SPECIES COMPOSITION AND BIOECOLOGICAL CHARACTERISTICS OF INSECTS BELONGING TO THE ORDER RECTHOPEDIA, SPREAD IN PASTURE AREAS

Khaytmuratov Arslanbek Fayzullayevich, Shamurodov Abdizoir Abdikadirovich, Akbutaev Azim Nuriddinovich, Normatov Bahodir Ismoilovich, Qurbonov Abduraim Norboyevich

Termez State University of Engineering and Agrotechnologies.

Annotation: The article presents the results of scientific research conducted to study the species composition and bioecological characteristics of insects belonging to the order Orthoptera found in the pastures of southern and central regions of Uzbekistan. According to the research results, 5 species of true grasshoppers belonging to 4 genera (Tettigonia, Decticus, R1atycleis, Semenoviana.) of **the** (Tettigoniidae) family, 3 species from the superfamily of crickets (Grylloidea), 2 species from the calf heads (Gryllotalpidae) family, 27 species from the superfamily of grasshoppers (Acridoidea) Purgomorphidae, Pamphagidae, Acrididae families, a total of 37 species of insects belonging to the order Orthoptera were recorded. Of these, 25 species were found to be ephemeral and ephemeroid, 34 species were found to be semi-shrub-ephemeral, and 23 species were found to be distributed in shrub and grass pastures.

The identified insect species are distributed in various associations of pasture plants, the distribution, reproduction, and development of species were studied, and it was noted that they have a serious impact on the growth, development, and reproduction of pasture plants.

Keywords: Pasture, plants, ephemerals, ephemeroids, insects, orthopterans, woodpeckers, crickets, locusts, pests.

Introduction: Pastures and hayfields constitute 51% of the total land area of the Republic of Uzbekistan. There are more than 1700 species of plants used as fodder in pastures and hayfields. Pastures and hayfields play a crucial role in providing livestock with nutritious feed and producing abundant, high-quality, and affordable products.

The coexistence of ephemeral, ephemeroid, semi-shrub, and shrub vegetation in pastures protects the soil from wind and water erosion. It also prevents sand migration, soil erosion, and dust storms, thereby eliminating air pollution. By ensuring the gradual absorption of

atmospheric precipitation into the ground, it creates moisture reserves in the soil and protects it from physical evaporation. In areas where groundwater is close to the surface, perennial grasses, shrubs, and trees act as biological drainage, reducing soil salinization and waterlogging.

In recent years, there has been a mass increase in grasshoppers, leaf beetles, moths, wireworms, silkworms, leafhoppers, and other insects in pasture areas, causing serious damage to pasture plants, and in some cases, to agricultural crops. Therefore, the study of the species composition of pests of pasture plants is of great importance in the fight against them.

In the study of the pasture entomofauna of the southwestern Kyzylkum, the works of A.G.Davletshina, A.G.Avanesova, A.K.Mansurov (1979) are noteworthy, where 1100 species of beneficial and harmful insects are listed [3].

In Kazakhstan, 230 species belonging to 65 genera of locusts have been recorded, of which 112 species of 54 genera are plant pests, of which 15-20 species of locusts are dangerous pests of pasture plants and agricultural crops [4].

In Central Asia, including Uzbekistan, research on the species composition of locusts and their distribution area, as well as scientific research on the biology and ecology of the main harmful locusts and the development of control measures against them, were conducted by acridologists. Information on the mass reproduction and distribution of harmful locusts and their damage to agricultural crops has been studied by entomologists [2;5;7;8;9;10;11;12;13;14].

Object and method of research. Research work was carried out in 2013-2023 in the laboratory "Study of Pasture Pests and Entomopathogenic Microorganisms" of the Research Institute of Plant Quarantine and Protection. Phenological and faunistic observations of the scientific research were conducted on pasture areas of Surkhandarya, Kashkadarya, Samarkand, Navoi, and Jizzakh regions.

Observation, experiment, comparison, and other methods used in zoology, general entomology, and agricultural entomology were used in scientific research.

In the work, when conducting phenological and faunistic studies, insect samples were collected from pastures to study the species composition and distribution of pests, using the methodological manual of V.F. Paly [6]. The obtained samples were kept in fixatives prepared from a mixture of 70% alcohol and 4% glycerin until the types were determined.

