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## Host Preference Study of Fruit Fly, *Bactrocera dorsalis* (Hendel) (Diptera: Tephritidae) and Parasitism Potential of *Diachasmimorpha longicaudata* on Different Hosts under Laboratory Condition

Muhammad Salim<sup>1,2</sup>, Ahmad Ur Rahman Saljoqi<sup>1</sup> and Ayhan Gokce<sup>2</sup>

<sup>1</sup>Department of Plant Protection, Faculty of Crop Protection Sciences, The University of Agriculture, Peshawar, Pakistan.

<sup>2</sup>Department of Plant Production and Technologies, Faculty of Agricultural Sciences and Technologies, Nigde Omer Halisdemir University, Nigde, Turkey.

### Abstract

The present study was conducted at Agriculture Research Institute (ARI) Swat-Mingora under controlled laboratory condition during 2021. The research was focused on the host preference of fruit fly, *Bactrocera dorsalis* (Hendel) (Diptera: Tephritidae) and parasitism potential of *Diachasmimorpha longicaudata* on different hosts. The *B. dorsalis* adults were reared individually on peach, mango, zucchini and bitter gourd and the life parameter were recorded. The results showed that the peach was noted as the most preferred host as compared to other hosts by recording maximum numbers of male and female fruit flies of *B. dorsalis* (42.75 and 47.50), followed by mango and zucchini, while lower number of male and female fruit flies were recorded on bitter gourd (4.50 and 6.50) respectively. The results further showed that highest numbers of punctures fruits were produced by *B. dorsalis* when reared on peach (17.00), followed by mango (12.50) and bitter gourd (7.50), while the least numbers of punctures (3.75) were recorded in zucchini. Similarly, significantly maximum mean numbers of pupae (61.50), deformed adults (31.75) and pupal weight (14.61mg) of *B. dorsalis* were obtained in peach followed by zucchini, mango and bitter gourd. The results further showed that significantly maximum percent parasitism of *D. longicaudata* was recorded on *B. dorsalis* reared on peach (33.92%) followed by mango and zucchini with 28.12% and 18.67% respectively while minimum was recorded on bitter gourd (10.01%). The present study reveals that the *B. dorsalis* preferred peach host for oviposition. Also *D. longicaudata* parasitoids reported maximum parasitism of *B. dorsalis* when reared on peach. Therefore, peach can be used as a host for rearing of *B. dorsalis* and mass culturing of *D. longicaudata* under laboratory conditions.

**Key Words:** Host preference, Peach, *Bactrocera dorsalis*, *Diachasmimorpha longicaudata*, Parasitism

