

## **Fauna And Natural Ecology Of Bugs Of The Myridae Family Which Feeding With The Cotton, Alfaalfa, Vegetable Agrocnoses In The Bustonlik District Of The Tashkent Region**

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### **ABSTRACT**

In this scientific article, the biological environmental, species composition and trophic relationships of the myrid bugs as pests of the crop are given. In blogging conditions of the field and alfalfa bugs, cotton and alfalfa agrocnosis feeding on the juices of the reproductive organs give, several generations. Thus, they harm and affect the yield of cotton, alfalfa and vegetable crops causing huge damage to agriculture and the country's economy. This scientific research was conducted in the Toshkent region of Uzbekistan.

**Keywords:** phytophagous, entomophagous, zoophagus, imago, larva, agrocnosis, biocenosis, biotype, endemic anthropogenic, bielol, alfoefa, pest, migration, population, depot, monophage.

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### **INTRODUCTION**

Myrid bugs are an extensive family of about 5800 genera and 40,000 species of Bundles (1972). Well adapted to a variety of environmental conditions. They are widespread, in agrocnoses and biocenoses they reach large numbers [1]. Among the Myrid bugs, specialized predators are widely represented, often zoophytophages and phytozoophages, but still most species are typical herbivores, although they, on occasion, can use animal food, small invertebrates or their eggs and

larvae (for example, *Nabisferus*, *Campylommaverbasci* MD and *Orusnuger*) [2].

Many species are the primary pests of agricultural crops, especially cotton, sown forage grasses, and vegetable crops. Some species from this family are known as vectors of viral and bacterial plant diseases [3].

Despite the great economic importance of the Myrids, their faunistic composition, biological characteristics, trophic relationships, as well as economic importance, in the Toshkent region, the Bustanlik region has not been studied enough, which explains the relevance of this study.

The most dangerous species of agricultural crops of the country are prickly pear myringes. These include the field handcuffs (*Lygus pratensis* Linnaeus 1758) and alfalfa handcuffs (*Adelphocoris lineolotus* Goeze 1778). Hemiptera-Heteroptera are one of the larger families and belong to the class of insects. Among the members of the genus Miridae, the family Miridae is the main one. Insects belonging to this family consist of phytophagous and zoophagous predators, which are of great ecological importance in nature [23]. Many of them are pests of agricultural crops. Some common species are very rare, endemic species. Today (Hemiptera-Heteroptera: Miridae) myrids are a large family, comprising 750 families and 6,000 species. Of these, the Palearctic fauna consists of 220 families and 2,000 species, 165 families and 650 species found in the CIS [24].

Semiconductors are very close to cycads in origin and morphology. These two groups are very close to each other and differ from each other in the structure of their front wings and trunks. Worldwide, there are 45,000 species of semi-hardwoods, belonging to more than 50 families (1995, 1996, 1999, 2005, 2006) and some species belonging to the Cimicidae family are distributed throughout the world [21]. The relevance of our scientific observations is that they belong to the colorful wildlife of this region. Conduct an inventory of insects found in this area, protect their useful rare species in nature, monitor them, (Biodiversity under the UN Convention 1992) conservation of biodiversity. One of the most pressing issues today is the study of the fauna of the Mirid Kandalas in the region, the conduct of scientific research in the Republic of Karakalpakstan. Since these insects are pests of agricultural crops, their research consists of studying the damage they cause, their ecology, and their economic importance. The only way to solve these problems is to determine the species composition of myrrh chains, their nutrition, population, migration and development, a comprehensive study of their biodiversity in nature. Biodiversity conservation is the conservation of entomophagous species in a sustainable manner in a natural ecosystem.

## **MATERIALS AND METHODS**

Field studies to study the species composition, developmental characteristics, stationary distribution and harmfulness of bedbugs - myrids were carried out in the Bustonlik district of the Toshkent region from April to October annually in the period from 2019 to 2021.

According to the method of V.F. Palia (1966) collected plants that feed on Myrid bugs. A herbarium was made from these plants and the species was determined.

According to the method of V.A.Puchkov (1974), myrid bugs were collected and the species composition was determined.

According to the method of E. A. Dunaev (1997), insects were pricked using entomological needles.