Also, when determining the species composition of locusts from egg pods and locusts that do not form swarms, it was carried out using the methodological manual of M.E. Chernyakhovsky (1986), and when studying the species composition of their main harmful species, it was carried out using determinants published by G.Ya. Bey-Biyenko, L.L. Mishchenko (1951) [15;1].

Research results: The total area of natural pastures and hayfields currently in use in Uzbekistan is 23.6 million hectares, and they are not evenly distributed across the regions [11;12;13]. For example, in the southern regions where the research was conducted: Surkhandarya and Kashkadarya regions, such areas amount to 2328.4 thousand hectares, while in the central regions: Samarkand, Jizzakh, and Navoi regions, there are 10,664.1 thousand hectares of pasture areas.

In our studies conducted in the southern and central regions of Uzbekistan for the period 2013-2023 on the study of species of insects belonging to the order Orthoptera, which cause damage to pasture plants, 37 species were identified in these regions, and the degree of their occurrence by pasture types was determined (Table 1).

Table 1

Species of Orthoptera insects found in pasture plants and their distribution

No	Harmful insect species	Pasture types*		
		Ephemeral and ephemeroid	Subshrub-ephemeral	Shrub and grass
1.	2.	3.	4.	5.
Order: Orthoptera				
Family: Tettigonioidae				
1.	Tettigonia viridissima L.	++	+	+
2.	T. caudate Chr.	++	++	+
3.	Decticus verrucivorus L.	++	++	+
4.	R1atycleis intermedia Serv.	+	+	
5.	Semenoviana Plotnikovs Uv.	-	+	+
Family: Grylloidae				
6.	Oyecanthus turanicus V.	++	+	-
7.	Gryllus desertus Pall.	+	++	+
8.	G. burdigalensis Latr.	+	++	+
9.	Gryllotalpa gryllotalpa L.	-	+	+
10.	G. umspina Sauss.	-	+	+
Acridoidea				
Family: Pyrgomorphidae				
11.	Rurgomorpha conica desert B.Bienko	++	+	-
12.	Chrotogonus turanicus Kuthy.	+	++	+
Family: Pamphagidae				

13.	Rezotmethis tartarus Uv.	+	+	-
Family: Acrididae				
14.	**Dericorus albidula Serv.**	-	-	Too toxic
15.	D. annulata roseipennis Redt.	-	-	++
16.	**Salliptamus italicus L.**	Too toxic	++	-
17.	**S. turanicus Cultivation.**	Too toxic	++	-
18.	**S. barbarous cephalotes F.W.**	Too toxic	++	-
19.	Conophuma Tarbinskyi Mir	+	-	-
20.	Truxalis nasuta L.	+	+	-
21.	Asrida oxycephala Pall.	+	+	+
22.	Ochrilidia hebetata hebetata Uv.	-	+	+
23.	Duroniella gracilis Uv.	+	+	-
24.	Dociostaurus tartarus V.	++	+	-
25.	D. PlotnikovVol.	++	+	-
26.	**D. kraussi nigrogeniculatus** Tarb.	Too toxic	Too toxic	+
27.	**D. maracanus Education.**	Too toxic	Too toxic	+
28.	Ramburiella turcomana F.W.	Too toxic	++	-
29.	Oyedipoda miniata miniata Rall.	++	++	-
30.	O. fedtschenko effedtschenkoi Sauss.	+	+	-
31.	Oedaleus decorus Germ.	+	++	+
32.	Leptopternis ilitensis Poison.	-	+	+
33.	Hyalorrhipis turcmena Poison.	-	+	+
34.	H. clausi Kitt.	-	+	+
35.	Sphingonotus satrapes Sauss.	-	+	++
36.	Leptopternis gracilis Uv.	-	+	+
37.	Mioscirtus wagner Ev.	-	+	+

Note: + - rare species, ++ - moderately distributed species,
+++ - widespread - dominant species, - species not found.
Pasture Types*- F.Akhmedov et al. (2009).

