

ABSTRACT

Volatile sex pheromone was collected from the extruded pheromone gland of females of the spotted stalk borer moth *Chilo partellus* and trapped on glass wool. The pheromone was collected from females on the night of eclosion, 1st, 2nd, 3rd and 5th scotophases thereafter. The female sex pheromone components, (Z)-11-hexadecenal and (Z)-11-hexadecen-1-ol were identified by gas chromatography co-injection with synthetic authentic compounds and confirmed by GC-mass spectrometry. The quantity of the pheromone components was determined by comparison of GC peak areas with that of (E,Z)-3,13-octadecadienyl acetate as an internal standard. Periodicity in the pheromone emission was uni-modal with a peak about the 7-10 h into the scotophase. During the peak period, (Z)-11-hexadecenal was emitted at a rate of 43.1, 30.9, 21.5 and 16.5 ng/30 min on the day of eclosion, 1st, 3rd and 5th scotophases, respectively. A marked reduction in the release rate of the pheromone components was recorded with progressing age of females. This decrease was faster for (Z)-11-hexadecen-1-ol than for (Z)-11-hexadecenal which resulted in a spectacular shift in the ratio (Z)-11-hexadecen-1-ol ranging from about 1:1 at eclosion to 9:1, 22:1 and 32:1 in the 1st, 3rd and 5th scotophases, respectively. The age-dependent shift in both release rate and ratio of pheromone components corresponds to the change in attractiveness of females to mate-searching males. The periodicity in the quantity and blend ratios of *C. partellus* pheromone is discussed in light of development of a pheromone-based bait for the management of this pest