To obtain information on the nature of the seasonal dynamics of the number and the stationary distribution of Myrid bugs, observations were carried out at permanent sites.

1. Cotton field No. 1, located next to the alfalfa field. (3<sup>rd</sup> year of standing 12 hectares, farm Uzbekistan)
2. Alfalfa field No. 2 next to cotton (1<sup>st</sup> year standing 2 hectares of farm Polit department).
3. Alfalfa field number 3 next to the apple orchard. (apple orchard of the 5<sup>th</sup> year of standing 4.5 hectares, the village of Tavoksoy).

### **The following methods were used to collect insect samples.**

1. Manual collection of insects, i.e. catching slow-moving species using entomological tweezers.
2. With the help of entomological "matrab" it was done by shaking it 10-25-50-100 times.
3. Collect insects at night with the help of light.
4. Insects were collected by digging deep pits from the ground and placing a special inside container

## **RESULTS AND DISCUSSION**

The following table provides information on the occurrence of families, genera and species of insects belonging to the genus Myrid, Pentatomidae, Nabidae, Anthocoridae, Reduviidae, Rhopalidae, which are found in the bostan district.

**Table 1** Identification of the species composition of Myrid bugs in the Bustanlik region, Toshkent region of the Republic of Uzbekistan on cotton, alfalfa and vegetable agrocenoses. (08.08.2021 g)

<b>Family</b>	<b>Generation</b>	<b>Species</b>
Miridae	Adelphocoris Reut.	A. lineolatus Goeze.
	Lygus Hahn.	Lygus pratensis L.
		Lygus gemellatus H-S
	Trigonatylus Fieb.	Trigonatylus ruficornis Geoff
	Stenodema Lap.	Stenodemacalcaratum Fieb.
	Poeciloscytus Fieb.	Poeciloscytus cognatus Fieb.
	Poeciloscytus Fieb.	Poeciloscytus vulneratus Pz.
	Campylomma Reut.	Campylommaverbasci M-D.
		Campylommadiversicnis
	Notostira	Notostira elongata
	Atomoscelus Reut.	Atomoscelus onustus Fieb.
	Atomophora	Atomophora alba
	Deraeocoris Cbm.	Deraeocoris punctulatus Fall
	Orthotylus Fieb.	Orthotylus flavosparsus C.
	Carpocoris	Carpocoris coreanus iranus
	Tuponia	Tuponia elegans
Pentatomidae	Eurydema	Eurydemaventralis
	Nezara	Nezaraviridula
	Graphosoma	Graphosoma lineatum
	Carpocoris	Carpocoris fuscispinus
	Dolycoris	Dolycoris penicellatus
	Odontotarus	Odontotarus angustatus
	Brachynema	Brachynemagemari
Nabidae	Nabis	Nabis ferus
Anthocoridae	Orius	Orius niger
Reduviidae	Reduvius	Reduvius disciger
Rhopalidae	Liorhyssus	Liorhyssus hyalinus

In the Bustonlik region of the Toshkent province, there have been found 27 species of Myrid bugs were identified, belonging to 25 genera and 6 families. Only 14 genera, 16 species of these belong

to the Myrid family. The Pentatomidae family has 7 genera and 7 species. Carnivorans has bugs 2 family 2 genera and 2 species. Nobidae has 1 genera and 1 species, Anthocoridae has 1 genera and 1 species, Reduviidae has 1 genus and 1 species Rhopalidae has 1 genus and 1 species, and All of them damage to cotton, alfalfa and vegetable agrocenoses (Table 1).

In table 2, information on damage to plants belonging to families was given about the occurrence of field bug and alfalfa bug related to the hemiptera family in the biocenoses of cotton, alfalfa and vegetable crops and the family, generation, species and their adults, eggs, larvae that may cause damage to these plants during these developmental periods.

According to it, *Chalbus* L, *Xanthium spinosum*, *Salicornia* L belonging to the family *Cheopochiaceae* have been found to cause damage at all times. They have been found to cause damage to the *Atriplex* L and *Chglaucum* L groups in adulthood and during the imago period.

*Mentha arvensis* L, which a member of the *Verbenaceae* family has been found to cause damage at all times. *Fabaceae*, *Medicago sativa*, and *Alhagiadans* belonging to the *Leguminosae* family have also been found to be infested by pests throughout the period.