In the southern and central regions of Uzbekistan, 5 species belonging to 4 genera (Tettigonia, Decticus, R1atycleis, Semenoviana.) of the true grasshoppers (Tettigoniidae) family, 3 species from the superfamily of crickets (Grylloidea), 2 species from the superfamily of crickets (Gryllotalpidae), 27 species from the superfamily of grasshoppers (Acridoidea) belonging to the families Purgomorphidae, Pamphagidae, Acrididae, a total of 37 species belonging to the order Orthoptera were recorded (Table 1).

Of these, 25 species are found in ephemeral and ephemeroid pastures, 34 species are found in semi-shrub-ephemeral pastures, and 23 species are found in shrub and grass pastures.

Orthoptera order - (Ortoptera) The bacilli are large or medium-sized insects, and in terms of mouth structure, they are considered rodent insects. The forewings are skin-like, veined, elongated, plate-like, the hindwings are broadly membranous, gathered fan-shaped

under the forewings at rest, the hind legs are adapted for jumping; there are appendages at the end of the abdomen; most females are ovipositive.

Locusts, grasshoppers, crickets, and tailless crickets are representatives of this order.

Blacksmiths (Tettigonioidea) - a superfamily, in the course of special observations and route surveys in pasture areas, we recorded 5 species belonging to 4 genera (Tettigonia, Decticus, R1atycleis, Semenoviana.) of the family of true blacksmiths **Tettigoniidae.** Carpenters are large insects, their thread-like antennae are much longer than their body, and their third pair of legs is adapted for jumping.

There are two pairs of wings, and in males, at the base of one of the upper wings is a thickened vein, and on the second (right) wing, there is a thin membranous part, which produces a chirping sound as a result of friction with each other. The organ of hearing is located in the anterior calves, and females have a long sword-shaped ovipositor in the abdomen.

In recent years, in the foothill lowlands of Surkhandarya region, in the vicinity of rainfed sown areas of Kashkadarya, Jizzakh, and Navoi regions, the number of blacksmiths has increased, causing serious damage. In particular, in the pastures of the foothills of the Baysun and Babatag mountains, on the territory of the experimental farm of the M. Mirzaev Research Institute of Horticulture, Viticulture and Winemaking of Uzbekistan in the Kyzyryk district, along the banks of canals and ditches in the territory of the Akhunbabayev Association of Farms, as well as in the water bodies, along the banks of ditches and in the vicinity of tugai forests in the border areas with the Republic of Afghanistan, the risk of increasing damage is becoming serious.

In the southern districts of the Surkhandarya region, blacksmiths begin to hatch from eggs in the second half of March, and in the northern districts of the Uzun, Altynsay, Sariosiyo, Denau, and Boysun districts - in the first ten days of April. In rainy and cool years in March and April, the hatching of eggs is delayed. Larvae of the first instar are found in groups, and later, when the weather warms up considerably, they live scattered from age to age. Crickets develop wings in late May - early June, after spreading their wings their activity increases at night, and after 5-10 days they begin to reproduce. They dig a separate pit for each egg. One female blacksmith lays more than 100 eggs.

The larval stage of crickets lasts 40-50 days. During this period, the larvae molt 5-6 times before reaching maturity. Initially, the younger larvae of blacksmiths gather and live in one place, and as they grow older, they gradually begin to move to cultivated fields. Younger larvae mainly feed on young, soft parts of plants, while older larvae and mature

grasshoppers feed on various insects, particularly spiders, mites, and fruits and seeds of plants. Crickets lay eggs from the second half of June to August. In August, some species of grasshoppers complete their life and begin to die. The eggs laid in the soil go into diapause. Throughout the year, blacksmiths reproduce once in a generation.

Green grasshopper- (Tettigonia Viridissuma L.) is the largest grasshopper, with a dark green body and wings, and slightly light green legs. The wings and ovipositor are long, and the antennae are much longer than the body. Green blacksmith is mainly found in areas adjacent to irrigated lands of rainfed areas. Along with pasture plants, they also damage all types of agricultural crops.

Green woodpeckers have the characteristic of cannibalism. They also feed on small insects. In summer, with the arrival of evening coolness, it makes a chirping sound until midnight. If they are disturbed at this time, their chirping stops. As soon as the danger recedes, it begins to make noise again. In the morning coolness, their movement is slow, and they bask in the sun until the sun heats up well. The green grasshopper lays from 70 to 100 eggs densely in the soil throughout its life.

