

The Situation of the Scoliidæ (Hymenoptera: Vespoidea) in the Çukurova Region

Çukurova Bölgesi'nde Scoliidæ (Hymenoptera: Vespoidea) Familyasının Durumu

Research Article

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ABSTRACT

Scoliidæ have biological and economical importance for collecting the larvae of Coleoptera which are harmful to the crops and fruits in order to provide food to their larvae. The aim of this study is the detection of the current situation of Scoliidæ in the Çukurova Region by determination of the species and comparing with previous data. At the end of the study, 8 species and 2 subspecies were identified. A significant reduction in the number of species was detected in comparison with the previous data. It has been observed that the natural insect fauna is a small amount almost to nothing around the agricultural lands. Pesticides cause extinction of natural pollinator insects. More effective measures should be taken to protect the natural fauna.

Key Words

Hymenoptera, Scoliidæ, Fauna, Çukurova, Turkey.

ÖZET

Scoliidæ, larvalarına besin sağlamak amacı ile tarım ürünlerine ve meyvelere zarar veren Coleoptera larvalarını topladığı için biyolojik ve ekonomik öneme sahiptirler. Bu çalışmanın amacı, Çukurova Bölgesi'ndeki Scoliidæ familyasının günümüzdeki durumunu, mevcut türleri tespit ederek ve önceki verilerle karşılaştırarak ortaya çıkarmaktır. Çalışma sonunda, 8 tür ve 2 alttürün varlığı tespit edilmiştir. Önceki verilerle karşılaştırıldığında tür sayısında ciddi bir azalma tespit edilmiştir. Tarım arazilerinin çevrelerinde doğal böcek faunasının neredeyse yok denecek kadar az miktarda olduğu gözlenmiştir. Pestisitler, doğal polinatör böceklerin yok olmasına neden olmaktadır. Doğal faunanın korunması için daha etkili tedbirler alınması gerekmektedir.

Anahtar Kelimeler

Hymenoptera, Scoliidæ, Fauna, Çukurova, Türkiye.

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INTRODUCTION

Scoliidae, an important group of pollinator insects, is a small family of the Vespoidea [1]. The family Scoliidae contains about 560 species [2], of which 69 species are present in the western Palaearctic region [3].

Scoliids are usually large-bodied wasps with 5-35 mm body sizes, rarely 50mm. The adults are most hairy, bright black and yellow colored with white or red patterns [4]. They have an importance in terms of biological control [5]. The scoliid larvae are ectoparasitoids of the coleopteran larvae inhabiting the soil. Scoliid wasps are biological agents of scarabeoid and curculionid pests of crops and fruits [4,6,7].

Studies of the Turkish scoliid fauna have been conducted by various authors [3, 8-17]. 24 scoliid taxa are known in our country [18]. Five species from Balıkesir, İzmir, Manisa and Muğla [19], 7 species from Ankara [20], 5 species from Isparta Gölcük Natural Park [21], 10 species from Manisa [22], 10 species in Lodosa Museum [23], 9 species from Niğde [24] have been reported. Although Çukurova Region with various microclimate and geomorphological structure constitutes suitable habitats for numerous species, researches about the scoliid fauna of Çukurova Region are poorly.

In this study, the current situation of Scoliidae was determined and compared with previous faunistical data through the observations and fieldwork carried out around the agricultural areas in the Çukurova Region.

MATERIALS AND METHODS

Totally, 94 specimens were collected between March and October 2014 in Çukurova Region (Adana, Osmaniye, Mersin and Hatay provinces) and identified according to Betrem (1935) and Osten (2000, 2004) by Olympus SZX9 stereomicroscope. Classification and nomenclature Scoliidae suggested by OSTEN (1999, 2000; 2005). The samples are protected in the Department of Biology in University of Niğde.

RESULTS

Scoliinae Latreille, 1802

Campsomerini Osten, 2001

Colpa sexmaculata (Fabricius, 1793)

Material examined: Adana, Sarıçam, 50m., 11.06.2014, 2 ♀♀; Aladağ, 07.07.2014, 1 ♀, 3 ♂♂; Mersin, Erdemli, 5m., 15.06.2014, 1 ♀.

