



THE FAUNA OF ORTHOPTEROID INSECTS (INSECTA: ORTHOPTERA) IN FERGANA VALLEY AGROCENOSIS (UZBEKISTAN)

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ANNOTATION

There were identified 45 species of agrocenoses in the Fergana Valley, including 4 species of ferruginous family, 8 species of chirps, 2 species of tripers, and 31 species of locusts. Of the studied agrocenoses, 29 species (65.1 %) were found in gardens, 24 species (55.8 %) in cotton agrobiocenosis, 18 (41.8 %) in wheat agrobiocenosis, 18 (39.5 %) in rice 22 (51.2 %) in maize, 16 (37.2 %) in corn, 14 (32.5 %) in legumes, 21 (48.8 %) in melons, and 12 (27.9 %) in the river, collector and canal. of fauna of the corrected insect species.

KEYWORDS: *Tettigonidae, Grylloidea, Pyrgomorphidae, Acrididae, order, family, species, fauna, ecology, agrocenosis, landscape, imago, larva.*

INTRODUCTION

We can be found insects all over the world except Antarctica. Researchers have been interested orthopteroid insects in a different agrocenosis component every time [8]. Although some data have been collected on various agrocenoses in the Ferghana Valley [1], the data are incomplete, and it is important to study agrocenosis corrections in this region, taking into calculating natural and anthropogenic changes last 20 to 30 years.

Determination of species composition of phytophages in agrocenoses with favorable climatic conditions for the development of pest insects and one of the main objectives making of agricultural security is to conduct research aimed at developing modern countermeasures against them. Locust is a major source of damage to cultural crops and pastures, due to the anthropogenic transformation of the natural environment in Fergana valley in recent years, the increase in numbers of orthopteroid insects require the introduction of drastic measures against pest locust species [3,4,7].

Because the representatives of this category are not only pasture plants but are the main pests of all crops, we aim to study the fauna of orthopteroid insects that is common in the various agrocenoses in Fergana valley.

MATERIALS AND METHODS

Our research was conducted in eight agrozenoses (cotton, wheat, rice, alfalfa, maize, legumes and orchards) in Namangan, Ferghana and Andijan regions of the Fergana Valley in 2017-2019. In order to study the pattern and pattern of distribution of orthopteroids in agro landscape, they were analyzed in eight sections of agrocenosis and on the basis of materials collected from aquatic environments.

The collected samples were studied based on [2,5,6] some books. The following are conditional determinations for species distribution and density, that is, when 1 to 3 insects are collected per hour with entomological material, their number is "very low" (in the case of 4-10 insects per hour), "low species - kt.", "permanent species - ps." 11–20 insects per hour), as well as "numerous but not productive species" (20–100 insects per hour) [8,5].

Laboratory, field and production experiments conducted by B.A Dospekov. Statistical analysis of the results was determined using BioStat 2008 5.0.1 and Microsoft Office Excel 2007.

RESULTS AND DISCUSSION

According to the data, 45 species of seven orthopteroids belong to the agrocenoses of Fergana valley. Of the studied agrotsenoses, 29 species (65.1 %) are common in the Gardens, including *Tettigonia viridissima* L., *Pyrgomorpha bispinosa* dessert B.-Bien., *Calliptamus italicus italicus* (L.),



Calliptamus barbarus cephalotes, *Acrida oxycephala* (Rall). Many species, such as *Duroniella gracilis* Uv., *Aiolopus thalassinus thalassinus* (F.), *Oedaleus decorus* (Germ.); *Tettigonia caudate* Charp., *Platycleis intermedia* Serv., *Grullatalpa unispina* Sauss., *Grullatalpa grullatalpa* L., *Modicogryllus bordigalensis* Latr., *Tetrix tartar subacuta* B.-Bienko., *Tetrix tartartara tartara* Saulcy. permanent species of *oxianus* Uv., *Sphingoderus carinatus* (Sauss.); *Modicogryllus frontalis* (Fieb.), *Eremogryllodes semonovi* Mir, *Anacridium aegyptium* (L.), *Ramburiella foveolata* (Tarb.) Rare and *Ruspolia nitidula* (Scop.), *Heteracris littoralis* Ramb., *Hilethera turanica* Uv., *Chorth.) dichrous*, *Mioscirtus wagneri* are very rare species. *Oecanthus turanicus* Uv., *Melanogryllus*