Eggs overwinter in the soil, and larvae begin to hatch from them in spring. The larvae have a brown or black stripe on their back, and their bodies and wings are dark green.

39 мм **Oddiy kulrang- (Decticus verrucivorus L.)** temirchak is a large insect with a body length of 29 cm, dark green in color, with many pink specimens, which reproduce by laying 50-70 eggs on plant stems. It is omnivorous; it also feeds on wild plants and small insects. In some years, it also causes damage to vineyards, orchards, and other agricultural crops.

The gray grasshopper is a relatively large species, appearing in a light gray color, sometimes with bluish-brown spots, and due to its light-loving nature, it occupies vast oases, meadows, and open fields. In nature, they can fly short distances. Lives in hiding among the grass

The chirping period of gray grasshoppers corresponds to May. The emergence of chirping sounds indicates that they are also sexually mature. The males begin to produce chirping sounds 5-7 days after spreading their wings. Adult females begin to lay eggs approximately a week after mating time. Each female blacksmith can lay up to 20-30 eggs. They lay eggs for the first time, and after 10-15 days, they begin laying eggs again. The emergence of larvae from eggs is observed at the end of March. The larval stage lasts 40-50 days and sheds 5-6 shells. It is widespread in foothill plains and foothill areas, in well-sunny meadows, and in gardens.

Tailed grasshoppers - (Tettigonia caudate Sharp.) males have a body length of 22-27 mm, while females reach 22-29 mm without ovipositions. Their bodies are bluish-green, the upper part of the hind legs is yellow, and the front pair of wings is liver-colored. The forewings are usually slightly longer than the jumping hind legs. Females are strong and have a more complex structure. Larvae emerge from eggs mainly in April.

Young larvae of tailed grasshoppers are usually found in groups and live separately as they grow older. Insect larvae molt five times before reaching maturity. By the end of May and June, blacksmiths begin to spread their wings. Three or four days after spreading its wings, it begins to chirp loudly. This indicates their sexual maturity.

Mass mating of rodents begins after 3-7 days, and the breeding time corresponds to the first half of the night. Females of this period lay eggs in the upper soil layer with the help of the ovipositor. They dig a separate pit for each egg. One female blacksmith can lay up to a hundred eggs. The larvae and adults of this insect species feed on the leaves, flowers, and fruits of both cultivated and wild plants. Blacksmiths also feed on the body fluid of various insects.

4,5 мм1,1 мм^3 см**Plotnikov's jerboa (Semenoviana's jerboaUv**.) Under natural conditions, blacksmith eggs overwinter in the soil in a state of diapause. The eggs are elongated, with length and width, varying from incubation to the emergence of larvae. That is, the largest size of eggs corresponds to the period when larvae emerge from them. In the southern zones, the first instar larvae appear in the first ten days of March, the third of April, during which they are whitish-yellow, slightly brown, and then turn dark brownish-gray. The larvae develop within 40-50 days, reaching 5 years of age and reaching adulthood. This period corresponds to the first ten days of June. Usually, males appear before females, and they begin to make sounds (chirp) after 8-10 days. The mating period of males and females also coincides with this period. Female egg-laying is observed in the last, third ten days of June, and it lasts for a long time. The eggs are laid individually in moist soil at the 2nd pit. A single female insect can lay from 5 to 36 eggs. Female insects that have laid eggs survive longer than male insects until the end of October. Plotnikov's thistle belongs to the category of omnivorous insects and affects ephemeral and ephemeroid plants, wild cereals, and cultivated plants such as corn, cotton, barley, and others in desert-pasture areas; from trees, apple, walnut, mulberry; from ornamental plants, poplar, sycamore, elm, and maple. This blacksmith mainly affects field crops - barley, corn, cotton, and alfalfa.

Plotnikov's jumper was found in the fields and forests of Kitab, Kamashi, Dekhkanabad, and Shakhrisabz districts, around alfalfa and cotton fields, as well as along the banks of the Kashkadarya River.

