

OVIPOSITION BEHAVIOUR OF *BRACON BREVICORNIS* WESMAEL (HYMENOPTERA: BRACONIDAE)

Bracon brevicornis Wesmael is one of the important parasites utilised for the biological control of *Nephantis serinopa* Meyrick (Xylorictidae), the black-headed caterpillar pest of coconut in Kerala State.

Observation made on the oviposition behaviour of the parasite are reported in this note.

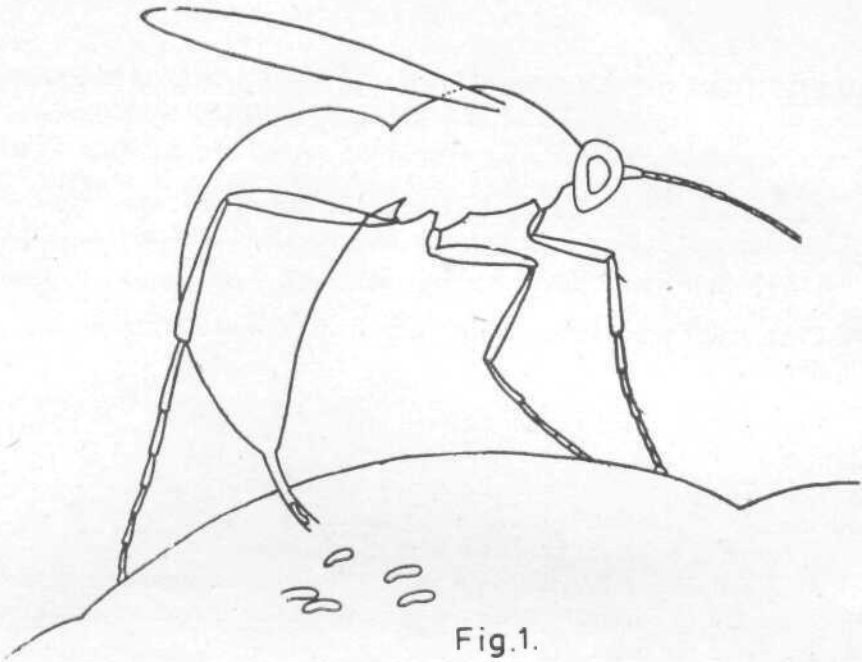
Larvae of *Nephantis serinopa* were used for the studies. Rearing of the parasite was done in the laboratory in glass test tubes (2.5 cm x 15 cm) plugged with cotton. The adults were fed with honey diluted with equal quantities of water. For studying the oviposition behaviour, the parasites were released on galleries containing larvae or on larvae removed from the galleries.

Adults of *Bracon brevicornis* mate on the day of emergence, the pre-oviposition period being 1 to 5 days. Rarely the pre-oviposition period exceeds five days and may last up to ten days.

Alighting on the infested leaf, the female moves through larval galleries searching for the host. While doing so, she often stops and inserts her ovipositor to locate the host. If she cannot locate the host larva by her ovipositor she may sit quiet for sometime or continue to search for the host with the antennae. Soon after locating the host, it is stung to paralysis. For ovipositing on the paralysed host, the female bends its abdomen in such a way that the tip of the ovipositor reaches the ventral side of the host larva (Fig. 1). The duration of oviposition varied from 10 to 20 seconds, the mean being 14.6 ± 1.05 seconds (Fig. 2). When the host larva is provided as such, the female stings the host after taking its position about 3 mm away (Fig. 3). When the host is paralysed, the female parasite lays eggs. Once oviposition is completed, the female withdraws its ovipositor into its sheath and straightens its abdomen. The female sucks up the body fluid of the larva which oozes out through the punctures made by the ovipositor.

The female lays eggs singly. The number of eggs laid during 24 hours varied between 11 to 41 with an average of 25. The maximum number of eggs laid at a stretch was 5 or 6. Females exposed to low temperatures of 14 or 15°C do not oviposit.

The ovipositional habit of the parasite on caterpillars outside the galleries, is different from that of *Agathis gibbosa* Say. (Braconidae), which attacks the host only if the host potato tuber worm is within tubers (Odebiyi & Oatman, 1972). The habit of *B. brevicornis* stinging the host larva to paralysis may be to ensure that the eggs do not fall off when the larvae move in the galleries. The feeding of females on the body fluids of the host larvae may ensure adequate quantities of proteins.