desertus Rall., *Tartarogryllus tartarus* Sauss., *Tetrix sudulata* Saulcy., *Calliptamus turanicus* Serg. The 14 species, *Dociostaurus maroccanus* (Thnd), *Bruntrydactilus tartarus*, *Xia variegata*, are not widely distributed in this agrocenosis. Other similar agrocenoses studied showed similar species composition to 24 species (55.8 %) in cotton agrobiocenosis, 18 (41.8 %) in wheat agrobiocenosis, 18 (39.5 %) in rice and 22 (51.2 %) in alfalfa., 16 (37.2 %) in corn, 14 (32.5 %) in legumes agrobiocenosis, 21 (48.8 %) in melons, and 12 (27.9 %) in river, collector, canal, *Bruntrydactilus tartarus* , It was found that the *Xia variegates* occur only along the banks of the river (Table 1).

Table 1
Distribution of orthopteroid species in Fergana Valley corrections and agro landscapes

№	Species	Type of Crops								
		1. Cotton	2. Wheat	3. Rice	4. Alpaalpa	5. Corn	6. Legume plants	7. Melon	8. Garden	9. Rivers, collector and canals
1	<i>Platycleis intermedia</i> Serv.	Rs	Rs	Fs	Rs	Rs	Fs	Fs	Rs	Rs
2	<i>Tettigonia viridissima</i> L.	Fs	Rs	-	-	Fs	M	-	M	-
3	<i>Tettigonia caudate</i> Charp.	-	Vfs	-	-	Fs	Rs	Fs	Rs	-
4	<i>Ruspolia nitidula</i> (Scop.)	-	-	-	-	-	-	-	Vfs	-
5	<i>Oecanthus turanicus</i> Uv.	Rs	-	Vfs	Rs	Rs	-	Fs	Fs	Rs
6	<i>Modicogryllus bordigalensis</i> Latr.	Vfs	-	Vfs	-	Fs	-	Fs	Rs	Rs
7	<i>Modicogryllus frontalis</i> (Fieb.)	-	-	-	-	-	-	Vfs	-	-
8	<i>Melanogryllus desertus</i> Pall.	Rs	Rs	-	Rs	Fs	Fs	Fs	-	Rs
9	<i>Eremogryllodes semenovi</i> (Mir.)	-	-	-	Vfs	-	-	-	-	-
10	<i>Tartarogryllus tartarus</i> Sauss.	-	-	Fs	-	M	-	Rs	Vfs.	-
11	<i>Grullatalpa unispina</i> Sauss.	Fs	Rs	Rs	Rs	-	-	Rs	Rs	Rs
12	<i>Grullatalpa grullatalpa</i> L	-	Rs	Rs	-	Fs	-	Rs	Rs	-



