

NEW DATA ON SPIDER MITES (PROSTIGMATA: TETRANYCHIDAE) FROM KYRGYZSTAN

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ABSTRACT: This paper provides a brief review of investigations of the spider mite fauna of Kyrgyzstan. 5 species—*Eotetranychus libocedri*, *Eo. tiliarum*, *Eo. thujae*, *Oligonychus karamatus* and *O. lagodechii*—were recorded from Kyrgyzstan for the first time. In addition, the presence of *O. piceae* in the studied region has been confirmed. Thus, the tetranychids fauna of Kyrgyzstan consists of 58 species.

KEY WORDS: spider mites, fauna, new records

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INTRODUCTION

The spider mite fauna of Kyrgyzstan has been studied fragmentarily. Some of the first records are those of *Tetranychus* species on *Gossypium*¹ and *Malus* (Karavaeva and Rudakov 1956, 1957), *Bryobia rubrioculus* (Scheuten, 1857) on fruit trees (Karavaeva and Rudakov 1957; Karavaeva and Romanenko 1958; Wainstein 1960), *Bryobia longisetus* Reck, 1947 on *Verbascum* (Romanenko 1958) and *Eotetranychus populi* (Koch, 1838) on *Populus* and *Salix* (Karavaeva and Romanenko 1958; Romanenko 1958, 1962, 1981). Mitrofanov *et al.* (1987) recorded *Eurytetranychus furcisetus* Wainstein, 1956² from Kyrgyzstan.

A little-known summary paper on the spider mite fauna of Kyrgyzstan, based on original collections, was published by Strunkova (1988). It includes information on the species distribution in the studied region, the description of host plants and a qualitative assessment of the studied species' harmfulness. In Strunkova's (1988) paper, 51 species of Tetranychidae, considering currently accepted taxonomy, are listed:

— Subfamily Tetranychinae (20): *Amphitetranychus viennensis* (Zacher, 1920), *Eotetranychus latifrons* Wainstein, 1954, *Eo. populi* (Koch, 1838), *Eo. pruni* (Oudemans, 1931), *Eurytetranychoides thujae* (Reck, 1947), *Eurytetranychus furcisetus*, *Oligonychus kobachidzei* (Reck, 1947),

O. longiclavatus (Reck, 1953), *O. ununguis* (Jacobi, 1905), *Panonychus ulmi* (Koch, 1836), *Schizotetranychus halimodendri* Wainstein, 1958, *S. ugarovi* Wainstein, 1960, *Tetranychus bondarenkoi* Mitrofanov, 1980, *T. lonicerae* Beglyarov and Mitrofanov, 1973, *T. pamiricus* Mitrofanov and Strunkova, 1980, *T. polygoni* Beglyarov and Mitrofanov, 1973, *T. przhivalskii* Reck, 1956, *T. sawzdargi* Mitrofanov, 1980, *T. similis* Wainstein, 1958, *T. turkestanii* (Ugarov and Nikolskii, 1937);

— Subfamily Bryobiinae (31): *Aplonobia eurtotiae* (Mitrofanov and Strunkova, 1975), *Bryobia artemisiae* Bagdasarian, 1951, *B. borealis* Oudemans, 1930, *B. confusa* Livshits and Mitrofanov, 1966, *B. graminum* (Schrank, 1781), *B. gushariensis* Livshits and Mitrofanov, 1972, *B. kakuliana* Reck, 1956, *B. lagodechiana* Reck, 1953, *B. livschitzii* Mitrofanov and Strunkova, 1968, *B. longisetis*, *B. lonicerae* Reck, 1956, *B. macrotibialis* Mathys, 1962, *B. montana* Mitrofanov, 1973, *B. oblonga* Livshits and Mitrofanov, 1968, *B. osterloffii* Reck, 1947, *B. pamirica* Mitrofanov, 1973, *B. parietariae* Reck, 1947, *B. reckiana* Mitrofanov and Strunkova, 1968, *B. rubrioculus*, *B. strunkovae* Mitrofanov, 1968, *B. tadjikistanica* Livshits and Mitrofanov, 1968, *B. ulmophila* Reck, 1947, *B. vasiljevi* Reck, 1953, *Georgiobia richteri* (Bagdasarian, 1954), *Hystrichonychus pamirica* Mitrofanov and Strunkova, 1969, *Paraplonobia echinopsili* Wainstein, 1960, *Petrobia latens* (Müller, 1776), *Tetranychopsis cerasi* Strunkova, 1969, *T. kuzminae* Strunkova, 1969, *T. matikashviliae* Reck, 1953, *T. spiraeae* Reck, 1948.

However, the paper by Strunkova (1988) did not contain the following species:

¹ The habitation of *Tetranychus urticae* Koch, 1835 on cotton (Karavaeva and Rudakov 1956) is erroneous, because Strunkova (1983, 1988) showed that *T. turkestanii* is widespread on this crop in Central Asia, including Kyrgyzstan.

² This species, along with *Oligonychus ununguis*, was noted by Zavodchikova and Zavodchikova (2011) as a pest of coniferous trees in Kyrgyzstan.

