Kiehn & Weber 1998b

Karyological differentiation in Malasian Gesneriaceae

Fourth International Flora Malesiana Symposium. Taxonomy: The cornerstone of biodiversity. Forest Research Institute Malaysia & Flora Malesiana Foundation.

REFNO: **3724**

KEYWORDS:

Aeschynanthus, Chirita, chromosome numbers, Cyrtandra, Didissandra, Didymocarpus, Epithemateae, Henckelia, Klugieae, Monophyllaea, Rhynchoglossum, Ridleyandra, Whytockia

Karyological Differentiation in Malesian Gesneriaceae

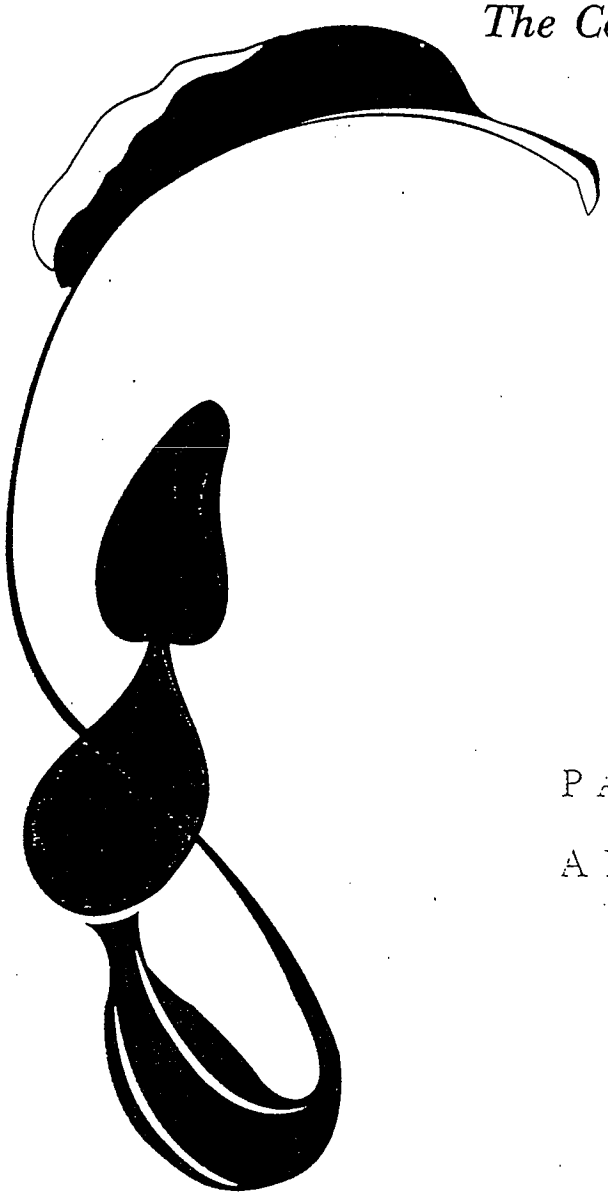
M. Kiehn & A. Weber
Institute of Botany, University of Vienna, Rennweg 14, A-1030 Vienna, AUSTRIA

Karyological studies in Malesian Gesneriaceae reveal different patterns of karyological differentiation which are of taxonomic relevance. Speciation processes not accompanied by changes in chromosome numbers are found, e.g., in the huge genus *Cyrtandra* (x=n=17; paleo-tetra-dysploid?) and in the new genus *Ridleyandra* (also x=n=17), the chromosome number of the latter supporting its separation from *Didissandra sens. str.* (x=n=10). Different ploidy levels in related taxa possibly indicate recent speciation processes, especially in cases of single polyploid origins, species or species groups occurring in normally diploid alliances (e.g., *Henckelia hispida*-alliance, *H. parviflora*, *Monophyllaea musangensis*). In *Aeschynanthus*, tetra- and hexaploidy has been reported even within species. Discordant numbers in taxa of the same ploidy level can be the result of Robertsonian events (fission or fusion of chromosomes). Fission of chromosomes is the obvious reason for 2n=20 in some *Henckelia* species. Ascending dysploidy also could explain the situation in *Monophyllaea* (x=10, 11, 12) as well as in the whole tribe Epithemateae (=Klugieae), with *Whytockia* representing the starting point with x=n=9. Descending dysploidy likely has led to the different basic numbers in the re-defined *Didymocarpus sens. str.* (*sensu* Weber & Burtt) and in *Aeschynanthus*. Independent polyploidisation (followed by descending dysploidy in some taxa) could explain the situation found in the different sections of *Chirita*. In *Rhynchoglossum* (Epithemateae) discordant numbers (result of polyploidisation and dysploidy?) and the small chromosome size of the diandrous species (loss of DNA during polyploidisation?) require further studies. Some Chromosome structures otherwise unusual for Old World Gesneriaceae also give hints as regards systematic relationships: all investigated taxa of *Didymocarpus sens. str.* share nearly globular chromosomes, thus differing markedly from the elongated chromosomes found in the revived genus *Henckelia*.

FOURTH INTERNATIONAL

f LORA MALESIANA SYMPOSIUM

Taxonomy:
The Cornerstone of Biodiversity



Holiday Villa Subang
Kuala Lumpur, Malaysia
20–24 July 1998

PAPER & POSTER
ABSTRACTS

Organised by
the Forest Research Institute Malaysia and the Flora Malesiana Foundation
in association with
Universiti Malaya, Universiti Kebangsaan Malaysia,
Universiti Putra Malaysia and the
Forestry Departments of Peninsular Malaysia, Sabah and Sarawak