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**Infestation and emergence of *Bactrocera dorsalis* (Diptera: Tephritidae) on two varieties of *Mangifera indica* from selected locations in the wet and dry zones of Sri Lanka**

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*Bactrocera dorsalis* Hendel, (Diptera: Tephritidae) is one of the most serious fruit pests in Sri Lanka. There has been a dearth of documented records of infestation and damages of fruit flies on commercially important fruit varieties in the country. Hence, the present study aims to estimate the percentages of infestations and emergence of *B. dorsalis* on two commercially important mango varieties grown in the wet zone and dry zone in Sri Lanka. The study was conducted from September 2020 to February 2021 in Ratnapura and Embilipitiya. Ratnapura was selected as the study site in the wet zone and Embilipitiya was selected as the study site in the dry zone. In each site, two sub sampling sites were selected. Twenty ripened fruits (per variety) of Willard (Wld) and Karutha kolomban (Kc) were collected randomly from selected trees. Sampling was done once a month and fruits which have already fallen to the ground were collected. Collected fruits were observed for signs of fruit fly infestations by examining fresh oviposition marks visually using a hand lens. Fruits with confirmed infestations were placed in plastic containers with pre-sterilized sand and muslin cloth cover (storing four fruits; same variety,  $\approx$  weight, temperature: 25° C, RH: 75-85 %) until the emergence of adults. After fifteen days, the average number of adults that emerged per fruit per location was calculated. Two indices; percentage infestations and adult fly emergence were calculated. Mean weight (g) (mean  $\pm$  SE) of mango fruits used for the study were (127.47  $\pm$  9.05) g and (203.65  $\pm$  9.5) g for Wld and Kc respectively. The percentages of average infestation were 35% for Wld in dry zone and 30% in wet zone, and for Kc, 24% in dry zone and 20% in wet zone. For both varieties, comparatively high percentage infestations recorded from the dry zone site than that of the wet zone site ( $p > 0.05$ ). The slightly high infestations for both Wld and Kc observed from dry zone site were in October 2020 and February in 2021 (during the season). The average number of adults that emerged per variety was (3.33  $\pm$  0.73) for Wld and (3.83  $\pm$  0.93) for Kc. The average adult emergence significantly varied between dry zone (4.25  $\pm$  1.0) and wet zone (2.92  $\pm$  0.57) sites ( $p < 0.05$ ). This study provides baseline information of infestation and emergence of *B. dorsalis* adults on two commercially important mango varieties in Sri Lanka.

**Keywords:** *Bactrocera dorsalis*, Infested damage, Adult fly emergence, Mango varieties, Bio-climatic localities