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The Identity of *Parapoynx affinialis* (Guenée, 1854) (Lepidoptera, Crambidae, Nymphulinae) in Turkey

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Abstract: The aim of the study was to obtain the fauna of Crambidae in Adana province, Turkey. The study was conducted in fields and laboratory. *Parapoynx affinialis* (Guenée, 1854) was caught at intervals with insect net, mercury vapour light trap and white screen in different localities, at different elevations, in different climatic conditions, plant covers and surface features in Adana. Specimen was dissected in the laboratory; male and female genitalia and wings slides were prepared and photographed with a digital camera. In this study, the identity of *P. affinialis* was given referring to morphological characters of male and female adults. As a result of the study, *P. affinialis* is a new record for Turkey.

Key words: *Parapoynx affinialis*, crambidae, pyraustinae, Turkey

Introduction

Although many attempts have been made to complete the lepidoptera fauna Turkey, it has not been covered completely (Kansu, 1964). Until today, Turkish lepidopterists such as Iyriboz (1940), Ertürk (1963), Kansu (1964; 1965), Şengün and Güneyi (1968), Seven (1995), Koçak and Seven (1997) and Atay (2003; 2004) have made valuable contribution on Turkish Lepidoptera. Within the Crambidae subfamily the Nymphulinae are 716 species in the world (Munroe and Solis, 1999); 75 species are known from South-East Asia (Robinson *et al.*, 1994).

The Genus *Parapoynx* (Mubher, 1825) which has 5 species in Europe is well known in the subfamily Nuymphulinae (Karsholt and Razowski, 1996). The important external and genitalia characters of the genus *Parapoynx*: Antennae filiform densely covered with cilia. Antennal segments with appressed scales alternating with distant scales. Ocelli present. Labial palpus falcate, narrow and directed upward. Maxillary palpus thin. Haustellum short. On forewings R₂-R₄ on common stalk. On hindwings M₂ and M₃ basally approximate or originating from a single point. Male genitalia: uncus longer than gnathos; valva narrow, long, without processes; aedeagus short, without cornuti. Female genitalia: bursae copulatrix spherical with long ductus bursae; signum present (Hannemann, 1964; Goater, 1986; Medvedev, 1997; Palm, 1986).

The aim of the study was to obtain the fauna of the Crambidae in Adana province. *Parapoynx affinialis* (Guenée, 1854) was found first time in Turkey during this study.

Materials and Methods

This study was conducted in the fields and laboratory between March and November 2002 in Adana province, Southern Turkey. The samples were collected at intervals with insect net, mercury vapour light trap and white screen in different localities, at different elevations, in different climatic

conditions, plant covers, surface features in Adana. Specimens were dissected in the laboratory, male and female genitalia and fore-hind wings slides were prepared and photographed with a digital camera. For the preparation of genitalia slides. The abdomen was detached from the thorax by applying some upward pressure on the end of the abdomen then the abdomen was put in a glass tube with about 5 mL of a solution of 10% Potassium hydroxide (KOH) the tube was heated in a water-bath which was near boiling point for 5-10 min the abdomen was put in a petri dish with water for dissection and cleaning, male or female genitalia were removed from abdomen using dissecting pins and the last scales and hairs or any other material under the dissecting microscope were removed. Then the genitalia was put in a petri dish with 70% ethyl alcohol (C_2H_5COOH) for dissection and cleaning, later put it in a petri dish with 95% C_2H_5COOH for fixation of the staining and dehydration. For permanent slide, the genitalia was placed on a microscope slide with canada balsam. The slide was kept on a smooth surface and allowed several days at room temperature. The important taxonomic characters were described. The species are deposited in the Biology Department of Çukurova University.

Results and Discussion

Genus *Parapoynx* (Hübner, 1825)

Synonym: *Eustales* (Clemens, 1860); (*Sironia* Clemens, 1860); *Nymphassella* Grote, 1880 (Leraut, 1997).

Parapoynx affinialis (Guenée, 1854)



A



B

Fig. 1: A) Male, B) Female of *Parapoynx affinialis*

Material Examined

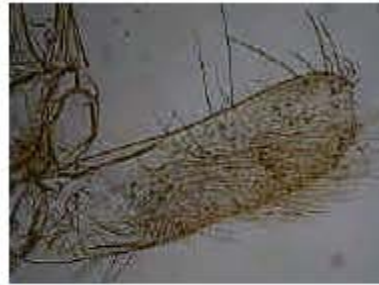
Yüreğir-Adana (37 01 34 N; 35 21 32 E, 65 m.): 04.09.2002, 2♀♀; 20.10.2002, 1♂, 1♀; 27.10.2002, 3♀♀; Pozantı-Adana (37 28 35 N; 34 54 17 E, 1120 m.): 06.10.2002, 2♂♂, 2♀♀; 14.08.2002, 2♂♂, 1♀; Yumurtalık-Adana (36 43 18 N; 35 38 16 E, 30 m): 24.07.2002, 2♀♀; Kozan-Adana (37 18 40 N; 35 35 16 E, 300 m.): 03.09.2002, 1♂, 1♀; Horzum-Kozan-Adana (37 37 22 N; 35 50 50 E, 710 m.): 19.08.2002, 2♂♂, 2♀♀; Aladağ-Adana (37 24 46 N; 35 27 39 E, 150m): 14.08.2002, 2♂♂, 1♀

Measurements

Length ♂: 5.4-6.8 (6.15) and ♀: 7.2-8.4 (8.03) mm. Wingspan ♂: 13.2-15.4 (14.60), ♀ and 17.7-19.0 (18.49) mm.



