

## Population Growth of *Bracon hebetor* Say. under the Influence of Various Lepidopteran Host

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**Abstract :** *Bracon hebetor* Say (Hymenoptera: Braconidae) is considered as a highly cosmopolitan ecto-parasitoid of various species of order Lepidoptera. To study the influence of lepidopteran hosts on population growth of *B. hebetor*, the newly mated gravid females were released on various host and the eggs laid by such females on respective host were counted and a single egg was allow to develop on single host larvae. The experiment was conducted at  $27 \pm 1^\circ\text{C}$ ,  $65 \pm 5\%$  RH and 14L: 10D hr in Biological Oxygen Demand (BOD) chamber. Upon hatching the tiny larvae of parasitoid pierced the body of insect host, enter into them and consumed the internal body contents of paralyzed host larvae. Present findings showed that *B. hebetor* took ~36 days to complete its survivorship on *Corcyra cephalonica* and *Galleria mellonella*. However, on *Spodoptera littoralis* the survivorship decreased to 24 days. Nevertheless, development of *B. hebetor*'s immature was significantly prolonged on *S. littoralis* and *S. litura* compared to other insect hosts tested. Female of *B. hebetor* took longer time to lay eggs on *C. cephalonica* and *G. mellonella* than other hosts tested in this study. Longevity of male and female is significantly prolonged on *C. cephalonica* and *G. mellonella* compared to others insect hosts tested. Population growth parameters like  $m_x$ ,  $R_0$ ,  $r_m$ ,  $T_c$ , and  $\tau$  was considerably highest on *C. cephalonica* and lowest on *S. littoralis*. Based on the demographic studies *C. cephalonica* and *H. armigera* were proved to be the most suitable host for the mass rearing of *B. hebetor*. Nevertheless, results of present investigation could be utilized to improve the mass-breeding program of *B. hebetor*, so that sufficient number of *B. hebetor*'s adults could be provided time to time for the effective control of lepidopteran pests of various economically important crops.

**Keywords :** *Bracon hebetor*, lepidopteran hosts, demography, biology, development

**Conference Title :** ICE 2017 : International Conference on Entomology

**Conference Location :** Paris, France

**Conference Dates :** October 19-20, 2017