



Systematics of *Mappia* (Icacinaceae), an endemic genus of tropical America

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Abstract

Mappia includes four species of trees and shrubs distributed in Central America, Mexico and the Greater Antilles. *Mappia* has historically been associated with the genera *Casimirella* (= *Humirianthera*), *Ikacina*, *Leretia* and *Nothapodytes*, collectively comprising the *Mappia* complex, and over the years authors have merged or maintained these genera based on various lines of morphological and anatomical evidence. Here we present a phylogenetic study of the *Mappia* complex, based on morphological and molecular data, to assess monophyly of *Mappia* as well as relationships among other icacinaceous genera. Our results indicate that *Mappia* is sister to the Asiatic genus *Nothapodytes*, consistent with previous studies, and that *Leretia*, *Ikacina* and *Casimirella* form a clade more closely related to other genera of Icacinaceae (e.g., *Alsodeiopsis*, *Iodes*, *Phytocrene*) than to *Mappia*+*Nothapodytes*. These results support recognition of *Mappia* as a distinct entity, and here we provide an updated taxonomic treatment for the genus, recognizing four species including three from Mexico and Central America (*M. longipes*, *M. mexicana*, and *M. multiflora*) and one from the Greater Antilles (*M. racemosa*).

Key words: Caribbean flora, Central American flora, lamiids, Mexican flora, Neotropical flora, *nhdF*

Introduction

Mappia Jacquin (1797: 22) was forgotten until Miers (1852) assigned many new species mainly from Asia to this genus. *Mappia* has historically been associated with the Neotropical genus *Leretia* Vellozo (1829: 99), and both have been treated in different ways. Bentham (1862), Engler (1893), House (1922), Baehni (1936) and Sleumer (1940, 1942) merged these genera. In contrast, Miers (1852), Engler (1893) and Howard (1942) maintained both. Baehni (1936) segregated the Asiatic species of *Mappia* into a new genus, *Neoleretia* Baehni (1936: 35) (= *Nothapodytes* Blume 1850: 248). Howard (1942) provided morphological evidence that these genera are all distinct. More recently, Dahl (1952) provided palynological evidence supporting *Leretia* and *Mappia* as distinct entities. House (1922) and Baehni (1936) mentioned that the name *Mappia* is illegitimate, but the last author proposed to conserve the name, which was agreed in 1940.

Phylogenetic analyses based on morphological data (Kårehed 2001) indicated that *Mappia* and *Leretia* are not closely related and that the Asiatic genus *Nothapodytes* is sister to *Mappia*, although these analyses did place *Mappia*+*Nothapodytes* within a larger clade including *Lavigeria* Pierre (1892: 267), *Leretia*, *Ikacina* Jussieu (1823:174), *Casimirella* Hassler (1913: 249) and *Pleurisanthes* Baillon (1874: 201). However, several of these genera (i.e., *Casimirella*, *Lavigeria*, *Leretia* and *Pleurisanthes*) have yet to be included in molecular phylogenetic analyses, and consequently relationships among members of the *Mappia* complex (*Mappia*, *Nothapodytes*, *Leretia*, *Casimirella* and *Ikacina*) and other icacinaceous genera, especially *Lavigeria*, *Pleurisanthes*, *Iodes* Blume (1825: 29) and *Phytocrene* Wallich (1831: 11), remain poorly known.