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Author: Schuster, David J.

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RESPONSE OF *CATOLACCUS HUNTERI* (HYMENOPTERA: PTEROMALIDAE) TO COLORED STICKY TRAPS IN THE LABORATORY

DAVID J. SCHUSTER[1]
University of Florida, Gulf Coast Research and Education Center, 14625 CR 672, Wimauma, FL 33598

[1]Retired

Catolaccus hunteri Crawford (Hymenoptera: Pteromalidae) is the most abundant parasitoid attacking the pepper weevil, *Anthonomus eugenii* Cano, in Florida (Riley & Schuster 1992). The parasitioid was also recovered from weevil infested fruit collected in several states in Mexico and other countries in Mesoamerica (Aguilar & Servín 2000; Mariscal et al. 1998). While natural enemies generally are regarded as contributing little for the control of the pepper weevil (Elmore & Campbell 1954), augmentative releases of *C. hunteri* on the alternative host plant American black nightshade during the off-season and on pepper at the initiation of flowering have resulted in reduced or delayed damage by weevil larvae (Schuster 2007). The pepper weevil is a serious economic pest of cultivated *Capsicum* spp. peppers in the southern United States (Elmore et al. 1934; Goff and Wilson 1937; Riley & King 1994), Mexico (Laborde & Pozo 1984), Central America (Andrews et al. 1986), and the Caribbean (Abreu & Cruz 1985). The pest was found in field trials to respond to yellow sticky traps (Riley & Schuster 1994). Pheromone baited, yellow sticky traps (Trécé Inc. Adair, Oklahoma) are used to monitor migration of pepper weevil adults into pepper fields and to time the applications of insecticides targeting weevil adults (Natwick & Trumble 2007). It is not known whether *C. hunteri* also responds to yellow sticky traps and whether the traps might be useful for monitoring the activity of the parasitoid. The purpose of the present investigation was to evaluate the response of *C. hunteri* in the laboratory to sticky traps of selected colors.

The *C. hunteri* adults used in the experiment were obtained from a laboratory colony maintained on a factitious host, *Callosobruchus maculatus* Fabricius (Coleoptera: Bruchidae), on garbanzo beans (*Cicer arietinum* L.) (Vasquez et al. 2005). Experiments were conducted in a room maintained about 27 °C, about 60% RH and 14:10 h L:D.

Yellow, white, red, blue, gray and green plastic sheets were cut into 10.2 cm squares that were coated on one side with Tanglefoot® Tangle-Trap™ Insect Trap Coating Brushable (The Tanglefoot Co., Grand Rapids, Michigan). The Tangle-Trap was heated to 87 °C and, when it turned from translucent to clear, was spread into a thin layer on each square with a 1.3 cm paint brush. Single squares of each color were randomly placed horizontally in a circular pattern on the bottoms of 12, 70 cm × 70 cm × 70 cm screen cages. About 200 female *C. hunteri* adults of unknown age were released in the middle of the ring of plastic squares in each cage and the numbers trapped were determined 24 h later. Data were subjected to analysis of variance and, when an F value was significant at $P < 0.05$, means were compared using the Least Significant Difference (SAS Institute 2008).

On average, only about 25% of the *C. hunteri* adults released into the cages were trapped on the colored, plastic squares coated with adhesive (Table 1). Of those captured, about 3 times more were trapped on yellow, red or white squares than were trapped on green, blue or gray squares. The yellow sticky traps used for monitoring the presence/abundance of pepper weevil adults in the field may also be useful in detecting the presence of adult *C. hunteri* females.

SUMMARY

Catolaccus hunteri Crawford is the most abundant parasitoid attacking the pepper weevil, *Anthonomus eugenii* Cano, in Florida. More female *C. hunteri* adults were captured on yellow, red or white plastic sticky traps in the laboratory than were captured on green, blue or gray sticky traps. Yellow sticky traps used for monitoring the presence/abundance of pepper weevil adults in the field may also be useful in detecting the presence of adult *C. hunteri* females.

TABLE 1. THE NUMBERS OF FEMALE *CATOLACCUS HUNTERI* ADULTS TRAPPED IN THE LABORATORY ON COLORED PLASTIC SQUARES COATED WITH TANGLE-TRAP™.

Color	No. trapped[1]
Yellow	13.8 a
Red	13.5 a
White	11.8 a
Green	4.5 b
Blue	3.3 bc
Gray	1.8 c
LSD ($P = 0.05$)	2.4
$F_{5,55}$	43.62
P-value	<0.0001

[1]Means followed by the same letter are not significantly different using the Least Significant Difference (LSD) at $P = 0.05$.

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