

**DEVELOPMENT AND LEAF AREA CONSUMPTION
RATE OF TWO-COLOUR COCONUT LEAF
BEETLE *Plesispa reichei* ON SELECTED COCONUT
LEAF STAGES**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
In partial fulfillment of the requirements for the award of the
Degree of Bachelor of Science in Export Agriculture

By

**BENTHARAGE DONA CHATHURI DEVIKA
BENTHARAGE**

**Faculty of Animal Science and Export Agriculture
Uva Wellassa University**

2012

ABSTRACT

Plesispa reichei is a devastating pest in coconut plantation in Sri Lanka. Being a new pest species, information on its biology and feeding behavior is scarce. This research was conducted to determine some selected parameters on its development and feeding. The egg production was significantly affected by coconut leaf stages; egg hatchability, body length and duration of adult stage. Higher mean number of eggs was observed on first open leaf and second open leaf than on the spear leaf. There was no significant effect of the leaf stage on incubation period of eggs. The egg hatchability was higher on spear leaf and the first open leaf than the second open leaf. Body length of the first-instar larvae was significantly differed among leaf stage; the first open leaf stage had the minimum length. The pupal pro-thoracic length and body length were not affected by the leaf stage. Time taken for adult emergence was longer when they were reared on the spear leaf than on the first open leaf and second open leaf. Leaf area consumed by different larval stages was significantly differed with the leaf stage. First and third larval instars fed more on second open leaf stage while second and fourth instars fed more on the spear leaf. The fifth larval instar fed more on the first open leaf. Field-collected beetles preferred the second open leaf while the laboratory reared beetles preferred spear leaf. Study revealed that the first open leaf and the second open leaf are better than the spear leaf for the development of *P. reichei*. Therefore, the first open leaf or the second open leaf can be used to mass rear *Plesispa* beetle.

Key words: *Plesispa reichei*, coconut, leaf stage, development, larval instar