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### Emergence pattern, reproductive biology and courtship behaviour of rice pink stem borer, *Sesamia inferens* (Walker) (Noctuidae: Lepidoptera)

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Changing climatic scenario with modern cultivation practices in rice crop made pink stem borer (PSB), *Sesamia inferens* (Walker) to achieve pest status in many rice growing regions of India. Though an array of management options are available, use of a synthetic sex pheromone has potential scope in future. Adult emergence pattern, reproductive biology and courtship behaviour of PSB, *S. inferens* were studied in order to identify the time at which females secrete sex pheromone. Such information is pre-requisite in isolation and identification of biologically active components. Peak male moth emergence (ca. 50%) was noticed at 20.00 hrs while females emerged, around 22.00 hrs. After two to four hrs of emergence, female moths assumed calling postures and also exhibited a range of behavioural patterns such as antennal rotation, wing vibration/ fluttering chiefly in the scotophases between 22.00-23.00 hrs and 0.0 to 0.30 hrs. Mating took place between 0.45 hrs and lasted for  $1.35 \pm 0.20$  hours. After mating, males and females moved apart and the decoupling mechanism ended the courtship behaviour. Single female laid  $122 \pm 16.82$  eggs. A series of experiments revealed that mating success rate was the highest with one day old females (90%) and it decreased in five day old females (40%). Unmated five day old females laid unfertilized eggs. The study helps in understating reproductive potential and isolation of sex pheromone molecules of PSB.

#### Biography

Sampathkumar Muthusamy is working as a scientist in Directorate of Rice Research for the past three years, having experience in rice entomology for five years. He is specialized in insect chemical ecology and did his Ph.D. work on insect pheromones entitled "Studies on rice stem borer management using indigenous pheromone technology". In collaboration with ICT, Hyderabad, he developed indigenous yellow stem borer lure, for this he has been awarded with Brig Anil Adlakha award and gold medal of TNAU for best Ph.D. thesis in rice and also recipient of Innovation award of 2011 from TNAU. He is also attempting in the development of multispecies trapping blends for rice stem borers. Currently, he is working on identification on pink stem borer pheromones as PI and CO-PI in inter institutional project with DOR entitled "Development of semiochemical based monitoring and management methods against major insect-pests of castor. Under externally funded project he is associated in ICAR network project on National Initiative on Climate Resilient Agriculture (NICRA).

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