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TAXONOMIC, BRIEF BIOECOLOGICAL DESCRIPTION OF COCCINELLIDE SPECIES IDENTIFIED IN THE STUDY AREA (KASHKADARYA REGION).

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Abstract:
This article provides detailed information on the meeting coordinates, ecology, and distribution areas of 11 species belonging to the family Coccinellidae (Latr., 1807).

Keywords: Hortobiont, Palearctic, larvae, eggs, ecology, zoophagous, aphidophagous.

References:
Coxenellids are small beetles that are usually short, rarely elongated, with a convex top and a flat bottom. They vary in color: in most forms, the color is bright red or yellow, with dark spots or spots, and in some cases they form a distinctive shape. The top of the body is bare, shiny or covered with feathers, with various dots. The lower part of the body, the legs are almost always covered with short hairs. Coccinellidae (Coccinellidae) are composed of 6,000 species belonging to about 360 genera, and until recently were included in the Coleoptera, Polyphaga [5,6,7]. To date, more than 3,000 species of coccinellids (Coccinellidae, Coleoptera) have been described worldwide, and more than 160 species in the CIS [9].

Worldwide, there are 6 subspecies of coccinellidae (Coccinellidae) (Coccidulinae, Coccinellinae, Scymninae, Chilocorinae, Sticholotidinae, Epilachninae) [4]. Some researchers have noted that coccinellids (Coleoptera: Coccinellidae) are composed of more than 15,000 species belonging to more than 80 families [8].

Research materials and methods

Collection of coccinellid (Coleoptera, Coccinellidae) species in the imago stage in the study area was carried out by 2020 using an entomological handle. Eggs, larvae and fungi of coccinellide species were also collected manually from the study area. The collected biomaterial was placed in standard laboratory solutions and a label with the place and date of storage was affixed. In cotton agrobiocenoses and adjacent biotopes, the process of collecting coccinellide species was carried out in a strict order, in the range of 1000-1200 hours per day, in the range of 1600-1800 hours, once every 5 days. The study areas were divided into 25 200 × 200 cm (2 m2) surface areas in each biotope using kapron yarn.

Research results

Family: Coccinellinae (Latr., 1807)
Subfamily: Scymninae (Muls., 1846)
Tribe: Stethorini (Dobrzhanskiy, 1925)
Category: Stethorus (Weise, 1885)
Subfamily: Stethorus (Weise, 1885)
Type: Stethorus pusillus (Herb , 1797)

Kashkadarya region, Kasbi district Muglon - alfalfa (Medicago sativa), 11♂, 13♀, 1.56 km, N 38 ° 55'54 ", E 65 ° 23'40", Nishan district. From medium-fiber cotton (Gossypium hirsutum), 7 ♂, 6♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Karshi district. From Oxybasis glauca (Chenopodium glaucum), 2 ♂, 1♀, 552 m, N 38 ° 51 ¢ 13.27, E 65 ° 38 ¢ 18.48 ”from the coordinate points (25-27.04.2019). **Bioecology:** Hortobiont species, occurs in plants that are found almost everywhere. Winters without imoga. Reproduces by giving three generations per year.

Distribution area:
Distributed in North Africa, Europe, Russia (regions close to Europe, Siberia, the Far East), China, Iraq, Israel, Central Asian republics (Kyrgyzstan, Kazakhstan, Uzbekistan), Mongolia, Turkey.

Subfamily: Scymninae (Muls., 1846)
Tribe: Hyperaspini (Mulsant, 1846)
Genus: Hyperaspis (Dejean, 1835)
Subgenus: Hyperaspis (Dejean, 1835)
Species: Hyperaspis transversoguttata (Weise, 1878) Kashkadarya region, Nishan district. Alfalfa (Medicago sativa), 7♂, 4♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Kamashi district. Asparagus (Carthamus turcestanicus), 2♂, 506 m, N 39 ° 09 ¢ 19.8, E 65 ° 23 ¢ 01.4. From Alhagi maurorum (Alhagi maurorum), 2♂, 4♀, 295 m. N 37 ° 22 ¢ 45.26 ", E 66 ° 33 ¢ 53.91" (12-15.04.2020 y.).
Bioecology: Hortobiont species. In terms of nutrition, it is a zoophagous and is found in plants that are grown almost everywhere. Winters without gestures. It multiplies by giving three generations a year.
Distribution area: North Africa, Russia, China, Iran, Iraq, Central Asian republics (Republic of Kazakhstan, Republic of Uzbekistan).

Tribe Bulaeini
Category: Bulaea (Mulsant, 1850)
Species:**: Bulaea lichatschovi (Hummel, 1827)**
Kashkadarya region, Nishan district. From medium-fiber cotton (Gossypium hirsutum), 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Karshi district. From Oxybasis glauca (Chenopodium glaucum), 2 ♂, 1♀, 552 m, N 38 ° 51 ¢ 13.27, E 65 ° 38 ¢ 18.48 ", Guzar district. From Trifolium pratense (Trifolim pratense), 2♂, 4♀, 520 m, N 38 ° 26 ¢ 34.48 ", E 66 ° 00 ¢ 06.81", Kitab district. From mung bean (Phaseolus aureus), 5♂, 4♀, 654 m, N 39 ° 07 ¢ 05.25 ", E 66 ° 59 ¢ 04.28", Kamashi district. Asparagus (Carthamus turcestanicus), 2♂, 506 m, N 39 ° 09 ¢ 19.8, E 65 ° 23 ¢ 01.4 from the coordinate points (28-30.05.2017).

Bioecology: Dendro-hortobiont polyphagous species. The main sources of beetles and larvae are wild algae.
Distribution area: Bulaea lichatschovi (Hummel, 1827) is distributed in Europe, the European part of Russia, India, Mongolia, the Republic of Kazakhstan, the Republic of Uzbekistan, China, Afghanistan, the Republic of Tajikistan, the Republic of Turkmenistan, Iran, Syria, Turkey. Central Asia, the southern European part of the CIS, the Caucasus and Crimea. In our studies, many wild salt marshes (Oxybasis glauca et al.) were noted. At the end of May 2005 (May 29), the beetles of Likhachev's daughter were recorded in large numbers in the Angor district of Surkhandarya region.

Category: Coccinula (Dobzhansky, 1925)
Species:**: Coccinula sinuatomarginata (Faldermann, 1837)**
Kashkadarya region, Nishan district. From potatoes (Solanum tuberosum), 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09" (28.05.2017). Kitab District. From Alfalfa (Medicago sativa) 2♀, N 38 ° 36 ¢ 50.10 ", E 66 ° 59 ¢ 04.8" from the coordinate points (21.04.2019). The body is broad-oval, moderately convex, with fine dotted lines, the top is hairless. The wings are black, yellowish or pink with spots. Body length 2.5-3.5 mm.

Bioecology: Coccinula sinuatomarginata horto-dendrobiont aphidophagous species. Xerophytes are widespread in desert and semi-desert regions, occurring mainly in annuals, and play an important role in reducing agricultural pests, including alfalfa and cereal plant lice and thrips.

Distribution area: Coccinula sinuatomarginata (Faldermann, 1837) is distributed in North Africa, Europe, CIS countries (Russia, Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan), China, Afghanistan, Iran, Lebanon, Syria, Turkey. This species is widespread in the Southern Palearctic. It is distributed in all regions of Western Europe, Asia Minor, CIS - Southern and Central Europe, the Caucasus, Siberia, Ukraine, Kazakhstan, Central Asia, including Uzbekistan.

Species:**: Coccinula quatuordecimpustulata (Linnaeus, 1758)**

Kashkadarya region, Nishan district. From medium-fiber cotton (Gossypium hirsutum), 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Karshi district. From Oxybasis glauca (Chenopodium glaucum), 2 ♂, 1♀, 552 m, N 38 ° 51 ¢ 13.27, E 65 ° 38 ¢ 18.48 ", Guzor district. 38 ° 26 ¢ 34.48 ", E 66 ° 00 ¢ 06.81", Kitab district. From Mung bean (Phaseolus aureus), 5♂, 4♀, 654 m, N 39 ° 07 ¢ 05.25 ", E 66 ° 59 ¢ 04.28", Kamashi Asparagus (Carthamus turcestanicus), 2♂, 506 m, N 39 ° 09 ¢ 19.8, E 65 ° 23 ¢ 01.4 from the coordinate points (28-30.05.2020). The body is broad-oval, strongly bulging, shiny small dot. linear, the top is not covered with hairs. The wing is black, shiny, thick dotted. Each wing has 7 yellow round spots, three of which are along the wing seams and 4 on the edge of the side..

Bioecology: Horto-dendrobiont aphidophagous species. The beetles and larvae of this species feed on pea lice (Acyrthosiphon cat Harr.), Grain lice (Brachycolus noxius Mordw., Schizaphis graminae Rond.), And are the main predators of these pests. The 14-spotted beetle beetle feeds on plant lice such as Xerophilaphis zavadovskii Nev., Xerobion eriosomtion, as well as wheat thrips (Haplothrips tritici Kurd.), Along with lice on wormwood, mint, calendula, and other wild plants. In early spring and autumn, the beetles also feed on pollen.

Distribution area: Coccinula quatuordecimpustulata (Faldermann, 1837) Distributed in North Africa, Europe, CIS countries (Europe and Siberia, Russia, Kyrgyzstan, Kazakhstan, Uzbekistan), China, Afghanistan, Iran, Syria, Turkey. This species is common in the Palearctic. Occurs in Europe, Asia, North Africa, CIS, deserts of Uzbekistan, forest edges, gardens, sparse forests and foothills.

Category: Anisosticta (Dejean, 1835)

Species:**:** Anisosticta novemdecimpunctata (Linnaeus, 1758)

Kashkadarya region, Nishan district Convolvulus arvensis, 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 "., E 65 ° 42 ¢ 08.09" (28.05.2017), Kitab district Tomato (Lycopersicon esculentum), 2♀ N 38 ° 36 ¢ 50.10 "., E 66 ° 59 ¢ 04.8" from the coordinate points (21.04.2020 y.). The body is elongated-oval, slightly convex, the top is smaller with deep dots, hairless. The wings have yellow or pink, black dots: there is a common one in front of the shield and 9 dots on each wing.

Bioecology: Horto-dendrobiont aphidophagous species Mesophilic species. Moisture occurs in wetlands, around swamps, rivers and lakes. Distribution area: Europe, Russia (European part, Siberia, Far East), Israel, Central Asian republics (including the Republic of Kazakhstan). Golarktika, Tsirkumboreal tour. Western Europe, North America, CIS-Europe, Siberia, Ukraine, Caucasus, Kazakhstan, Central Asia.

Tribe: Coccinellini (Latreille, 1807)

Category: Adalia (Mulsant, 1850)

Subgenus: Adalia (Mulsant, 1850)

Species:**:** Adalia bipunctata (Linnaeus, 1758) Linne 1758;364 (Coccinella)

26.07.2020 y. From Panicum (Prosa), 5♂, 1♀ N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Kitab district. 21.04.2019 y. From corn (Zea), 1♂, 2♀, N 38 ° 36 ¢ 50.10 ", E 66 ° 59 ¢ 04.8" from the coordinate points. The body is elongated-oval, moderately convex, often dotted, the top is not covered with hairs. The color of the wings is extremely variable: often white and yellow, and occasionally intermediate species. The wing of the leaking form is red and there is a large black dot between each wing. The length of the body is 3.5-5.5 mm.

Bioecology: Horto-dendrobiont polyphagous species. Walnuts, apples, plums, apricots, pears, elm, often overwinter under the bark of trees, under plant debris on pear trees.

Distribution area: Far East, Afghanistan, China, Iraq, Israel, Japan, Jordan, Central Asian republics (Republic of Kazakhstan, Republic of Tajikistan, Republic of Turkmenistan, Republic of Uzbekistan), Iran, Turkey, Australia. Distribution: A.bipunctata is a Palearctic, Golarctic species. It lives in forests, woodlands, foothills and developed areas (mainly in parks and alleys), widespread in Europe, Asia, North America, North and Central Africa, CIS, Uzbekistan.

Category: Coccinella (Linnaeus, 1758)

Species:**:** Coccinella undecimpunctata (Linnaeus, 1758)

Kashkadarya region, Nishan district. From medium-fiber cotton (Gossypium hirsutum), 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 "., E 65 ° 42 ¢ 08.09". Karshi district.

From Oxybasis glauca (Chenopodium glaucum), 2 ♂, 1♀, 552 m, N 38 ° 51 ¢ 13.27., E 65 ° 38 ¢ 18.48 ". Guzar district. From Trifolium pratense (Trifolim pratense)., 2♂, 4♀, 520 m , N 38 ° 26 ¢ 34.48 "., E 66 ° 00 ¢ 06.81", Kitob tumani. From Mung bean (Phaseolus aureus), 5♂, 4♀, 654, N 39 ° 07 ¢ 05.25 ", E 66 ° 59 ¢ 04.28" , Kamashi district. Asparagus (Carthamus turcestanicus), 2♂, 506 m, N 39 ° 09 ¢ 19.8., E 65 ° 23 ¢ 01.4. From the coordinate points (28-30.05.2020). The body is elongated-oval, moderately bulging , often dotted, not covered with hairs, the wings are brownish-yellow, the forefoot is black, the general is a wide wavy border. The length of the body is 3.5-5 mm.

Bioecology: Dendro-hortobiont coccidophagous species. Although this species is widespread, it is mainly found in open areas of forests, xerophiles in agricultural areas, and in deserts and semi-deserts.

Distribution area: Europe, Russia (proximity to Europe, Siberia, Far East), India, Japan, China, Central Asian republics (Republic of Kazakhstan, Republic of Tajikistan, Republic of Turkmenistan, Republic of Uzbekistan), Mongolia, North and South Korea, Turkey, Distributed in Syria, Pakistan, Kuwait, Jordan, Egypt. A common species found everywhere in Europe, Asia, North Africa, CIS, Uzbekistan. This species is extinct outside the Palearctic.

