



SHORT NOTE

Evaluation of sticky colour traps against coffee berry borer, *Hypothenemus hampei* (Ferrari)

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The coffee berry borer, *Hypothenemus hampei* (Ferrari), (Coleoptera: Scolytidae) is the most serious pest of coffee in many of the world's coffee producing countries (Le Pelley, 1968). In India, this pest was first noticed in a few plantations of Gudalur district of Tamil Nadu, during 1990 (Kumar *et al.*, 1990). The adult female beetle enters into the coffee berry through the naval region, make galleries and lays eggs in the hardened endosperm. The hatched out larvae feed and destroy the coffee berry (Wrigley, 1988; Water house and Norris, 1989). Various chemical and bio pesticides have been tested to control the pest in India (Anonymous, 1995). An integrated approach involving all strategies of control is presently advised and practiced in India. The aim of the present study is to compare the efficacy of sticky colour traps for the management of coffee berry borer as an eco-friendly approach.

Field trials were conducted during the years 2008 and 2012 (October to January) to study the effect of sticky colour traps against coffee berry borer. For this purpose, five estates viz., RCRS Chundale Edaguni Estate, Edaguni Viyyanad Estate, Meppadi, Nabiraj Estate, Madakkimala Abyala Estate, Abyala were selected from Wayanad district of Kerala and Kodagu district of Karnataka. The variety of coffee grown in these estates was Sln.274 (*Coffea canephora*) of 30 to 50 years old. The spacing maintained between the plants was 3m x 3m with medium shade pattern. The trial was laid out in randomized design blocks, keeping four replications and each replication consisted of four sticky colour traps. The sticky traps are made up of metallic cylinder with the dimension of 15 cm height and 10 cm diameter. There were six treatments, red, green, white, yellow, blue and black. The colour cylinders were applied with a thin film of poly butane glue. The traps were installed in the field on a wooden stick just above the plant canopy at a distance of 20 feet apart and 5.6 feet height. The weekly observations were recorded during the cropping period

(October to January). The trapped beetles were collected by using pluckers and identified in the laboratory. The results of this study clearly indicate that white colour sticky traps were most attractive followed by yellow and red. The blue and green sticky traps were less attractive and black colour sticky trap was least attractive (Fig. 1). Mu mu thein *et al.* (2011) reported that a higher number of the putative vectors, *Matsumurattix hiroglyphicus* and *Xamatotettix flavovittatus* were trapped on blue and yellow as compared to white, orange, green and colourless sticky traps. It was reported that the yellow and orange colour traps were significantly attractive for leaf hopper, *Empasca decipiens* in cotton (Demirel and Yilirim, 2008). The red coloured sticky traps caught more *Scaphodeus titanus*, grapevine "Flavescence doree" phyto plasma vector than white, yellow and blue (Lessio an Alma, 2004). Sascha Buhholz *et al.* (2010) reported that white and yellow pitfall traps caught the highest numbers of individuals of Apidae, Araneae, Carabidae, Diptera and Formicidae. The catches of winged arthropods such as Diptera an Apidae were great in white and yellow traps, which are common flower colours (Kirk, 1984; Muhlenberg, 1993). The flower-inhabiting species *Thrips obscuratus* (Crawford) and *Certothrips frici* (Vzel), were

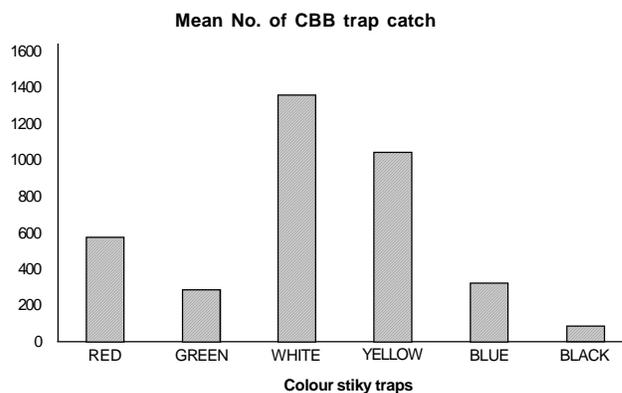


Fig. 1. Mean No. of coffee berry borer trap catch in different sticky colour traps

more attracted to white and yellow traps respectively, colours associated with the flowers of their host plants (Anonymous, 1992). The polyphagous flower and foliage inhabiting *Thrips tabaci* L. was most attracted to yellow traps grass inhabiting *Limothrips cerealium* (Haliday), was equally attracted to all colour traps (Anonymous 1992). Shadwick and Harens (2007) reported that yellow and white cylinder sticky traps were equally attracted to flying clover root weevil adults. It was reported that yellow sticky cylinder traps were highly attracted to Argentine stem weevil and Lucerne weevils (Pottinger, 1966; Goldson *et al.* 1984; Baeker *et al.* 1989). Prokopy and Owens (1983) suggested that attraction to yellow is characteristic of all herbivorous insect. In conclusion, white and yellow colour sticky traps are suitable for monitoring and managing the coffee berry borer.

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