13	<i>Tetrix sudulata</i> Saulcy.	-	M	-	-	-	-	-	-	Rs
14	<i>Tetrix tartara subacuta</i> B.-Bienko.	-	-	M	-	-	Rs	-	Rs	Rs
15	<i>Tetrix tartartara tartara</i> Saulcy.	Rs	Rs	M	-	-	-	-	Rs	-
16	<i>Pyrgomorpha bispinosa deserti</i> B.-Bien.	Rs	Rs	M	Rs	M	M	Rs	M	Rs
17	<i>Anacridium aegyptium</i> (L.)	-	-	-	-	-	-	-	Rs	-
18	<i>Tropidopola turanica turanica</i> Uv.	-	-	-	-	Rs	-	-	-	-
19	<i>Calliptamus italicus italicus</i> (L.)	M	M	-	-	-	M	M	M	-
20	<i>Calliptamus turanicus</i> Serg.Tarb.	-	Fs	-	Rs	-	M	M	-	-
21	<i>Calliptamus barbarus cephalotes</i>	M	Rs	M	Rs	M	Rs	M	M	Rs
22	<i>Heteracris littoralis</i> Ramb.	Rs	-	Rs	-	-	-	-	Vfs	-
23	<i>Heteracris adspersa</i> (Redt.)	Rs	-	M	-	-	-	Rs	-	-
24	<i>Heteracris pterosticha</i> (F.d.W.)	-	Fs	-	Rs	-	-	-	Rs	-
25	<i>Eyprepocnemis unicolor</i> Serg. Tarb.	Rs	-	-	-	-	-	-	-	-
26	<i>Acrida oxycephala</i> (Pall.)	Fs	-	Rs	Rs	M	Rs	Fs	M	-
27	<i>Truxalis eximia</i> Eichw	Rs	-	-	Rs	-	Rs	-	-	-
28	<i>Duroniella gracilis</i> Uv.	M	M	Rs	Fs	Fs	-	Fs	M	-
29	<i>Duroniella kalmyka</i> (Ad.)	Rs	Rs	-	Rs	-	-	-	-	-
30	<i>Aiolopus thalassinus thalassinus</i> (F.).	M	Rs	Rs	Rs	M	M	Rs	M	M
31	<i>Aiolopus oxianus</i> Uv.	Rs	-	-	Rs	M	-	Rs	Rs	-
32	<i>Hilethera turanica</i> Uv.	Vfs	-	-	-	-	-	-	-	-
33	<i>Locusta migratoria</i> L.	Rs	-	-	Rs	-	Rs	Rs	-	-
34	<i>Oedaleus decorus</i> (Germ.)	-	-	-	-	-	-	-	Rs	-
35	<i>Acrotylus insubricus</i> (Scop.)	Fs	-	M	Rs	M	-	Rs	Rs	-
36	<i>Sphingoderus carinatus</i> (Sauss.)	Rs	-	-	Rs	-	-	-	Rs	-
37	<i>Ramburiella foveolata</i> (Tarb.)	Vfs	-	-	Fs	-	-	-	Fs	-
38	<i>Dociostaurus tartarus</i> Uv .	-	Vfs	-	Fs	-	-	-	-	-
39	<i>Dociostaurus</i>	-	Rs	-	Fs	-	Rs	-	-	-



	<i>maroccanus</i> (Thnd)									
40	<i>Chorthippus</i> (s. str.) <i>karelini</i>	-	-	Fs	Fs	-	-	-	Rs	-
41	<i>Chorthippus</i> (s. str.) <i>dichrous</i> (Eversmann)	-	-	-	-	-	-	-	Rs	-
42	<i>Mioscirtus wagneri</i> (Kitt.)	-	-	-	-	-	-	-	Vfs	-
43	<i>Oxya fuscovittata</i> (Marsch.)	-	-	M	-	-	-	Fs	Rs	-
44	<i>Bruntrydactilus tartarus</i> (Sauss.)	-	-	-	-	-	-	-	-	Vfs
45	<i>Xya variegata</i> Latr.	-	-	-	-	-	-	-	-	Rs
Total:		24	18	18	22	16	14	21	29	12

Note: - not found; Vfs - very few species; Fs - few species; Rs - regular species; M- more; Ms -migratory species.

The main reasons for the most common species of plant and cotton in agrobiocenosis we have learned are that these crops, along with the longer vegetation period, also provide more diversity in the habitat for various wild plants around these fields. On the contrary, legumes have a short vegetation period and the relatively high use of chemicals in melon fields has the effect of reducing this type of insect.

