

TAXONOMY & ECOLOGY

Beyond Classical Approaches

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TEPHRITID FRUIT FLIES (DIPTERA: TEPHRITIDAE) TRAPPED AND REARED FROM YELLOW OLEANDER PLANT, *THEVETIA PERUVIANA* VAR. *AURANTIACA* (FAMILY APOCYNACEAE)

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ABSTRACT

A pheromone trap, using methyl eugenol as attractant, was set up on a yellow oleander plant, *Thevetia peruviana* var. *aurantiaca* (Fam.: Apocynaceae), at Semengok Agriculture Research Center (ARC), Mile 12th Serian Road, Kuching, Sarawak from April to October, 2010. A few ripe/rotting fruits of the plants and fallen flower tubes were also collected. A total of 202 fruit fly adults were caught using the pheromone trap, of which 190 were males of *Bactrocera dorsalis* and 12 males of *B. umbrosa*. Another 12 adults (6 males and 6 females) *B. dorsalis* were reared from rotting yellow oleander fruits (none from flower tubes) kept in rearing containers. The fruit fly adults were identified using White and Elson (1992) identification keys. Based on the current status this is a new host plant record for both *B. dorsalis* and *B. umbrosa* in Sarawak as there is no previous report of the two species being reared from *Thevetia peruviana* plant. The larvae of *B. dorsalis* were found feeding on the rotting flesh (pericarp) of the oleander fruit. Although no *B. umbrosa* was reared from yellow oleander fruit it is believed that the larvae of the fruit fly also feed on the pericarp of the yellow oleander as there are no other fleshy part of the plant that can be utilized by the fruit fly as food source.

Keywords: *Bactrocera dorsalis*, *B. umbrosa*, yellow oleander, *Thevetia peruviana*., new record, fruit fly, Sarawak.

INTRODUCTION

Tephritid Fruit flies (Diptera, Tephritidae) are one of the major and economic pests of fruit trees all over the world, where the female fruit flies punctured on fruit skin to deposit their eggs. However, very few of them are known to have pest-host plant relationship with flower plants, especially with those known to be poisonous, such as the yellow oleander. While doing population dynamic survey of *B. dorsalis* at a guava farm at Semengok Agriculture Research Center, 12th km from Kuching town towards Puncak Borneo in Padawan sub-district, due to curiosity, we placed a pheromone trap, using methyl eugenol as an attractant, on one of the several (seven) yellow oleander trees planted along side a road in the research center. A week later the trap was collected and were found to contain a number of *B. dorsalis* and *B. umbrosa* male adults. This surprised us as the plant is known to have a generous white latex which

is believed to be poisonous. This led us to the question of what part of the plant could be the source of food for the fruit fly infestation? So we followed through our observation with three main objectives, (i) to determine the part of the plant attacked by the fruit flies, (ii) to determine the species involved, and (iii) to determine the population density/dynamic of the fruit flies associated with the yellow oleander trees in the research center. There is no previous record of any fruit fly species being trapped or reared from yellow oleander plant in Sarawak. So this observation would provide a new host plant record for the fruit fly species for Sarawak.

MATERIALS AND METHODS

A pheromone trap, using methyl eugenol as an attractant, was hanged on one of several (seven) yellow oleander trees, *Thevetia peruviana* var. *aurantiaca* (Fam.: