



Another New Thai *Argyreia* Species (Convolvulaceae)

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Abstract

A new species of *Argyreia* (Convolvulaceae) from Thailand is described and illustrated: *A. albiflora*. The morphological distinctions of this new species and its relationships with allied species are discussed. Micromorphological evidence is presented using scanning electron microscopy (SEM) and light microscopy (LM) demonstrating that microscopic features of the upper leaf surface are useful in separating species that are similar on a macromorphological level.

Key words: *Argyreia albiflora*, *Argyreia wallichii*, cutin, leaf anatomy, leaf epidermis

Introduction

Argyreia Loureiro (1790: 134) is one of the larger genera in the family Convolvulaceae with about 125 species (Staples & Brummitt 2007). The genus is distributed mainly in tropical Asia; about one-third of the species occur in Thailand, making that country a centre of species richness for *Argyreia*. As pointed out in an earlier paper (Traiperm & Staples 2014), there are now a number of new morpho-taxa known in Thai *Argyreia* that have come to light after the Convolvulaceae account for the *Flora of Thailand* (Staples 2010) was published. The new species described here was known as far back as the 1950s (Kerr 1954) based on a single, old, unicate specimen (*A.F.G. Kerr s.n.* in BM) that was too scrappy to identify with certainty. This Kerr specimen is similar in general aspect to *A. wallichii* Choisy (1834: 421), but has only a single flower that is glued down on the sheet, preventing full examination of the floral details needed to make a conclusive determination. On casual inspection, the Kerr specimen could be a depauperate, incomplete specimen of *A. wallichii*.

Now, new collections have been made and type specimens for additional taxa have been studied; this information enables us to recognize a new species and to provide a thorough morphological characterization for it. Furthermore, studies of anatomy, pollen, cytology, and micromorphology are shedding new light onto species delimitation in Thai *Argyreia*, with excellent potential to help clarify taxonomic concepts in the genus as a whole. We present here new evidence from leaf epidermal studies that represent part of a larger anatomical investigation of Thai *Argyreia*, which resolves the taxonomic status of this dubious taxon relative to similar species in Thailand.

Materials and methods

This new discovery was based on field study of live plants, herbarium materials, anatomical specimens preserved in alcohol, and the study of type specimens of *Argyreia* species conserved in numerous herbaria. The leaf epidermal comparisons were made between mature leaves of two *Argyreia* species: *A. albiflora* (Staples *et al.* 1439, 1446) and *A. wallichii* (Staples *et al.*, 1529); leaves were selected from both herbarium specimens and fresh samples. At least two different regions of the blade were used and small pieces (0.5 cm × 0.5 cm) were cut from each region. These pieces were taken from near the leaf margins and from the middle region of the leaf to eliminate variation that might occur.

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