

RESEARCH ARTICLE

Studies on Potheae of Borneo III: Four New Species of *Pothos* Subgenus *Allopothos* From Malaysian Borneo

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ABSTRACT

Four new species of *Pothos* L. subgenus *Allopothos* are described and figured from Borneo: *Pothos khoonmengii*, *Pothos cupulifer*, and *Pothos prolificus*, belonging to the Goniurus supergroup, and *Pothos ruthae*, assigned to Allopothos supergroup (both informal groupings within the subgenus). The last is ecologically notable for its strict restriction to ultramafic substrates, the first record for the genus. Comprehensive descriptions, diagnostic comparisons with morphologically allied congeners, ecological notes, and photographic plates of the nomenclatural types are provided for all four novelties.

1 | Introduction

Pothos L. (Araceae: Potheae) is a genus of about 75 species of root-climbing nomadic vines (Zotz 2013; Zotz et al. 2021) distributed from Madagascar through tropical Asia and Malesia to Australia and the Western Pacific. It is most closely allied to the enormous neotropical genus *Anthurium* Schott. The last monograph of *Pothos* is that of Engler (1905), in which he treated Schott's two subgenera (Schott 1853, 1860) as sections and further subdivided these into seven formal series based on inflorescence placement and shoot morphology. Hay (1995) reinstated Schott's two subgenera and detailed the architectural plasticity of *Pothos*, highlighting the unique leaf structure of subg. *Pothos* (which features a flattened, photosynthetic, blade-like petiole) versus the sheathing petiole and distinct geniculum of subg. *Allopothos* and surveyed the inflorescence arrangements ranging from solitary terminal anthomorphs to complex cauliflorous branch systems. Boyce and Hay (1997) further analyzed shoot architecture across Potheae, identifying 6 distinct growth phases in *Pothos* (eocaul, juvenile/shingle climber, sterile mature, sympodial fertile, foraging flagellum, and reiteration). They also rejected Engler's series-level classification in favor of seven informal species groups defined by shoot architecture and anthomorph ['inflorescence'] presentation. They further noted that

the monospecific Bornean genus *Pedicellarum* M. Hotta (Hotta 1976) closely approached the *P. luzonensis* group hinting that the two might be congeneric. Boyce and Hay (2001) published a revision of Potheae for Malesia, Australia, and the tropical Western Pacific recognizing 46 species and establishing two informal supergroups within subgenus *Allopothos*. The Allopothos supergroup has a spadix with congested flowers arranged in a dense spiral while the Goniurus supergroup has a spadix with scattered flowers arranged in a loose spiral. It was noted that *Pedicellarum* formed a morphological 'bridge' with the Goniurus supergroup (specifically with *Pothos oliganthus* P.C. Boyce & A. Hay). Subsequently Wong et al. (2020) formally subsumed *Pedicellarum* M. Hotta into *Pothos* while describing new species (*Pothos degenerans* S.Y. Wong, P.C. Boyce & A. Hay, *P. ecclesiae* P.C. Boyce, S.Y. Wong & A. Hay, and *P. fractiflexus* Joling, J.T. Pereira & Damit) revealing a complete morphological continuum in floral stipes, perigone fusion, and floral receptacles between *Pedicellarum* and the Goniurus supergroup.

In Borneo, where including the novelties proposed here 26 species occur, the genus exhibits exceptional morphological diversity, represented by species spanning both recognized subgenera and most of the informal groups proposed by Hay (1995) and Boyce and Hay (2001). Three of the novelties proposed here,