two clades on the Sunda Shelf islands is consistent with the later coming together of the Australasian and Asian plates.

PROGRESS ON THE *FLORA OF THAILAND*

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The *Flora of Thailand* project began in 1963 as a collaboration between the Royal Forest Department in Bangkok and the University of Aarhus, Denmark. It has since grown to include a number of Thai, European, Japanese and American institutions. Out of the estimated 10,250 species of vascular plants in Thailand some 2300 species have so far been published in 130 families and manuscripts for a further 850 species in 25 families are either in press or have been received for publication. This comprises ca. 30% of the species.

Authors or coordinators have been found for most families but many, particularly the very large ones, present great challenges. For several of them no submission date can yet be guaranteed due to financial or time constraints. Additional help is still needed for some families and for many genera within the larger families. A few accounts have been completed by the same author who treated a family for *Flora Malesiana* as there is a slight overlap in the geographical ranges covered by the two Floras and a large overlap in the species to be covered. This approach is very efficient and collaboration between the two Flora projects should be further encouraged.