The results of the analyzes show that orthopteroid species, the species most closely involved in agrocenosis are *Calliptamus italicus*, *Calliptamus barbarous*, *Calliptamus turanicus*, *Acrotylus insubricus insubricus*, *Pyrgomorpha bispinosa deserti*, *Acrida oxycephala*, *Locusta migratoria migratoria*, *Duroniella gracilis*, *Aiolopus thalassinus thalassinus*; *C. Gryllidae* - *Melanogryllus desertus* of the family, *Gryllotalpa unispina*; *Tettigonioidae* - family of *Platycleis intermedia intermedia*, *Tettigonia caudate*, *Tettigonia viridissima* are more common and have been found to be dominant over other species. There are also very few species in the same crop species, such as *Ruspolia nitidula*, ***Eremogryllodes semenovi***, *Modicogryllus frontalis*, *Hilethera turanica*, *Mioscirtus wagneri*, *Bruntrydactilus tartarus* are common in all cultivated species studied (Table 1). *Anacridium aegyptium*, *Tropidopola turanica*, ***Eyprepocnemis unicolor***, *Oedaleus decorus*, *Bruntrydactilus tartarus*, *Xya variegata* are medium spread in the biocenosis. If the species did not occur in the common garden agrotsenosis, such species as *Platycleis intermedia*, *Pyrgomorpha bispinosa deserti*, *Calliptamus barbarus cephalotes* were found only in this crop. By examining the regularities of seasonal development of

insect species, it allows for environmental prediction of timely adaptation of insects to the nutrient environment and timely control of harmful species. Fergana Valley agrocenoses are four groups of phenological inversions that are imago and larvae wintering, ephemeroïd and early spring, spring-summer and summer-autumn groups.

Adult and larvae of orthopteroids' species winter diapause in the winter, there are *Melanogryllus desertus*, *Modicogryllus bordigalensis*, *Modicogryllus frontalis*, *Tartarogryllus tartarus*, *Grullatalpa unispina*, *Grullatalpa grullatalpa*, *Tetrix sudulata*, *Tetrix tartara tartara*, *Tetrix tartara subacuta*, *Pyrgomorpha bispinosa deserti*, *Anacridium aegyptium*, *Truxalis eximia*, *Duroniella gracilis*, *Duroniella kalmyka*, *Hilethera turanica*, *Acrotylus insubricus*; in the Spring *Tettigonia viridissima*, *Tettigonia caudate*, *Ramburiella foveolata*, *Dociostaurus maroccanus*, *Dociostaurus tartarus*; spring-summer *Ruspolia nitidula*, *Oecanthus turanicus*, *Calliptamus italicus italicus*, *Calliptamus turanicus*, *Calliptamus barbarus cephalotes*, *Locusta migratoria*, *Aiolopus oxianus*, *Oedaleus decorus*, *Sphingoderus carinatus*, *Chorthippus* (s. str.) *karelini* *Chorthippus* (s. str.) *karelini*, *Chorthippus* (s. str.) *dichrous*, *Mioscirtus wagneri*, *Bruntrydactilus tartarus*, *Xya variegata*; and summer diapause also *Heteracris adspersa*, *Heteracris littoralis*, *Acrida oxycephala*, *Heteracris pterosticha*, *Aiolopus thalassinus thalassinus* are take diapause unusually then other species.

According to 2018 observations, larvae accounted for 69% of the corrected insects in the third decade of April in the grain field in Khojabad district in Andijan region (Table 2).



