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TRAPS TO MONITOR GALL MIDGE POPULATION IN RICE

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THE rice gall midge, *Orseolia oryzae* (Wood-Mason) is one of the important insect pests of rice. Although virgin females of gall midge are being used in monitor-

ing the population of this pest in China¹, no such attempt has been made in India. Therefore, the feasibility of using virgin females to attract males with various types of traps was studied.

Delta sticky trap with virgin gall midge females:

Of the three traps tested, only the delta trap was found suitable. The delta traps supplied by M/s. Pest Control (India) Pvt. Ltd., Hyderabad are made of a thick card board sheet, smeared with sticky adhesive on inner surface (figure 1). Virgin gall midge females were caged in 5 × 4 cm glass tube which was fixed inside the trap. The trap was then suspended from a wooden stake at crop canopy level (60 cm). When the delta trap containing 3 virgin females was placed in the middle of rice fields (November 1981), on an average, 24 males were caught per night, while as many as 125 males were caught with 6 females. No males were trapped in the absence of female gall midges. The results indicate the presence of strong female pheromone.

Gall midge population was monitored with delta trap during 1982 at weekly intervals. The average catches varied from 2.3 males/trap/night during December to 120 males in October, while they were nil in February, May to July. The advantages of this trap over the light trap presently under use for monitoring the pest population are ease of handling and convenience of counting since only gall midges are trapped.

Inverted funnel trap to catch live gall midge males:

This trap consisted of a plastic pot with 36 circular



Figure 1. Gall midge virgin female trap (large number of males are sticking on the inner surface of trap.).



Figure 2. Trap for male gall midges capture.

perforations, on the top of which a funnel was placed in the inverted position and a glass jar was placed covering the stem of funnel as seen in figure 2. The glass tube containing females was kept suspended inside the pot. The trap was set in the rice field above water level. With this, as many as fifty live male gall midges were trapped per night during October. The live male gall midges thus trapped could be used for maintaining culture of the pest under greenhouse conditions.

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INFLUENCE OF NECTAR ON THE FECUNDITY, LONGEVITY AND SEX-RATIO OF *BRACON BREVICORNIS* WESM, AN IMPORTANT PARASITE OF *OPISINA ARENOSELLA* WALK, THE BLACKHEADED CATERPILLAR OF COCONUT

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MANY adult parasites utilize nectar and pollen as source of nourishment and moisture¹⁻³. The need for supplementary food for natural enemies was emphasised by Rao⁴. In Russia, increased parasitism has been obtained by growing along with crops suitable plants whose flowers are a source of nectar for parasites used in the biological control of pests⁵. Therefore, an attempt was made to identify such plants at the Plantation Crops Research Station, Mahuva (Gujarat). The results obtained are presented in this note.

The flowering plants grown in the vicinity of the coconut plantation were inspected and the relative abundance of insects visiting flowers was recorded. Among the plants inspected, flowers of a perennial shrub, *Justicia jendurosa* were found to attract the largest number of insects. Closer observation revealed the presence of 5 species of entomophagous insects feeding on the nectar of these flowers, which were later found to be parasitic on *O. arenosella*. These species were identified as *Bracon brevicornis* Wesm. *Parasierola nephantidis* Mues. *Brachymeria nephantidis* Gahan., *B. excarinata* Gahan, *Xanthopimpla punctata* Fab. Apart from these, one unidentified eulophid and a braconid, *Apanteles* sp, common giant black formicid ants and honey bees were also seen feeding on the nectar. The last two were seen in great abundance. The flowers contained so much of nectar that children were often seen sucking the flowers. The nectar of these flowers was fed to laboratory bred females of *B. brevicornis* and data on their fecundity, longevity and sex-ratio were recorded. The results obtained are summarised in table 1.

The results presented in table 1 show that the females when fed on nectar not only lived longer but produced significantly higher number of cocoons than those fed on diluted honey. Females with no food but provided with host larvae, *Corcyra cephalonica* alone produced on an average 44 cocoons and lived for an average life span of 21 days, suggesting that the female parasites do feed on the body fluid of host and reproduce. But it is quite evident from these results