ABSTRACT

Santoso, Heri. 2013**. Study of Testing in Isolation Methods of DNA from Herbarium Specimens *Rafflesia***. Thesis. Department of Biology, Faculty of Science and Technology The Maulana Malik Ibrahim State Islamic University of Malang. Supervisor: (I) Suyono, M.P. (II) Umayyatus Syarifah, M.A.

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Rafflesia is an unique plant which very different to compare with higher plants. Nearly most of the species in the genus *Rafflesia* classified as rare plants with precarious status (endangered) (EN 3cd) according to the IUCN 1994 criteria in the number of individuals, populations and genetic diversity. Conservation *Rafflesia* constrained because of three main factors: biology, reproduction and population. Several attempts have been made in *Rafflesia* conservation efforts. One of the modern conservation efforts that can be applied is the storaging technology of deoxyribonucleic acid or DNA. DNA storaging is expected to maintain the biodiversity contained within a plant for hundreds of years. Collecting fresh material of *Rafflesia* is difficult, and not always possible to collect specimens. An alternative wich can be used is isolation of DNA from herbarium specimens.

This research uses quantitative description method that aims to provide information about the testing methods of DNA isolation from herbarium specimens of *Rafflesia*. Four methods were tested are Promega Kit, DNA Plant Mini Kit, CTAB (Doyle and Doyle method, (1990) and the CTAB method Cota-Sanchez, (2006). Herbarium specimens collected are: *Rafflesia patma* (organ braktea) from Bogor Botanical Gardens - LIPI and *Rafflesia arnoldii* (braktea, discs and perigon) from collection of Forestry Departement the University of Bengkulu.

The results showed that the CTAB method of Doyle and Doyle, (1990) produced isolates DNA from specimen BrRp, BrRa, CaRa, PeRa with concentrations: 21.2 ng/mL, 127.3 ng/mL, 274.9 ng/mL and 65.0 ng/mL. CTAB method Cota-Shancez et. al., (2006) resulted in the concentration of DNA isolates BrRp, BrRa, CaRa and PeRa, respectively: 4.4 ng/mL, 64.3 ng/mL, 22.5 ng/mL and 29.1 ng/mL. Both methods produce DNA isolates containing protein contaminants. Isolates obtained from the results have not been clear enough to show the band.