The only genus in the family *Gusgutaceae* (*CbsctbtaCberuta*) was found to be infested only by an adult pest.

In the family **Poiygonaceae**, three *Rumex* L, *Apiaceae*, and *Daus* L families were found to have damaged the *Rumex* L genera at all times, while the *Apiaceae* and *Daus* L genera were found to have been damaged during the adult and imago periods.

**Table 2 Trophic relationships of hemiptera on the example of the field bug (*Lygus pratensis* Linnaeus 1758), alfalfa bug (*Adelphocoris lineolatus* Goeze 1778) found on cotton, alfalfa agrobiocenosis and vegetable crops (July 1 and October 31, 2017-2021)**

No	Family, genus and species of fodder plant.	Occurrence of adult bedbugs, but no eggs or larvae.	The bug lays eggs, but the larvae develop partially	The larva develops normally before the emergence of the imago.
I	<b>Cem .Cheopochiaceae</b>			
1	<i>Chalbus</i> L	+	+	+
2	<i>Xanthium spinosum</i> L.	+	+	+
3	<i>Salicornia</i> L	+	+	+

4	Atriplex L	+	-	+
5	Chglaucum L	+	-	+
<b>II</b>	<b>Cem .Verbenaceae</b>			
6	Menthaarvensis L	+	+	+
<b>III</b>	<b>Cem .Leguminosae</b>			
7	Fabaceae	+	+	+
8	Medicago sativa	+	+	+
9	Alhagiadans	+	+	+
<b>IV</b>	<b>Cem. Gusgutaceae</b>			
10	CbsctbtaCberuta	+	-	-
<b>V</b>	<b>Cem. Poiygonaceae</b>			
11	Rumex L	+	+	+
12	Apiaceae	+	-	+
13	Daus L	+	-	+
<b>VI</b>	<b>Cem.CompositaeAsteraceae</b>			
14	Acropilon Cass	+	+	+
15	FrtemisiaLts	+	+	+
<b>VII</b>	<b>Cem .Plantaginaceae</b>			
16	Plantago L	+	-	+
17	Lathyrus L	+	+	+
<b>VIII</b>	<b>Cem. Cyperaceae</b>			
18	BolboschoenusPalla	+	+	+
19	Hibiscus trioHum L.	+	+	+
20	Althaca L.	+	+	+
<b>IX</b>	<b>Cem. Solanaceae</b>			
21	Solanumnigrum L.	+	-	-
22	Nicotinatabacum L.	+	+	+
<b>X</b>	<b>Cem. Polygonaceae</b>			
23	Polygonumhydropiper L.	+	+	+
24	P. aviculare L.	+	+	+
25	RumexcoglomerotusMurr.	+	-	+

The genera of the family **CompositaeAsteraceae** have been infested by pests throughout the period. There are two plantgeneras in the family **Plantaginaceae** (Plantago L, Lathyrus L), the Plantagogeneratedrain the family damaged during the imago period, while Lathyrus L infestation occurred at all times. Pests of all genera belonging to the family **Cyperaceae** have been found to cause damage at all times.

It has been found to cause damage during the adult and imago period the Solanumnigrum L generabelongs to the **Solanaceae** family and andthey caused damage the Nicotinatabacum L genera at all developmental stages.

Polygonumhydropiper L and P.aviculare L generas belonging to the family **Polygonaceae**, were affected by all forms of these pests, on the other hand, Rumexcoglomerotus genera was found to be damaged during the adult and imago period (Table 2).

## CONCLUSION

The specificity of the natural conditions of this region significantly influenced the fauna composition of the Mirada bugs, due to the diversity of biotypes. Found on alfalfa, cotton agrobiocenoses and vegetable crops, Mira bugs, 27 species of 25 genera and 6 families have been identified, only 14 genera, 16 species of these belong to the Miridae family. The Pentatomidae family has 7 genera and 7 species. Carnivorous bugs family Nabidaehas 1 of the same genus and 1 species. Oriusnigerhas 1 of the same genus of 1 species. Reduviidae has 1 genus and 1 species, Rhopalidaehas 1 genus and 1 species.

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