A



B



C

Fig. 2: A) Uncus and Gnathos, B) Valva, C) Aedeagus of Male Genitalia

Description

Male (Fig. 1A): Vertex, frons, antennae, labial palpus and maxillary palpus white with gray spots. Antennae length 6.2 mm., filiform and long, densely covered with cilia, its length 0.83 times longer than forewing length. Head 1.78 times wider than its length. Labial palpus well developed, long and narrow, directed obliquely upwards, 1.59 times as long as ocular diameter. Maxillary palpus long, thin and densely covered with scales. Haustellum both sex very short. Ocelli and chaetosemata present. Eyes large and dark brown. Forewing long, broad and triangle shaped, its length 3 times longer than its width. Surface of the forewings dirty white; postmedian line thin and light brownish gray, between subterminal and termen light brown-gray, discal spot dark brown edged, small and ring shaped; fringe dirty yellow. Hindwing long and broad, its length 2.50 times longer than width. On the hindwings the same color as with forewings, with brown postmedian line and small dark discal spot. Vertex and frons are densely covered with smooth scales.

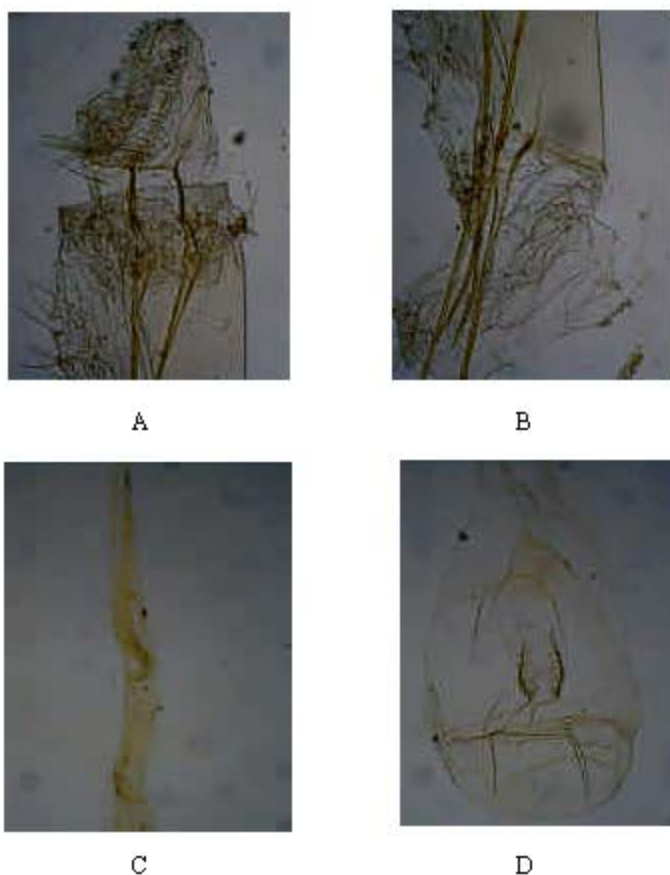


Fig. 3: A) Ovipositor, B) Anterior and Posterior Apophysis, C) Ductus Bursae, D) Bursae Copulatrix of Female Genitalia

Male Genitalia

Uncus very long and narrow, more or less broad the base and sparsely setose (Fig. 2A). Gnathos arms very short with median element thin finger like and apically pointed; its length 0.85 times longer than uncus length. Valva long and broad, its length is 3.03 times longer than its width, ovaly shaped, rounded at tip (Fig. 2B). Surface of the valva with weakly short setose and without processes costal and ventral margins of the valva thin. Saccus and sacculus short and narrow. Annelus oval shaped. Aedeagus long and cylindrical, more or less membranous, its length 5 times longer than width. Cornutu absent (Fig. 2C).

Female Genitalia

Ovipositor lobes broad with long setose (Fig. 3A) Anterior and posterior apophysis very long and thin, both apophysis equal length (Fig. 3B). Ostium long and membranous. Ductus bursae long, narrow and membranous (Fig. 3C). Bursae copulatrix globular, membranous and finely spinulose. Signum small spinulose, a pair of short thin line shaped (Fig. 3D).

Adults and male and female genitalia slides were examined carefully and identified as *Parapoynx affmialis* (Guenée) by Dr. Michael Shaffer (The Natural History Museum, London). In this study, the identity of *P. affmialis* (Guenée) was given referring to morphological characters belonging to male and female adults. External characters and male- female genitalia characters were identified. There was no sexual dimorphism between male and female adults. *P. affmialis* is a new record for Turkey.

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