Xoldor sakrovchi -R1atycleis intermedia Serv.- Widely distributed in the semi-shrub-ephemeral pastures of Nishan, Guzar, Kitab, Kamashi, Dekhkanabad, Shakhrisabz districts of Kashkadarya region. Larvae emerge in the second half of April. Mature imagoes appear in nature at the end of May.

It affects ephemeral and ephemeroid plants, wild cereals, and cultivated plants such as corn, cotton, barley, and others in desert-pasture areas; from trees, it affects apples, walnuts, mulberry; from ornamental plants, it affects poplars, sycamore, elm, and maple.

The stationary distribution of ironworms in the territory depends on a number of factors, in particular, the climate of the region, soil and climatic conditions, the mode of management, etc. In the studied areas, in particular in the pastures of Surkhandarya, Kashkadarya, Samarkand, Jizzakh, and Navoi regions, the abundance of blacksmiths was observed in the tailed blacksmith (Tettigonia caudata), green blacksmith (Tettigonia viridissima), and gray blacksmith **(**Decticus verrucivorus**)** . Gray grasshoppers **(**Decticus verrucivorus**)** formed a swarm and even in the evenings, in the Mirzachul, Dustlik, and Farish districts of the Jizzakh region, green grasshoppers (Tettigonia viridissima), gray grasshoppers **(**Decticus verrucivorus**)** caused damage to the leaves, flowers, and fruits of pasture plants. When studying the species of blacksmiths in the Baysun and Sherabad districts of the Surkhandarya region, among the blacksmiths, the species of Kholdor Jumping (Decticus verrucivorus), Plotnikov Jumping (Semenoviana plotnikovi) was less common than in the Navoi and Kashkadarya regions.

Grylloidea (Grylloidea) superfamily. The Turanian cricket (Oyecanthus turanicus Uv.) is a cricket with a wingless size of 12-15 mm, and its front and rear wings are longer than the ventricle. The lark's color can be darkish-yellow, sometimes slightly bluish. The wings of the males are wide and transparent, and the transverse veins of the wings are green, while the wings of the females are slightly smaller and light. Adult crickets have long, thin antennae. The larvae have short antennae, lack wings, and differ in size from adult forms. The eggs of the Turan cricket overwinter on the stems and branches of plants. Their mature forms appear at the end of May and the beginning of June. The Turanian cricket damages leaves, stems, and fruits of plants at all stages of development.

Desert cricket (Gryllus desertusPall.) Dark-colored, winged or sometimes short, 20-25 mm long. The thighs of the hind legs are thickened. Before sexual intercourse, males

penetrate cracks or shallow burrows, making loud chirping sounds. The vocal apparatus is located under the wing shield. Actively lives at night. It reproduces by laying up to 500 eggs on the ground. In the conditions of Uzbekistan, it produces two generations. Overwinters in the larval stage. They live in humid places, among clods, under fallen leaves. It is distributed in the mountains and foothill zones, deserts, and in the fields of melons and vegetables. An extremely greedy insect. It feeds on vegetables, melons, and field crops, causing significant damage to agriculture. In some years, it multiplies excessively and even damages fruit trees.

Bordossa cicada (Gryllus burdigalensis Latr.) Body grayish-brown. It is smaller than other crickets. It appears in nature starting from March. Pest of field crops. A characteristic feature of this species is cannibalism, that is, it eats individuals developing with it.

Gryllotalpidae (Gryllotalpidae), **Gryllotalpa gryllotalpa (Gryllotalpa gryllotalpa L.)** The body is large, flattened, brownish-brown, 35-50 mm long, adapted to living in soil. Short antennae, small head, mouthparts of the gnawing type. Short and developed forelegs are adapted for digging. The last two pairs of legs are walking, and the anterior thoracic segment is larger than the others. The wings are well-developed, the forewings are leathery and short, and the hindwings are membranous and shiny. He can't fly well. Females differ from other crickets by the absence of a lance. Actively lives at night. During the day, it lives in a long, horizontally dug burrow close to the surface. Calves lay eggs on the ground in groups of 500-600. They inhabit moist soils and irrigated lands. It causes significant damage by eating the underground parts of plants.

