

109. Comparative Morpho-Anatomy of *Kaempferia galanga* L. and *Kaempferia pulchra* Ridl. (Zingiberaceae) from the Philippines

Authors: Marlon P. Rivera; Lourdes B. Cardenas

Abstract type: Poster

Kaempferia galanga is an indigenous medicinal herb in the Philippines. Despite of its known medicinal applications, the plant is not being valued in the country perhaps most of the people are unaware of its identity. *Kaempferia pulchra*, on the other hand, is a popular ornamental plant but an introduced species to the country. The popularity of *K. pulchra* might affect the conservation efforts for *K. galanga*. In addition, *K. pulchra* can be mistakenly identified as *K. galanga* and might be used to adulterate *K. galanga*-based medicinal products. Therefore, this study worked on an in-depth morpho-anatomical characterization of the two species to properly authenticate their botanical identity. This can serve as a basis to popularize *K. galanga* as a medicinal herb and pursue its conservation. On the same manner, the distinction between the two species can feasibly ensure the quality of *K. galanga*-based medicinal products in terms of their chemical constituents, uniformity, safety, and efficacy.

110. Taxonomic significance of micromorphology of leaf epidermis within the genus Aspidistra

Author: Nikolay Vislobokov

Abstract type: Oral

The genus *Aspidistra* comprises about 170 species of herbaceous plants inhabiting South-East Asia. Species of *Aspidistra* show extremely high diversity of flower morphology. However, features of vegetative organs are poor. Thus, species of *Aspidistra* usually cannot be recognized without flowers. Within present study, features of micromorphology of leaf epidermis are

investigated in more than 40 species of *Aspidistra*. Taxonomic significance of these characters and usefulness for species recognition are tested.

Leaves were collected from living plants of *Aspidistra* (mostly from cultivation) and fixed in 70% ethanol. The material was critical-point dried and observed using a scanning electron microscope. It was found out that sculpture of cuticle and presence of papillae varies in leaf epidermis of different species of *Aspidistra*. Also these characters are sufficiently stable within a species. Surface of cuticle may be smooth, tuberous or rugose. Epidermis may be densely papillate, absently papillate or without papillae. All investigated species of *Aspidistra* can be divided into several groups by combination of these characters. Each group comprises species which can be distinguished from each other by morphological features of leaves and rhizome.

These micromorphological characters are useful for taxonomy and can be used for recognition of species in case of flower absence. The study was funded by RFBR according to the research project N. 18-34-20135.

111. Phylogeny of *Meiogyne* (Annonaceae): Potential Adaptive Radiation Driven by Dispersal from Malesia to the Australasian-Pacific Region

Authors: Ming-Fai Liu; Richard M. K. Saunders

Abstract type: Oral

The dynamics of diversification can be shaped by past geological events that create reproductive barriers, allow reticulation, and open up new resources and habitats that lineages can exploit. Adaptive radiation occurs when an evolutionary lineage diversifies rapidly, occupying multiple novel niches as it enters a new environment. Adaptive radiation is hypothesised to have occurred in *Meiogyne* Miq. (Annonaceae), a genus of tropical trees. The existing plastid phylogeny indicates that *Meiogyne* comprises a depauperate Indomalayan grade and a species-rich Australasian-Pacific clade, with the latter showing various climatic and edaphic adaptations. To test whether *Meiogyne* underwent adaptive radiation in the Australasian-Pacific region, we improved the resolution of existing plastid phylogeny with the addition of nuclear markers, including *s8e*, *NIA*, *atpQ*, *nduB8*,