Table 2
Some orthopteroid insects were found in grain field (Andijan Region, Khojabad District, 19.04.2018)
Coordination is N 40°34'43.21, E 72°35'17.83

№	species	Adult		Larvae.	Total	%
		Female	Male			
1	<i>Tettigonia caudate</i> Charp.	-	-	12	12	12.8
2	<i>Grullatalpa unispina</i> Sauss.	5	-	3	8	8.5
3	<i>Acrotylus insubricus</i> (Scop.)	4	3	12	19	20.2
4	<i>Pyrgomorpha bispinosa deserti</i> B.-Bienko.	6	2	14	22	23.4
5	<i>Calliptamus turanicus</i> Serg.Tarb	-	-	16	16	17
6	<i>Tetrix sudulata</i> Saulcy.	2	3	7	12	12.8
7	<i>Tetrix tartara tartara</i> Saulcy.	3	1	1	5	5.3
Total:		20	9	65	94	100

There are 5 species of these species: the tailed *Tettigonia caudate* (A larva), *Acrotylus insubricus* (Scop.), Turon locust *Calliptamus turanicus* (larva), *Tetrix sudulata* larva, adult) and *Pyrgomorpha bispinosa*. can be regarded as In the first decade of May, there was a slight increase in the number of insects (124 ex. Per hour), but the dominant species retained their status, as follows: *Pyrgomorpha bispinosa*, *Acrotylus insubricus* sudulata 11 ex / hr, *Tettigonia caudate* 3 ex. The proportion of larvae decreased significantly - 14%. In the garden, there is a wide variety of species of insects, which is common in 29 fields. Kuva district, Fergana region. One can see that the number of insects collected in the garden for an

hour is 534, suggesting that spring species also came from eggs. In this period the share of the imagination of the righteous is 70%. There are also imago and larvae wintering species such as *Anacridium aegyptium*, *Truxalis eximia*, *Pyrgomorpha bispinosa*, *Duroniella gracilis*, *Modicogryllus frontalis*, *Grullatalpa grullatalpa* in the park, suggesting that the fauna in the park is formed. It has been reported that these species are not considered to be a serious threat to insects by the reduction or alteration of the continuous feed plant. Very few species, such as *Ruspolia nitidula*, *Modicogryllus frontalis*, were also recorded in the garden at this time (Table 3).

Table 3
Orthopteroid insects were found from apple garden in Kuva district, Fergana region in 23.06.2017, Coordination is N 40°43'39.18, E 71°88'03.71

№	Species	Ecology				
		Adult		Larvae	Total	%
		Female	Male			
1	<i>Tettigonia caudate</i> Charp.	9	3	-	12	2.2
2	<i>Ruspolia nitidula</i> (Scop.)	3	-	-	3	0.5
3	<i>Tettigonia viridissima</i> L.	18	15	-	33	6.2
4	<i>Modicogryllus frontalis</i> (Fieb.)	6	-	-	6	1.1
5	<i>Grullatalpa grullatalpa</i> L.	12	6	-	18	3.4
6	<i>Calliptamus italicus italicus</i> (L.)	36	30	24	90	17
7	<i>Calliptamus barbarus cephalotes</i> (Costa.)	48	27	12	87	16.3
8	<i>Calliptamus coelesyriensis carbonarius</i> (Uv.)	-	6	21	27	5
9	<i>Anacridium aegyptium</i> (L.)	-	-	36	36	6.7
10	<i>Acrida oxycephala</i> (Pall.)	-	-	51	51	9.5
11	<i>Truxalis eximia</i> Eichw	-	-	18	18	3.4
12	<i>Pyrgomorpha bispinosa deserti</i> B.-Bienko.	15	9	-	24	4.5
13	<i>Duroniella gracilis</i> Uv.	18	9	-	27	5
14	<i>Oedaleus decorus</i> (Germ.)	18	24	-	42	8
15	<i>Ramburiella foveolata</i> (Tarb.)	6	-	-	6	1.1



16	<i>Chorthippus (s. str.) karelini</i>	9	6	-	15	2.8
17	<i>Aiolopus oxianus</i> Uv.	24	15	-	39	7.3
Total:		222	150	162	534	100

In the cotton field orthoptera fauna comprised 16 species. 199% of the 17 species collected from cotton fields in Turum saroy village, Pop district, Namangan region, accounted for 40% of *Calliptamus species*. In the first decade of June, the larvae and adult locus of *Sphingoderus carinatus*,

Pyrgomorpha bispinosa, *Duroniella kalmyka*, *Calliptamus italicus italicus*, *Calliptamus barbarus cephalotes*. It should be remembered that Asian and valley locusts have a large reproduction pattern and are considered to be pests of agricultural crops (Table 4).