B. brevicornis ovipositing on naked larva

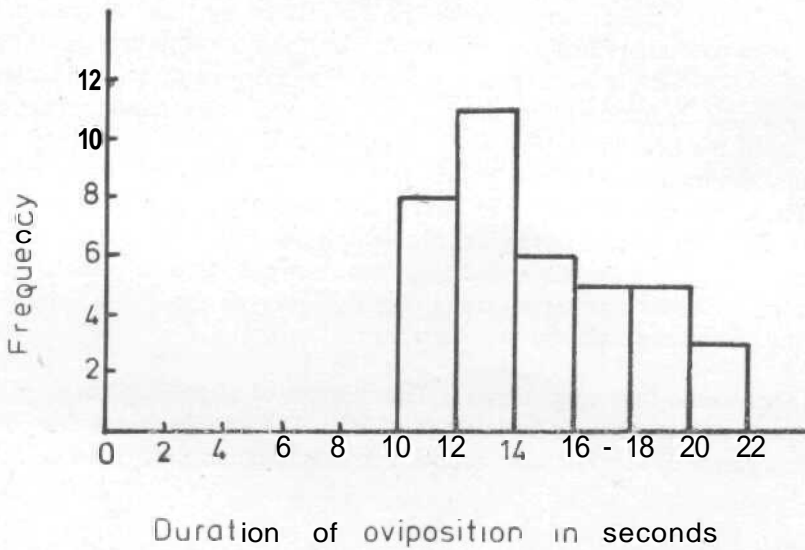


Fig 2

Histogram showing frequency distribution of 38 females of *B. brevicornis* according to their oviposition period in seconds

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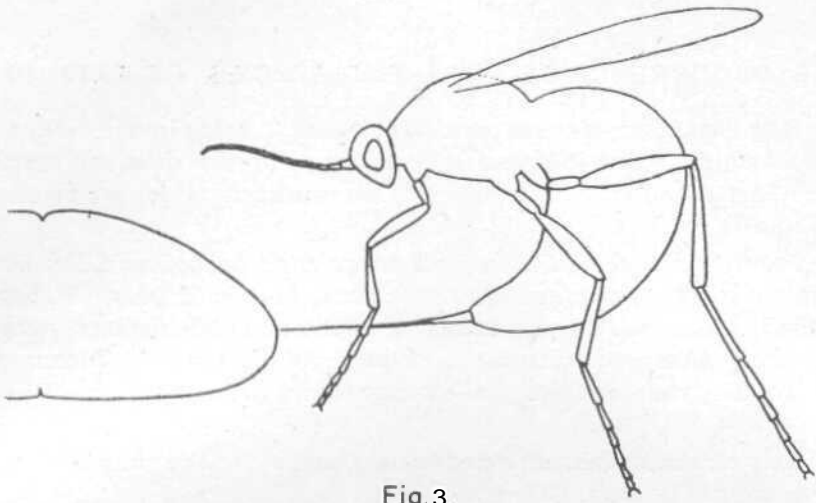


Fig. 3.

B. brevicornis stinging the naked host in order to paralyse it before oviposition

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സംഗ്രഹം

തെങ്ങോലപ്പുഴുക്കളുടെ (നെഫാന്റിസ്) പ്രാഥമിക ബാഹ്യപരജീവിയായ മ്രേബ കോൺ പ്രാണികളുടെ ഇണചേരൽ സംബന്ധിച്ച പഠനങ്ങൾ രാജ്യത്തുകയറിയായി. പൂർണ്ണ വളർച്ച പ്രാപിച്ച പെൺജീവ 1 മുട്ടകൾ നിക്ഷേപിക്കുന്നതിനു മുമ്പ് ഇറയെ ഭംഗകർത്താൽ നിശ്ചലമാക്കിത്തീർക്കുന്നു. ഓരോ മുട്ടകൾ വീതമായി ദിവസം ശരാശരി 25 എണ്ണം വരെയാണ് പെൺപ്രാണികൾ പുഴുക്കളിൽ നിക്ഷേപിക്കുന്നത്.

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