Species:**:** Coccinella septempunctata (Linnaeus, 1758)

Kashkadarya region, Nishan district. From medium-fiber cotton (Gossypium hirsutum), 3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 "., E 65 ° 42 ¢ 08.09". Karshi district. From Oxybasis glauca (Chenopodium glaucum), 2 ♂, 1♀, 552 m, N 38 ° 51 ¢ 13.27., E 65 ° 38 ¢ 18.48 ". Guzar district. From Trifolium pratense (Trifolim pratense)., 2♂, 4♀, 520 m , N 38 ° 26 ¢ 34.48 "., E 66 ° 00 ¢ 06.81", Kitab district. From Mung bean (Phaseolus aureus), 5♂, 4♀, 654, N 39 ° 07 ¢ 05.25 ", E 66 ° 59 ¢ 04.28" , Kamashi district. Asparagus (Carthamus turcestanicus), 2♂, 506 m, N 39 ° 09 ¢ 19.8., E 65 ° 23 ¢ 01.4. From the coordinate points (28-30.05.2017). The body of the beetle is round-oval, strong bulging, almost hemispherical, often dotted, the top is not covered with hairs. The wings are red, 7 black dots. The length of the body is 5-8 mm.

Bioecology: Dendro-hortobiont polyphagous species. Although common, it is more common in forest-desert, desert areas.
Distribution area: North Africa, Russia (regions close to Europe, Western Siberia, Far East), Afghanistan, China, Iran, Israel, Jordan, India, Kuwait, Mongolia, Central Asian republics (Republic of Kazakhstan, Republic of Tajikistan, Republic of Turkmenistan, Uzbekistan Republic), Pakistan, Syria, Turkey. C.septempunctata is common in the Palearctic and Nearctic. In Uzbekistan it is found everywhere.

Category: Hippodamia (Dejean, 1835)
Type**:** Hippodamia tredecimpunctata (Linnaeus, 1758)
Kashkadarya region, Kitab district. 21.04.2019 y. From single-seeded weeds, 3♂, 4♀, N 39 ° 06 ¢ 33.43 ", E 66 ° 32 ¢ 34.68", Nishan district. 21.04.2019 y. From the coordinate points of Ether (Seteria), 1♂, 2♀, N 38 ° 26 ¢ 35.67 ", E 65 ° 32 ¢ 23.41". The body is elongated, slightly oval, slightly convex, dotted, without hairs on top. The wings are elongated, orange in color, yellow or brown, the dots are black, 6 from each wing under one shield; in rare cases the points disappear or merge with each other. Body length 4-7 mm.
Bioecology: Horto-dendrobiont aphidophagous species. The mesophilic species lives in high mountain meadows, often on the banks of rivers and springs, and is recorded in early spring in the tugai forests of desert regions.

Distribution area: North Africa, Europe, Russia (Siberia, Far East), China, Japan, Afghanistan, Iraq, Central Asian Republics (Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan), India, Mongolia, North and Distributed in South Korea. It is a common species in Uzbekistan, it is found everywhere, and its appearance and color are very variable.

Category: Propylaea (Mulsant, 1846)
Type**:** Propylaea quatuordecimpunctata (Linnaeus, 1758)
Kashkadarya region, Nishan district. From Glycyrrhiza glabra (Glycyrrhiza glabra),

3 ♂, 2♀, 357 m, N 38 ° 36 ¢ 50.10 ", E 65 ° 42 ¢ 08.09", Karshi district. From the nut (Arachis hypogea), 2 ♂, 2♀, 552 m, N 38 ° 51 ¢ 13.27, E 65 ° 38 ¢ 18.48 "from the coordinate points (28-30.05.2020). The body is broad-oval, moderately convex, small. The dots are linear, the top is not covered with hairs.

Bioecology: Dendro-hortobiont acarifag tur. It is a mesophilic species, found mainly in trees in spring and early summer, and then migrates to melons and field crops and feeds on plant lice. Our observations have repeatedly noted its prevalence in orchards. In addition to plant lice, aleroid, coccidial larvae, and most butterflies and beetle eggs also lay eggs.

Distribution area North Africa, Russia (close to Europe, Siberia), China, Japan, Afghanistan, Iraq, Israel, Jordan, Pakistan, Syria, Central Asian Republics (Republic of Kazakhstan, Republic of Uzbekistan, Republic of Tajikistan, Kyrgyz Republic, Republic of Turkmenistan), Turkey spread over the territory.

CONCLUSIONS

1. Coccinellidae (Coccinellidae) consist of 6,000 species belonging to about 360 genera.
2. Currently, more than 3,000 species of coccinellides (Coccinellidae, Coleoptera) are described worldwide, and more than 160 species in the CIS.
3. Collection of coccinellid (Coleoptera, Coccinellidae) species in the imago stage in the study area was carried out by 2020 using an entomological handle.
4. Coordinate points of coccinellids (Coleoptera, Coccinellidae) found in the study area were identified.

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