ABSTRACT

SRI ENDARTI RAHAYU. Biosystematics of Pandanaceae in Java. Supervised by ALEX HARTANA, TATIK CHIKMAWATI, KUSWATA KARTAWINATA, and MIEN A. RIFAI.

Pandan family (Pandanaceae) is represented in Java by two genera: Freycinetia Gaud. and Pandanus Parkins. Since the studies by Backer and Bakhuizen van den Brink in 1968 and Stone in 1972, there were no further exploration on the pandan flora of the island have been made, thus the pandan flora remains largely unknown. Taxonomical problem as far as the Java pandans concerned are centered not only on species status of P. odoratissimus L.f and P. tectorius var. littoralis which are regarded as synonym, but also the species status which are given as synonym of P. furcatus Roxb. by Backer and Bakhuizen van den Brink. Backer and Bakhuizen van den Brink included of P. bantamensis Koord., P. oviger Martelli, P. pseudolais Warb. and P. scabrifolius Martelli as synonym to P. furcatus Roxb. This Backer and Bakhuizen van den Brink’s classification is in contrast with Stone who stated that these species were regarded as four different species. For the reason of this taxonomical problem, therefore an effort has been made to redescribe these species in detail, using morphological, anatomical and molecular data such as sequence data of atpB-rbcL IGS, since a satisfactory classification depends upon the interpretation of many characters as possible. In this study we only found three of four species mentioned above, viz. P. bantamensis Koord., P. pseudolais Warb., and P. scabrifolius Martelli. The result showed that P. bantamensis Koord., P. pseudolais Warb., and P. scabrifolius Martelli are treated as three different species, and P. odoratissimus L.f and P. tectorius var. littoralis are treated as two different species. The ISSR marker showed that six species of Freycinetia and thirteen species of Pandanus from Java have high genetic diversity, although Freycinetia has a bit lower than Pandanus. This research showed seven species of Freycinetia could be recognized, viz. F. angustifolia Bl., F. funicularis Merr., F. imbricata Bl., F. insignis Bl., F. javanica Bl., F. scandens Gaud., and F. sumatrana Hemsl.; sixteen species of Pandanus, viz. P. amaryllifolius Roxb., P. bantamensis Koord., P. bidur Jungh., P. dubius Spreng., P. faviger Backer, P. kurzii Merr., P. labyrinthicus Kurz, P. multifurcatus Fagerl., P. nitidus Kurz, P. odoratissimus L.f., P. polypehalus Lam., P. pseudolais Warb., P. scabrifolius Martelli, P. spinistigmaticus Fagerl., P. tectorius Parkins, with two varieties, viz. P. tectorius var. littoralis, P. tectorius var. samak, one cultivar, i.e Pandanus tectorius cv. Sanderi; P. utilis Bory; one variety P. leram Jones var. andamanensis (Kurz) Stone, and one cultivar, P. spurius Miq. cv. Putat. Pandanaceae in Java are most diverse in lowland rain forest and hill forest.

Keyword: anatomy, Freycinetia, Java, molecular, morphology, Pandanus