

**A SHORT NOTE ON NON-TARGET FAUNA COLLECTED  
BY PHEROMONE TRAPS OF THE RED PALM WEEVIL,  
*RHYNCHOPHORUS FERRUGINEUS* (OLIVIER, 1790)  
(COLEOPTERA: DRYOPHTHORIDAE)  
IN İZMİR PROVINCE OF TURKEY**

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**ABSTRACT:** In this study, information is given on non-target fauna collected by pheromone traps of the Red palm weevil, *Rhynchophorus ferrugineus* (Olivier, 1790) (Coleoptera: Dryophthoridae) in Izmir province of Turkey.

**KEY WORDS:** *Rhynchophorus ferrugineus*, Fauna, Pheromone trap, Turkey.

The red palm weevil *Rhynchophorus ferrugineus* (Olivier, 1790) (Coleoptera: Dryophthoridae) is a devastating pests of palm species belonging to 18 different genera and three families. The weevil affects approximately 29 palm species and the spread of this species to all continents (Africa, Americas, Asia, Australia together with Oceania, and Europe) except Antarctica (Hussain et al., 2013).

This species reported from Mersin, southern Turkey in 2005 (Karut & Kazak, 2005; Atakan & Yüksel, 2008) and from Izmir in 2006 (Anonymous, 2013). In order to control this species, cultural and sanitary measures, insect pheromones and insecticides were applied in Turkey.

In this paper a short note on non-target fauna collected by pheromone traps of the Red palm weevil, *Rhynchophorus ferrugineus* in Izmir province of Turkey was aimed at.

## **MATERIAL AND METHODS**

Material were collected in 12 locations of [Seferihisar: Doğanbey (3), Ürkmez (2); Menderes: Gümüldür (3), Özdere (4)] Izmir, western Turkey, during the years of 2010-2012 (Fig. 1). Materials were collected by pheromone traps. Containing 4-methyl-5-nonanol and 4-methyl-5-nonanone capsules known by the brand name RHYFER® were used in traps (Figure 2) and they were cleared in two weeks intervals from March to November and monthly intervals from December to February.

## **RESULTS**

The total number of the specimens of *R.ferrugineus* collected in the study area was 408 (28.04%) in 2010, 497 (34.16%) in 2011, and 550 (37.80%) in 2012.

At the end of this study, a total of 975 non-target specimens belonging to five classes were evaluated (Table 1).

Those belonging to Hexapoda were 727 (74.56%); and the others respectively were: 121 specimens (12.41%) belonging to Crustacea; 99 specimens (10.15%) belonging to Chelicerata and 28 specimens (2.87%) belonging to Gastropoda.

The dominant class was Insecta of Hexapoda. Distribution of specimens within Insecta was given in Table 2.

Those belonging to Coleoptera were 259 (35.63%), and the others respectively were: 182 specimens (25.03%) belonging to Hemiptera; 94 specimens (12.93%) belonging to Diptera; 77 specimens (10.59%) belonging to Hymenoptera; 72 specimens (9.90%) belonging to Dermaptera. Dominant families of Coleoptera were Buprestidae, Carabidae, Cetoniidae, Chrysomelidae, Coccinellidae, Curculionidae, Dermestidae, Dytiscidae, Elateridae, Lampyridae, Meloidae, and Oedemeridae. Specimens belonging to the families of Cicadellidae and Cicadidae of Cicadomorpha; Coreidae, Cydnidae, Lygaeidae, Nabidae, Pentatomidae, Pyrrhocoridae, Tingidae of Heteroptera of Hemiptera; Muscidae and Tabanidae of Diptera; Apidae, Mutillidae and Vespidae of Hymenoptera; Forficulidae of Dermaptera; Noctuidae of Lepidoptera; Gryllidae of Orthoptera were collected. Environmental factors such as rain affected some specimens of material in traps.

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Table 1. Distribution of trapped non-target organisms and their taxonomic categories in Izmir province of Turkey during the years of 2010-2012.

Filum	Subfilum	Class	Order	2010	2011	2012	Total	Rate (%)
Arthropoda	Hexapoda	Insecta	9 orders	282	243	202	727	<b>74.56</b>
Arthropoda	Crustacea	Malacostraca	Isopoda	44	65	12	121	<b>12.41</b>
Arthropoda	Chelicerata	Arachnida	Araneae	57	35	7	99	<b>10.15</b>
Mollusca	-	Gastropoda	Pulmonata	14	11	3	28	<b>2.87</b>
<b>Total</b>				<b>397</b>	<b>354</b>	<b>224</b>	<b>975</b>	

Table 2. Distribution of trapped non-target insects and their orders / suborders in Izmir province of Turkey during the years of 2010-2012.

Order / Suborder	2010	2011	2012	Total	Rate (%)
ORTHOPTERA	1	3	7	11	1.51
DICTYOPTERA (Blattodea)	0	0	2	2	0.28
DERMAPTERA	23	36	13	72	9.90
HEMIPTERA (Heteroptera)	34	80	29	143	19.67
HEMIPTERA (Cicadomorpha)	29	6	4	39	5.36
NEUROPTERA	0	3	0	3	0.41
COLEOPTERA	140	59	60	259	35.63
LEPIDOPTERA	11	11	5	27	3.71
DIPTERA	12	30	52	94	12.93
HYMENOPTERA	32	15	30	77	10.59
<b>Total</b>	<b>282</b>	<b>243</b>	<b>202</b>	<b>727</b>	



Figure 1. Map of studied area.



Figure 2. Pheromone trap used for material collection.