Turkestan grasshopper (Gryllotalpa umspina Sauss.) is widespread in semi-shrub-ephemeral and shrub-grass pastures, causing significant damage to the root system of pasture plants. The size of the adult grasshopper is 30-40 mm, the front shoulder is covered with fine hair. The front pair of wings is partially veined; in males, their length is half the length of the ventricle, while in females it is even shorter. The last pair of wings is slightly longer and protrudes from the back like a tail. In the final stage, the larvae overwinter at a depth of 50-60 cm. Female forms dig nests approximately 18 cm deep and lay 200-500 eggs in clusters.

Family Acridoidea (Acridoidea). In the study of the harmful entomofauna of pasture plants in the southern and central regions of Uzbekistan, as a result of scientific research and observations conducted during 2013-2023, 27 species belonging to the families Purgomorphidae, Pamphagidae, Acrididae of the superfamily of true locusts were recorded.

The locust species identified are distributed in different associations of pasture plants and have different effects on the growth, development, and reproduction of pasture plants.

In the steppe pastures of Kattakum in Surkhandarya region, Nuratinsky district of Navoi region, Nishansky and Mubareksky districts of Kashkadarya region, where sand-bearing plants such as saxaul and juzgun grow, the Great Saxaul Humpback Locust- Dericorus albidula Serv. and Small Saxaul Humpback Locust-Dericorus annulata roseipennis Redt. are distributed, periodically multiplying en masse and causing great damage to saxaul plantations. In the Surkhandarya region, in the districts of Baysun, Kizirik, Termez, and Djarkurgan, large shrubs grow in the deserts. However, in 2015, a mass increase in the Great Saxaul Humpback Locust was observed in the saxaul forests of the Kattakum massif of the Termez district. Although the great saxaul humpback grasshopper does not feed on other types of agricultural crops, it causes great damage to shrubs, especially saxaul and juzgin, which leads to the transfer of sands to agricultural crops by wind. Also, the movement of soil and sand dunes by wind forces causes serious problems in traffic due to the overrunning of railway rails and highways.

From the representatives of the genus Salliptamus of the true locust family, the Italian or Oasis Locust-Salliptamus italicusL. is an extreme pest of pasture plants and is among the annually mass-reproducing species. This species is widespread in the foothills of the Baysun and Babatag mountains of Surkhandarya region, in the ephemeral-ephemeroid and semi-shrub-ephemeral pastures of Kashkadarya, Samarkand, Jizzakh, and Navoi regions. Sometimes it multiplies in fallow lands between pastures and agricultural crops, causing serious damage not only to pasture plants but also to dryland grain crops and agricultural crops. Our observations have shown that the widespread distribution of the oasis locust mainly occurs during drought years.

Salliptamus of the genus Salliptamus turanicus Tarb. and Salliptamus barbarous cephalotes F.W., widespread in the foothill plains, foothills, and wide valleys between the two mountains of Uzbekistan, in particular, between the Hissar and Babatag mountains. It is found in the pastures of the southern and central regions of Uzbekistan, among the flowers of wormwood, saltwort, and camel thorn in desert areas, as well as among plants in steppes and wilderness, around cultivated fields. One of the serious pests of pastures and cultivated crops.

In our research, two species of the Rurgomorpha family were identified Rurgomorpha conica deserti by B.Bienko. and Chrotogonus turanicus Kuthy. In the foothills of the Baysun, Babatag, and Nuratau mountains, we observed its habitat among various herbs, ephemeral

plants, and shrubs. These species do not cause significant damage, although they feed on saltworts and ephemers from pasture plants.

From the Pamphagidae family Rezotmethis tartarus Uv. and from the Acrididaefamily Conophuma tarbinskyi Mir. species, during our research, dwell among plants on the rocky slopes of the Baysun and Nuratau mountains and do not cause significant damage.

Acrididae from the family Truxalis nasuta L., Asrida oxycephala Pall., Ochrilidia hebetata hebetata Uv., Duroniella gracilis Uv., Oyedipoda miniata miniata Rall., Oedipoda fedtschenkoi fedtschenkoi Sauss., Oedaleus decorus Germ., Leptopternis ilitnsis Uv., Hyalorrhipis turcmena Uv., Hyalorrhipis clausi Kitt., Sphingonotus Does not cause serious damage to pasture vegetation.