Distribution: Adana, Ankara, Antalya, Artvin, Aydın, Balıkesir, Çanakkale, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Iğdır, İzmir, Kars, Kırıkkale, Konya, Malatya, Manisa, Mersin, Muğla, Muş, Nevşehir, Tokat, Tunceli, Uşak [18-20,22,23, 25,26].

Micromeriella hyalina angulata (Morawitz, 1888)

Material examined: Hatay, Dörtiyol, 70m., 07.08.2014, 1 ♀.

Distribution: Diyarbakır, Iğdır, Hatay, Şanlıurfa [18].

Scolini Latreille, 1802

Megascolia maculata maculata (Drury, 1773)

Material examined: Adana, Sarıçam, 50 m., 11.06.2014, 2 ♀♀, Mersin, Erdemli, 5 m., 15.06.2014, 1 ♀.

Distribution: All regions of Turkey [18].

Scolia anatoliae Osten 2004

Material examined: Adana, Yumurtalık, 5 m, 30.07.2014, 2 ♀♀, 1 ♂; Sarıçam, Balcalı, 25 m, 08.06.2014, 5 ♂♂; Sarıçam, Kürkçeler, 30 m., 28.06.2014, 1 ; Sarıçam, Suluca, 45 m, 13.06.214, 10 ♀♀, 10 ♂♂; Karataş, Merkez, 15 m, 30.08.2014, 1 ♂; Kozan, Anavarza, 120 m, 24.07.2014, 1 ♀, 3 ♂♂; Ceyhan, Minis, Kızıldere, 110 m, 25.08.2014, 2 ♂♂; Mersin, Narlıkuyu, 150 m, 20.07.2014, 1 ♀; Osmaniye, Kastalaba, 120 m, 22.07.2014, 2 ♀♀.

Distribution: Adana, Antalya, Artvin, Aydın, Erzurum, Iğdır, Kars, Kilis, Konya, Mersin, Muğla, Rize, Niğde [11,18,24,25,27].

Scolia asiella Betrem, 1935

Material examined: Adana, Karaisalı, 150 m, 09.06.2014, 1 ♀; Mersin, Tarsus, 25m, 20.07.2014, 1 ♀, 1 ♂.

Distribution: Afyon, Ağrı, Ankara, Antalya, Artvin, Aydın, Bingöl, Diyarbakır, Erzincan, Erzurum, Hakkari, Iğdır, Isparta, İzmir, Kars, Manisa, Mersin, Van, Niğde [10,18,22-25].

***Scolia fallax Eversmann*, 1849**

Material examined: Adana, Aladağ, 1000 m, 07.07.2014, 2 ♂♂.

Distribution: Ankara, Adana, Artvin, Elazığ, Erzurum, Gaziantep, Hatay, İstanbul, İzmir, Kars, Kütahya, Muğla, Tokat, Niğde [17-19,22-25,28].

***Scolia hirta* (Schrank, 1781)**

Material examined: Adana, Kozan, Anavarza castle, 150 m, 24.07.2014, 5 ♂♂; Osmaniye, Arslantaş, 95 m, 22.07.2014, 1 ♀, 1 ♂; Hatay, Dört Yol, 70 m, 07.08.2014, 1 ♀.

Distribution: Ankara, Antalya, Artvin, Aydın, Burdur, Denizli, Erzincan, Erzurum, Gaziantep, Hakkari, Hatay, Isparta, İzmir, Karabük, Kars, Kayseri, Konya, Manisa, Mersin, Muğla, Tokat, Rize, Niğde [18,22-25].

***Scolia fuciformis* Scopoli, 1786**

Material examined: Adana, Sarıçam, 50 m, 11.06.2014, 23 ♂♂, 26.06.2014, 1 ♂; İncirlik, 80 m, 12.06.2014, 1 ♂; Karaisalı, 150 m, 09.06.2014, 12 ♂♂; Sarıçam, Suluca, 45 m, 13.06.2014, 1 ♀; Yüreğir, 31 m, 25.08.2014, 2 ♂♂; Osmaniye, Kastalaba, 120 m, 23.08.2014, 1 ♀.

