



New Record of Bryophytes Family from Giam Siak Kecil-Bukit Batu Biosphere Reserve, Riau Province

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ABSTRACT

Riau province has the largest peatland in Sumatra island, i.e. Giam Siak Kecil-Bukit Batu biosphere reserved. This area plays an important role for conservation due to its high biodiversity. One of the important flora occur in this region is moss. This lower plant groups can maintain the stability of micro climate. Research and publication of moss plants in this region has never been reported therefore the study of Bryophytes in this conserved area is important. This study aim to determine the family of moss plants from Giam Siak Kecil-Bukit Batu Biosphere Reserve. This study used exploration method. All of the samples were collected from three zones i.e. transition zone, buffer zone and core zone. A total of 17 moss families were recorded from study sites. 7 families of Marchantiophyta i.e Calypogeiaceae, Pallaviaceae, Ricciaceae, Jungermaniaceae, Lepidoziaceae, Frullaniaceae, Lejeuneaceae and 10 families of Bryophyta i.e. Bryaceae, Dicranaceae, Sematophyllaceae, Calymperaceae, Fissidentaceae, Hookeriaceae, Hypnaceae, Leucobryaceae, Rhizogoniaceae and Thuidiaceae.

Key words: Giam Siak Kecil-Bukit Batu Biosphere Reserve, exploration, moss, peatland.

INTRODUCTION

Giam Siak Kecil-Bukit Batu Biosphere Reserve is conserve area that has peatland characteristic. This area conserve all of fauna and flora include moss. Moss can play important part in this area such as for water storage, indicator of humidity (Kornat 2010) and habitat for some small organism etc. (Glime 2006). However, in spite of its function in the forest ecosystem, the data of this group is inadequate and no record of moss diversity from this biosphere reserve had been not reported. The aims of this study are to identify, characterize and classify the mosses diversity of Giam Siak Kecil-Bukit Batu Biosphere Reserve.

MATERIAL AND METHODS

All of specimens examined on February 2012 until June 2012. This research used exploration method and sample collected from six study sites that grouped based on their vegetation types, i.e. natural forest, industrial planttation forest, rubber forest, rubber plantations, oil palm plantations and home gardens. Identification and herbarium made in Botani Laboratory Faculty of Mathematic and Natural Science University of Riau and Cibodas Botanical Garden.



RESULT AND DISCUSSION

Giam Siak Kecil -Bukit Batu Biosphere Reserve has unique peatland area. That's caused by variations in the zones area. There are three zones, i.e. core zone, buffer zone and transition zones. Core zone is conservation area has natural conditions. Buffer and transitions zone have variation physical conditions caused by conversion land became oil palm plantation, rubber palm plantation, home garden and industrial plantation forest.



Fig 1. Types of vegetations in Giam Siak Kecil-Bukit Batu Biosphere Reserve

The result showed that we founded 7 families of Marchantiophyta i.e. Calypogeiaceae, Pallaviniaceae, Ricciaceae, Jungermaniaceae, Lepidoziaceae, Frullaniaceae, Lejeuneaceae and 10 families of Bryophyta i.e. Bryaceae, Dicranaceae, Sematophyllaceae, Calymperaceae, Fissidentaceae, Hookeriaceae, Hypnaceae, Leucobryaceae, Rhizogoniaceae and Thuidiaceae.

GSK-BB Biosphere Reserve has peat soil structure and made it became acid. We founded terrestrial and epiphyte moss life. Although soil conditions is acid and saturation, some moss families founded terrestrial such as Lepidozeiaceae, Calypogeiaceae, Ricciaceae, Pallaviniaceae, Bryaceae, Dicranaceae, Fissidentaceae and Thuidiaceae. Some moss life epiphyte on tree, bark, rotten of palm or wood such as Jungermaniaceae, Frullaniaceae, Lejeuneaceae, Sematophyllaceae, Calymperaceae, Hookeriaceae, Hypnaceae, Leucobryaceae and Rhizogoniaceae. This number supported by key drivers of epiphyte bryophytes distribution within forest, it is bark structure and microclimate (Sporn *et al.* 2010).

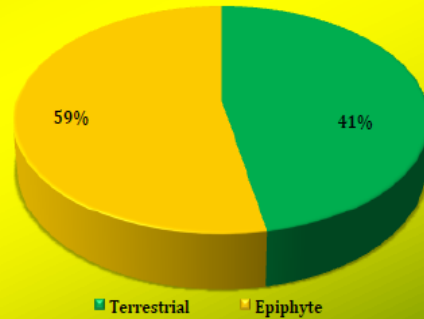


Fig 2. Percentage of Epiphyte and Terrestrial moss

CONCLUSION

A total of 17 moss families that founded in three zones Giam Siak Kecil-Bukit Batu Biosphere Reserve grouped become Marchantiophyta and Bryophyta. The most abundance moss is Bryophyta. This's a new record for Bryophyte diversity in Sumatera especially for Riau Province.



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