Table 4

Orthopteroid insects were found from cotton field, Turum saroy village, Pop district, Namangan region in 07.07.2018). Coordination is N 40°52'17.85, E 71°0'15.67

№	Species	Ecology				
		Adult		Larvae	Total	%
		Female	Male			
1	<i>Tettigonia viridissima</i> L.	3	-	-	3	1,5
2	<i>Platycleis intermedia</i> Serv.	9	3	-	12	6
3	<i>Melanogryllus desertus</i> Pall.	6	6	-	12	6
4	<i>Modicogryllus bordigalensis</i> Latr.	3	-	-	3	1,5
5	<i>Grullatalpa unispina</i> Sauss.	-	3	6	9	4,5
6	<i>Eremogryllodes semonovi</i> Mir	3	-	-	3	1,5
7	<i>Sphingoderus carinatus</i> (Sauss.)	6	9	-	15	7,6
8	<i>Ramburiella foveolata</i> (Tarb.)	1	1	-	2	1
9	<i>Acrotylus insubricus</i> (Scop.)	6	-	-	6	3
10	<i>Pyrgomorpha bispinosa deserti</i> B.-Bienko.	12	6	-	18	9,1
11	<i>Acrida oxycephala</i> (Pall.)	-	-	9	9	4,5
12	<i>Locusta migratoria migatoria</i> L.	3	6	-	9	4,5
13	<i>Duroniella kalmyka</i> (Ad.)	9	6	-	15	7,6
14	<i>Calliptamus italicus italicus</i> (L.)	17	14	3	34	17,1
15	<i>Calliptamus turanicus</i> Serg.Tarb.	6	5	-	11	5,5
16	<i>Calliptamus barbarus cephalotes</i> (Costa.)	19	17	2	38	19,1
Total:		103	76	20	199	100

In the first decade of August, a significant increase in the number of orthopteroid insects in cotton fields led to an increase in species composition (Table 5).

Table 5

Orthopteroid insects were found from cotton field, Turum saroy village, Pop district, Namangan region in 08.08.2018). Coordination is N 40°52'17.85, E 71°0'15.67

№	Species	Ecology				
		Adult		Larvae	Total	%
		Female	Male			
1	<i>Platycleis intermedia</i> Serv.	9	6	-	15	4
2	<i>Tettigonia viridissima</i> L.	3	1	-	4	1,1
3	<i>Oecanthus turanicus</i> Uv.	15	11	-	26	7
4	<i>Melanogryllus desertus</i> Pall.	14	8	4	26	7
5	<i>Modicogryllus bordigalensis</i> Latr.	7	5	7	19	5,1
6	<i>Grullatalpa unispina</i> Sauss.	2	-	-	2	0,5



7	<i>Tetrix tartartara tartara</i> Saulcy.	5	2	-	7	2
8	<i>Acrida oxycephala</i> (Pall.)	6	3	8	17	4,6
9	<i>Truxalis eximia</i> Eichw.	3	-	12	15	4
10	<i>Aiolopus thalassinus thalassinus</i> F.	4	2	28	34	9,1
11	<i>Duroniella kalmyka</i> (Ad.)	4	3	16	23	6,2
12	<i>Duroniella gracilis</i> Uv.	7	1	13	21	5,6
13	<i>Pyrgomorpha bispinosa deserti</i> B.-Bienko.	3	3	4	10	2,7
14	<i>Locusta migratoria</i> L.	3	-	-	3	0,8
15	<i>Spingoderus cariantus</i> (Sauss.)	13	9	-	22	6
16	<i>Calliptamus italicus italicus</i> (L.)	19	14	-	33	8,9
17	<i>Calliptamus barbarus cephalotes</i> (Costa.)	24	15	-	39	10,4
18	<i>Heteracris adspersa</i> (Redt.)	14	12	-	26	7
19	<i>Eyprepocnemis unicolor</i> Serg. Tarb.	5	4	-	9	2,4
20	<i>Tropidopola turanica turanica</i> Uv.	-	-	21	21	5,6
Total:		160	99	113	372	100