Distribution: Ankara, Antalya, Artvin, Aydın, Balıkesir, Bitlis, Diyarbakır, Erzincan, Erzurum, Hatay, İzmir, Kars, Konya, Manisa, Muş, Tunceli, Yozgat, Niğde [18,20,23-25].

***Scolia sexmaculata* (Müller, 1766)**

Material examined: Adana, Sarıçam, Balcalı, 25 m., 08.06.2014, 2 ♂♂; Osmaniye, 100 m., 14.08.2014, 1 ♂.

Distribution: Ankara, Antalya, Artvin, Aydın, Balıkesir, Bitlis, Diyarbakır, Erzincan, Erzurum, Hatay, İzmir, Kars, Konya, Manisa, Muş, Tunceli, Yozgat, Niğde [18,20,23-25].

***Scolia turkestanica* Betrem, 1935**

Material examined: Adana, Sarıçam, 50 m., 26.06.2014, 1 ♀; Sarıçam, Balcalı, 25 m., 08.06.2014, 1 ♂; Anavarza castle, 150 m., 24.07.2014, 7 ♂♂; Osmaniye, Kadirli, Kızılömerli, 100m., 14.08.2014, 1 ♂, Hatay, Dört Yol, 70 m., 07.08.2014, 3 ♀♀.

Distribution: Adana, Bitlis, Denizli, Diyarbakır, Erzincan, Hatay, Gaziantep, İzmir, Kahramanmaraş, Kars, Konya [18,25].

DISCUSSION

At the end of this study, 8 species and 2 subspecies belong to Scoliidae were identified. *Scolia turkestanica*, *Scolia fuciformis*, *Scolia hirta*, *Scolia anatoliae*, *Scolia sexmaculata* are first records for the fauna of Osmaniye. *Scolia fuciformis*, *Scolia anatoliae* are common specieses in Çukurova Region. The comparison of the determined species with previous records is given in Table 1.

The specimens were collected especially from natural areas far away agricultural fields, from the national parks (Aslantaş, Osmaniye) and the natural assets (Hierapolis, Osmaniye; Issos Hatay). Around the natural fields, natural insect fauna was very poor. Kumova and Korkmaz (2000) reported that although diversity of cultivated plants and natural resources of Çukurova Region were extremely convenient for beekeeping, the unconscious using of pesticides was adversely affected bee colonies and beekeepers leaved the region at the early May.

In that case, pesticides have a negative effect on natural insects such as pollinator insects and biological agents. The faunistic studies on Scoliidae which are usefull in biological control of agricultural pests, are important. More effective measures should be taken to protect the natural fauna and to use of pesticides.

Table 1. Comparison of The Species according to faunistical records (● : previous records, ■ : the species identified in this study).

	Name of species	Adana	Mersin (İçel)	Osmaniye	Hatay
1	<i>Scolia anatoliae</i>	● ■	■	■	
2	<i>Scolia asiella</i>	■	● ■		
3	<i>Scolia erythrocephala barbariae</i>	●	●		●
4	<i>Scolia fallax</i>	● ■			●
5	<i>Scolia flaviceps</i>		●		
6	<i>Scolia fuciformis</i>	■		■	●
7	<i>Scolia galbula</i>		●		●
8	<i>Scolia hirta</i>	■	●	■	● ■
9	<i>Scolia sexmaculata</i>	■		■	●
10	<i>Scolia turkestanica</i>	● ■		■	● ■
11	<i>Colpa klugii</i>		●		
12	<i>Colpa q. quinquecincta</i>		●		●
13	<i>Colpa quinquecincta f. abdominalis</i>				●
14	<i>Colpa sexmaculata</i>	● ■	● ■		
15	<i>Campsomeriella thoracica</i>	●	●		
16	<i>Micromeriella hyalina angulata</i>				● ■
17	<i>Dasyscolia ciliata araratca</i>	●	●		
18	<i>Megascolia maculata maculata</i>	● ■	● ■		

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