

**A New Host Plant, *Chrozophora tinctoria* (L.) Rafin.
(Euphorbiaceae), for *Phycita diaphana* (Staudinger, 1870)
(Lepidoptera: Pyralidae) from Turkey**

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ABSTRACT

The study was carried out to determine the associated insect species feeding on *Chrozophora tinctoria* (L.) Rafin. (Euphorbiaceae), growing in cornfield, vegetables and cotton fields of Diyarbakır and Adıyaman provinces in 2014. As a result of this study, *Phycita diaphana* (Staudinger, 1870) (Lepidoptera: Pyralidae) adults were reared from both provinces. *P. diaphana* is recorded firstly in Diyarbakır and Adıyaman provinces. In addition, *C. tinctoria* is a new host of *P. diaphana* in the world.

Key words: *Phycita diaphana*, *Chrozophora tinctoria*, new host plant, Turkey.

INTRODUCTION

Pyralidae comprises of the 3. largest family of Lepidoptera with approximately 16,500 described species, but a probable fauna of at least 25,000 species worldwide (Heppner, 2008). While Pyraloids are represented by 851 species in Europe, the number of pyraloid species in Turkey is 650 (Karsholt and Razowski, 1996; Koçak, 2014).

Phycita diaphana was described by Staudinger (1870) from Malaga, Spain. Currently, it is known from Turkey (Koçak, 2014), Spain, Portugal, France, Greece, Syria, Iraq, Israel, Morocco, Algeria, Tunisia, Egypt, Reunion Island and Mauritius (Leraut, 2014). Koçak (2014) reported the presence of this species in Turkey, but gave no information about it. So far, its larval food plant has been reported as *Ricinus communis* (Euphorbiaceae) (Robinson *et al.*, 2010).

Chrozophora tinctoria (commonly known as dyer's croton, giradol, or turnsole) is a plant species native to the Mediterranean, the Middle East, India, Pakistan, and Central Asia. *C. tinctoria* is an annual plant and is the only species of the *Chrozophora* genus in Turkey. This plant, which belongs to the family Euphorbiaceae, is called the turnsole plant. It is widespread in agricultural areas and native habitats in different

parts of Turkey (Uluğ *et al.*, 1993; Tepe, 1997; Özer *et al.*, 1999; Başlar, 2000; Özaslan, 2011; Özaslan and Bükün, 2013).

MATERIALS AND METHODS

Larvae of *P. diaphana* were collected from *C. tinctoria* leaves and flower buds growing in cornfield, vegetables and cotton fields in the Diyarbakır and Adıyaman provinces in the Southeastern Anatolia Region of Turkey, during September and October 2014, and were brought to the laboratory for rearing. The larvae were reared in insect-rearing plastic boxes under controlled laboratory conditions at $26\pm 1^\circ\text{C}$, a relative humidity of $65\pm 5\%$, and illumination of 3500 lux for 16 hours per day. The larvae were observed by daily. Pupae were placed in separate petri dishes containing moistened cotton until the adult moths emerged. *P. diaphana* was identified by the second author.

RESULTS

In this study, the larvae counts of *C. tinctoria* growing in cotton, corn, vegetable fields, larvae cultured in the laboratory and adult and pupae count obtained from laboratory cultured larvae are represented in Table 1.

Table 1. The number of *Phycita diaphana* larvae, pupae and adults

	Adıyaman			Diyarbakır		
	Larvae	Pupae	Adults	Larvae	Pupae	Adults
Cotton	39	39	39	46	46	46
Corn	28	27	27	40	38	38
Vegetable	69	67	67	88	88	88
Total	136	133	133	174	172	172
Total Larvae	310					
Total Pupae	305					
Total Adults	305					

As a result of this study, *P. diaphana* (Staudinger, 1870) (Lepidoptera: *Pyralidae*) were reared from *C. tinctoria* growing in cornfield, vegetables and cotton fields of Diyarbakır and Adıyaman provinces. With this study *P. diaphana* is determined as first record for Diyarbakır and Adıyaman provinces and *C. tinctoria* is a new host record of *P. diaphana* in the world.

P. diaphana larvae was observed feeding on *C. tinctoria* leaves, flower buds and seeds, pupae and adults.

Material examined: Diyarbakır $37^\circ 36'N$, $40^\circ 49'E$; altitude, 670 m and Adıyaman $37^\circ 46'N$, $41^\circ 80'E$; altitude, 685 m.

Distribution: Malaga (Spain), Spain, Turkey, Portugal, France, Greece, Syria, Iraq, Israel, Morocco, Algeria, Tunisia, Egypt, Reunion Island and Mauritius (Staudinger, 1870; Koçak, 2014; Leraut, 2014).

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Distribution in Turkey: This is a new record of the species in Diyarbakır and Adıyaman. Koçak (2014) reported the presence of this species in Turkey, but gave no information on the host plant, place, or time of observation.

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