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Preface to "A revision of American *Trichilia* (Meliaceae)"

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Preface

Trichilia P.Browne is one of the largest genera of Meliaceae, containing 81 described species in tropical America, 20 species in Africa and 2 species in Madagascar. It is placed in the subfamily Melioideae (Pennington & Styles 1975, Muellner *et al.* 2003) where it is a well-defined genus with a distinctive floral and fruit structure. It is clearly separated from all other genera of the family by the flowers with a staminal tube of partially or completely fused stamens bearing the anthers at the apex of the filaments or on the margin of the staminal tube and by the fruit which is a 2–3-valved loculicidal capsule containing fleshy seeds partly or completely surrounded by an arillode or rarely a sarcotesta.

All species are trees or shrubs and their distributional range extends from northern Mexico to northern Argentina, with the majority found in the midstorey or understorey of lowland rain forests, and a lesser number found in montane rain forests and seasonally dry forests.

The genus was last revised in Flora Neotropica (Pennington *et al.* 1981), an account which is now out of date. Since then only two additional new species have been published (*T. obovata*, *T. primogenita*) and in the intervening years many new collections have accumulated from all parts of tropical America. A number of local and national accounts on Meliaceae have been published since 1981 (Pennington & Görts-van Rijn, 1984; Pennington & Edwards, 2001; Pennington & Styles, 2001; Pennington, 2006; Palacios 2007; Pennington & Clarkson, 2013; Pennington & Biggs (in press)), but it has become clear that the distributional data needed a complete revision and that recent collections contained several undescribed species.

3500 additional collections have been examined for this study and they reveal substantial changes to the distribution patterns known in 1981. Most notable are the changes to the 'endemic' status assigned to species at that time. For example, two species thought to be endemic to Costa Rica in 1981 (*T. adolfi*, *T. pittieri*) are now known to have ranges extending as far as Amazonian Ecuador and Peru. Other species, such as *T. fasciculata*, thought to be disjunct between eastern and western Brazilian Amazonia, are now seen to have a trans-Amazonian range, and other species with a 'local' distribution (usually confined to one or a few 1 degree squares) such as *T. elsae* are now known to be far more widespread in western South America. The present and past (pre-1981) distribution of all species is compared in the maps which accompany the species descriptions. As a result of the increased data, the number of local endemics, defined here as species restricted to only 1 or 2 contiguous 1 degree squares, is down from 10 in 1981 to 6 at the present time, 5 of which are plants of seasonally dry forest. *Trichilia florbranca* (coastal Brazil) is the only remaining wet forest endemic. The other 5 endemics are *T. ulei* (Tarapoto, eastern Peru), *T. monacantha* (Dominican Republic), *T. pungens* (Cuba), *T. stenophylla* (Haiti), *T. triacantha* (Puerto Rico).

This study consists of two separate but intrinsically linked aspects. Firstly, a molecular phylogenetic article investigating relationships in *Trichilia* and secondly a systematic monograph of the genus based on morphological characters. Within the systematic monograph species 1–24 (sect. *Trichilia*) and 32–69 (sect. *Moschoxylum*) are arranged according to the groups yielded in the phylogenetic analysis.

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