During this time, the larvae of the species *Tropidopola turanica*, *Aiolopus thalassinus thalassinus*, *Duroniella gracilis*, *Duroniella Kalmykka*, *Oecanthus turanicus*, *Melanogryllus desertus*, *Sparioderus cariantus*, *Calliptamus italicus* species. The presence of larvae of these species in the fields in late summer and early autumn suggests that they are spring species and the emergence of new wintering larvae. Later, when they enter the preimaginal phase, they go to winter. It was also observed that locusts are now common in the fields.

Six species of Grasshopper (*Calliptamus italicus*, *Calliptamus turanicus*, *Calliptamus barbarus*, *Melanogryllus desertus*, *Modicogryllus (E.) bordigalensis*, *Gryllus bimaculatus*) are among the closely related species of cotton

agroecosystem. Consequently, the cotton planted in the area in previous years may have been the most important and important nutrient link in their ecosystem. Studies have shown that shortening or alteration of permanent nutrient plants does not pose a serious threat to these insects. It is noted that species of *Calliptamus* also occur in agroecosystems, and they are important in the feed chain due to their high density. In addition to agroecosystems, materials were collected from the Andijan region and near Koradarya river, canal, ditch and collective landscapes. The fauna of the rectified area was much poorer (Table 6).

Table 6

Orthopteroid insects were found from near river, Koradayo river, Andijan region in 07.07.2018. Coordination is N 40°55'5.93, E 71°49'52.43

№	Species	Ecology				
		Larvae		Adult	Total	%
		Female	Male			
1	<i>Modicogryllus bordigalensis</i> Latr.	3	1	-	4	7.8
2	<i>Grullatalpa unispina</i> Sauss.	2	-	-	2	4
3	<i>Xya variegata</i> Latr.	16	-	-	16	31.3
4	<i>Tetrix sudulata</i> Saulcy.	7	6	-	13	25.5
5	<i>Tetrix tartara tartara</i> Saulcy.	-	3	-	3	5.9
6	<i>Acrotylus insubricus</i> (Scop.)	7	4	2	13	25.5
Total		35	14	2	51	100



According to it, there were collected 51 insects of 6 species per hour. These species are considered to be hydrophilic species and have been studied by a number of scientists on the fact that the *Xia variegata* species live near typical rivers and feed on small invertebrates along the water [9].

However, there is not enough data on biology and ecology. This species of trippers contains 20, 10, nesting clumps, 7 species in each of these nests, and only 3 in each of the three species of insect species. It was determined that this would continue.

CONCLUSION

According to our research, there were identified 45 species of orthopteroids in agroecosystems, Fergana Valley, including 4 species of *Tettigoniidae*, 8 species of *Gryllidae*, 2 species of *Tridactylidae*, and 31 species of *Acridoidea*.

Species composition and maximum density of fields were observed from the third decade of June to the second decade of August. Their density decreases from the edge of the field to the center

Of the studied agroecosystems, 29 species (65.1%) were found in gardens, 24 species (55.8%) in cotton agroecosystem, 18 (41.8%) in wheat agroecosystem, 18 (39.5%) in rice, and 22 in alfalfa. 14 (32.5%) in legumes, 21 (48.8%) in maize, 12 (27.9%) in the river, collector, arable water, formed a fauna of orthopteroid species. The occurrence of swarms of grasshopper in agroecosystem requires timely monitoring to prevent the risk of this pest.

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