Syzygium (Myrtaceae): Monographing a taxonomic giant via 22 coordinated regional revisions

ABSTRACT

Syzyqium Gaertn. is the largest woody genus of flowering plants in the world. Unpublished but extensive recent herbarium surveys suggest 1200-1800 species distributed throughout the Old World tropics and subtropics (Table 1). Until recently, Syzygium exemplified a recurring taxonomic impediment among megadiverse genera, wherein few taxonomists worked on the group in any sustained manner, a majority of the herbarium specimens remained undetermined or misidentified, few if any attempts were made to look at the genus globally and limited or no molecular studies were available to provide a predictive phylogenetic context of the genus. The situation with Syzygium has slowly begun to change as allied genera have been absorbed into the genus (Biffin et al., 2006; Craven & Biffin, 2010), and predictive phylogenetically based infrageneric classifications are emerging. Taxonomic outputs on Syzygium also have been increasing across its range with the description of new species, resolution of nomenclatural and typification issues, and some regional revisions being initiated or updated. However, virtually all regional treatments (which some areas lack) need urgent revision because they are severely outdated, have limited molecular sampling and are error-ridden. We are coordinating a genuswide taxonomic update of Syzygium through a series of 22 regional revisions, including 9 in the Flora Malesiana region (Figure 1). Each treatment will include a phylogenetic framework with species descriptions, type information, synonymy, distributions, ecological notes, and keys. Field images (Figure 2) and/or line drawings will be included with the goal of every species being illustrated. This working group has been formed to encourage a coordinated effort to document this unwieldy taxonomic giant and regional botanists working on the group are encouraged to be involved. A robust taxonomy of the genus is a prerequisite for testing the many complex questions about evolution and ecology that Syzygium could help address.