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Cover images: *Mapania sembilangensis* Miraadila, Shabdin & Meekiong. A. Habit; B. Leaf apex details; C. Sheath margin details; D. Capitata inflorescence; E. Spike; F. Spicoid bract [Drawing by Meekiong, K.].

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TWO NEW SPECIES AND ONE NEW GEOGRAPHICAL RECORD FOR SARAWAK, MALAYSIA (CYPERACEAE: MAPANIOIDEAE)

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ABSTRACT

MIRAADILA, M. I., SHABDIN, Z. & MEEKIONG, K. 2016. Two new species and one new geographical record for Sarawak, Malaysia (Cyperaceae: Mapanioideae). *Reinwardtia* 15(2): 129 – 135. — *Mapania hidiriana* and *M. sembilangensis*, two new species from Sarawak, Malaysia are described and illustrated. *Mapania hidiriana* can be differentiate from *M. meditensis* by elongated lanceolate inflorescences. Whilst, *M. sembilangensis* differ from *M. multiflora* and *M. hispida* by the floral and fruit morphologies. In additional, *M. spadicea* Uittien, a new geographical record for Sarawak is also presented.

Keywords: Cyperaceae, *Mapania*, *Mapania hidiriana*, *Mapania sembilangensis*, Sarawak.

ABSTRAK

MIRAADILA, M. I., SHABDIN, Z. & MEEKIONG, K. 2016. Dua jenis dan satu catatan baru sebaran geografi (Cyperaceae: Mapanioideae) untuk Sarawak, Malaysia. *Reinwardtia* 15(2): 129 – 135. — *Mapania hidiriana* dan *M. sembilangensis* adalah dua jenis baru dari Sarawak, Malaysia dipertelakan dan diilustrasikan. *Mapania hidiriana* dapat dibedakan dari *M. meditensis* karena mempunyai perbungaan melanset memanjang. Morfologi bunga dan buah *M. sembilangensis* berbeda dengan *M. multiflora* dan *M. hispida*. Sebagai tambahan, *M. spadicea* Uittien, mempunyai sebaran geografi sampai Sarawak.

Kata kunci: Cyperaceae, *Mapania*, *Mapania hidiriana*, *Mapania sembilangensis*, Sarawak.

INTRODUCTION

Cyperaceae are the third largest in the monocotyledon family and seventh largest in the angiosperms with 106 genera and 5,387 species (Govaerts *et al.*, 2007). They form a huge, morphologically diverse, geographically widespread, ecologically and economically important family (Naczi, 2005). Nevertheless, there are many species which are narrowly distributed, specific to certain habitats and of conservation concern (Naczi & Ford, 2008). The difficulty of assessing levels of endemism was noted by Goetghebeur (1998), due to the lack of recent revisions and reliable checklists as many species are known from only a single specimen or locality (Shabdin & Meekiong, 2012). All members of Cyperaceae in general are problematic to identify, due to the lack of good discontinuous morphological characters. Asian species, especially, show a wide range of morphological variation, where the appearance of the whole inflorescence changes as it matures, although individual structures remain constant in shape and size (Simpson, 1992; Shabdin *et al.*, 2013a).

The diversity of *Mapania* species in Sarawak is tremendous, with 31 out of 71 world's total number are recorded includes three newly described species; *M. sapuaniana* Shabdin (2013a); *M. multiflora* Shabdin (2013b), *M. meekiongii* (Miraadila & Shabdin, 2016) and *M. kadimiana* Shabdin, Meekiong & Miraadila (Shabdin *et al.*, 2016). Our recent field excursions collected many interesting specimens that morphologically not matching with the existing species recorded for Sarawak. Among many specimens, three were confirmed; two as a new species and another one was a new record from Sarawak. All the three species are presented here.

MATERIALS AND METHODS

Botanical collections were conducted from April to December 2014 which covers various localities from western to eastern parts of Sarawak. Sample collections and herbarium specimens' preparation were made accordingly to the standard Herbarium Specimen Collection (Bridson & Forman, 1992). Samples identification