Based on our long-term observations, the species Dociostaurus tartarus Uv., Dociostaurus Plotnikovi Uv., Dociostaurus kraussi nigrogeniculatus Tarb., Dociostaurus maracanus Tarb. and Ramburiella turcomana F.W. can be classified as the most dangerous pests of pasture plants. In particular, the locusts Dociostaurus maracanus multiply annually and pose a serious threat to all pasture plants, dryland and agricultural crops. This species of locusts is widespread in the ephemeral-ephemeroid, semi-shrub-ephemeral pastures of Surkhandarya, Kashkadarya, Samarkand, Jizzakh, and Navoi regions, where research was conducted.

Conclusion: In the southern and central regions of Uzbekistan, 5 species of true grasshoppers (Tettigoniidae) belonging to 4 genera (Tettigonia, Decticus, R1atycleis, Semenoviana.), 3 species from the superfamily of crickets (Grylloidea), 2 species from the superfamily of crickets (Gryllotalpidae), 27 species from the superfamily of grasshoppers (Acridoidea) Purgomorphidae, Pamphagidae, Acrididae, a total of 37 species belonging to the order Orthoptera were recorded. The identified insect species are distributed in various associations of pasture plants and have a significant impact on the growth, development, and reproduction of pasture plants

List of used literature

1.Бей-Биенко Г.Я., Мищенко Л.Л. Саранчовые фауны СССР и сопредельных стран // Определители по фауне СССР. - М.-L.: Publishing House of the USSR Academy of Sciences, 1951. - Vol. I-II. - P. 667.

2.Gapparov F.A. Bioecological features of the development of harmful ground squirrels in Uzbekistan and measures to combat them. -Tashkent: "Navruz," 2014. - 336 p.

3.Davletshina A.G., Avanesova G.A., Mansurov A.K. Entomofauna of South-Western Kyzylkum. Tashkent: Fan, 1979. 128 p.

4.Kambulin V.E. Saranchovy in Kazakhstan. Protection and quarantine. N 7, 2000, pp. 12-13.

5.Medetov M.J. Fauna and Formation of Orthoptera (Insecta: Orthoptera) of the Southern Aral Sea Region. 03.00.19. - Tashkent, 2012. - 23 p.

6.Paliy V.F. "Methodology of Phenological and Faunistic Research of Insects" Frunze. 1966. 238 p.

7. Tufliyev N.Kh., Gapparov F.A., Khaitmuratov A.F. Monitoring and Bioecology of Harmful Locusts // AGRO ILM Journal. -Tashkent. - No. 4 (36). -2015. -P. 60.

8. Tufliyev N., Khaitmuratov A. Species composition of cycads of the Surkhandarya region. J., 2015. No 2. 40-41.

9. Tufliyev N., A.Xaytmuratov Development, damage, and control method of the Great Saxaul Humpback Locust. Agrochemical protection and plant quarantine. J., 2017. No3. 28-29-b.

10. Tufliyev N.Kh. Creation of a complex for combating harmful locusts in foothill, pasture, and desert regions of Uzbekistan. // Abstract. Diss. of Doctor of Agricultural Sciences. 06.01.11. - Tashkent, 2019. - 28 p.

11. Khaitmuratov A.F. Species composition of pasture insects of the southern regions of Uzbekistan. J. Agro chemical protection and plant quarantine. 2018. No1 (5), pp. 28-30.

12. Khaitmuratov A.F., Bakhrutdinova N.Z. Species composition of pasture insects of the southern and central regions of Uzbekistan. J. Agro chemical protection and plant quarantine. 2018. No 4 (8) p. 18-19.

13. Khaitmuratov A.F. Harmful entomofauna of pastures of Uzbekistan and measures to combat it. J. Bulletin of Science and Practice. 2019. Vol. 5, No. 1. Pp. 217-225.

14. Khaitmuratov A.F., Gapparov F.A. Bioecological Features of Wormwood (Salliptamus turanicus Tarb.) // Bulletin of Science and Practice.-Nizhnevartovsk, Russia. - 2019. - Vol. 5. (No. 4). - P. 227-231.

15.Chernyakhovsky M.E. Determination of harmful saranchovy plants by cube. (Methodological instructions). - M., 1982. - Б. 62-73.