

## A taxonomic study of the *Pandanus furcatus* and *P. tectorius* complexes (Pandanaeae) in Java

Sri Endarti Rahayu<sup>1</sup>, Alex Hartana<sup>2</sup>, Tatik Chikmawati<sup>2</sup>  
and Kuswata Kartawinata<sup>3</sup>

<sup>1</sup>Graduate School of Bogor Agricultural University,  
Biology Department, National University, Indonesia  
endarti2004@yahoo.com (corresponding author)

<sup>2</sup>Bogor Agricultural University, Indonesia

<sup>3</sup>Herbarium Bogoriense, Botany Division, Research Center for Biology,  
Indonesian Institute of Sciences, Cibinong Science Center (CSC),  
Jl. Raya Jakarta-Bogor Km 46, Cibinong, Bogor 16911, Indonesia;  
and Botany Department, Field Museum, Chicago, Illinois, U.S.A.

**ABSTRACT.** Current taxonomic problems in *Pandanus* in Java include the interpretation of the *Pandanus furcatus* complex as well as the *P. tectorius* complex. A study of general morphological, stomatal and molecular characteristics (viz., the noncoding chloroplast intergenic spacer region *atpB-rbcL*) showed that *P. bantamensis* Koord., *P. pseudolais* Warb., and *P. scabrifolius* Martelli, previously considered synonyms of *P. furcatus*, and *P. tectorius* var. *littoralis* Martelli and *P. odoratissimus* L.f. are all distinct species.

**Keywords.** Anatomy, *atpB-rbcL*, Java, morphology, *Pandanus furcatus* complex, *Pandanus tectorius* complex

### Introduction

The term species complex was used to describe a species aggregation sharing specific morphological and molecular features (Judd et al. 1999). Within such a complex, a complicated morphological overlap, without any discontinuities, has led to taxonomic difficulty (Pak and Kawano 1992). Although their taxonomic affinity may be difficult to determine, some form of taxonomic resolution is desirable.

According to Stone (1972), *Pandanus* Parkinson in Java contains many rather problematic species. He suggested that detailed studies were required to obtain a more refined taxonomic scheme. The main problem, as far as Javan plants are concerned, appears to be the status of taxa which are given as synonyms of *P. furcatus* Roxb. by Backer and Bakhuizen van den Brink f. (1968). These synonyms include *P. bantamensis* Koord., *P. oviger* Martelli, *P. pseudolais* Warb. and *P. scabrifolius* Martelli. Also, *P. odoratissimus* L.f. was thought to be synonymous with *P. tectorius* var. *littoralis* Martelli. Stone (1972) made a short revision of Pandanaeae in Java based on herbarium specimens in the BO herbarium and living plants cultivated in the Hortus Bogoriensis, attempting to develop a more stable species concept for *Pandanus*