— *Oligonychus piceae* (Reck, 1953) on *Pinus sylvestris* near Lake Issyk-Kul (Ponomareva and Gabrid 1981);

— *Tetranychopsis horridus* (Canestrini and Fanzago, 1876) on the plants of *Corylus* sp., which were introduced from the Caucasus (Romanenko, 1962, 1981).

The present study provides new data on the tetranychid fauna of Kyrgyzstan.

MATERIALS AND METHODS

The collections were carried out by the author in 2019. The specimens were preserved in 70% ethanol. Slides were prepared using Hoyer's medium (Walter and Krantz 2009). Mites were identified using the ZEISS Axio Imager 2 and the Levenhuk MED D45T LCD phase-contrast microscopes.

Materials and slides are stored in the acarological cabinet of the All-Russian Plant Quarantine Centre (VNIKR, Bykovo, Moskovskaya Oblast, Russia) and partly in the author's personal collection (Moscow, Russia).

SYSTEMATICS

Family **Tetranychidae** **Donnadieu, 1875**

Subfamily **Tetranychinae** **Berlese, 1913**

Tribe **Tetranychini** **Reck, 1950**

Genus ***Eotetranychus*** **Oudemans, 1931**

Eotetranychus libocedri
(McGregor, 1936)

Material. 15 females, 5 males, Bishkek, ornamental planting area, 42°52'52"N, 74°35'50"E, on *Thuja occidentalis*, 19 August 2019.

Remarks. This species was recorded from Kyrgyzstan for the first time.

Eotetranychus tiliarium
(Hermann, 1804)

Material. 4 females, 3 males, the Ala-Archa Park, 42°33'24"N, 74°29'14"E, on *Rosa* sp., 20 August 2019.

Remarks. This species was recorded from Kyrgyzstan for the first time.

Eotetranychus thujae
(McGregor, 1950)

Material. 4 females, 1 male, Bishkek, the Kara-Jygach Park, ornamental planting area, 42°53'45"N, 74°37'1"E, on *Thuja occidentalis*, 22 August 2019.

Remarks. This species was recorded from Kyrgyzstan for the first time.

Genus ***Oligonychus*** **Berlese, 1886**

Oligonychus karamatus
(Ehara, 1956)

Material. 6 females, Issyk-Kul Region, Chok Tal, ornamental planting area, 42°34'44"N, 76°45'16"E, on *Larix* sp., 25 August 2019.

Remarks. This species was recorded from Kyrgyzstan for the first time.

Oligonychus lagodechii Livshits
and Mitrofanov, 1969

Material. 16 females, 2 males, Issyk-Kul Region, Chok Tal, ornamental planting area, 42°34'45"N, 76°45'16"E, on *Thuja occidentalis*, *Juniperus* sp., 25 August 2019.

Remarks. This species was recorded from Kyrgyzstan for the first time.

Oligonychus piceae
(Reck, 1953)

Material. 3 females, Bishkek, the Kara-Jygach Park, 42°53'53"N, 74°37'8"E, on *Pinus sylvestris*, 22 August 2019.

Remarks. Previous record of this species from Kyrgyzstan by Ponomareva and Gabrid (1981) has been confirmed.

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REFERENCES

- Karavaeva, R.P. and Rudakov, O.L. 1956. *Vrediteli i Bolezni Khlopchatnika Kirgizii i Mery Bor'by s Nimi* [Pests and Diseases of Cotton Plant from Kyrgyzstan and Their Control]. Kirgizskoe gosizdatel'stvo, Frunze. 52 pp. [In Russian]
- Karavaeva, R.P. and Rudakov, O.L. 1957. *Vrediteli i Bolezni Sadov Kirgizii i Mery Bor'by s Nimi* [Pests and Diseases in Fruiteries of Kyrgyzstan and Their Control]. Kirgizskoe gosizdatel'stvo, Frunze. 116 pp.

- Karavaeva, R. P. and Romanenko, K. E. 1958. Vrediteli listvennykh lesonasazhdenii Severnoi Kirgizii [Pests of deciduous forest plantations from Northern Kyrgyzstan]. *Trudy Kirgizskoj Lesnoi Opytnoi Stancii*, 1: 117–133. [In Russian]
- Romanenko, K. E. 1958. Vrediteli bystrorastushchikh drevesnykh porod—topolya, ivy, karagacha v polezashchitnom lesonasazhdenii Kirgizii [Pests of quick-growing trees—*Populus*, *Salix* and *Ulmus pumila* in windbreaker forest plantations of Kyrgyzstan]. *Trudy Kirgizskoi Lesnoi Opytnoi Stancii*, 1: 133–163. [In Russian]
- Romanenko, K. E. 1962. Kleshchi i pilil'shchiki – vrediteli derev'ev i kustarnikov Kirgizii [Mites and sawflies – pests of trees and shrubs from Kyrgyzstan]. *Trudy Kirgizskoi Lesnoi Opytnoi Stancii*, 3: 245–263. [In Russian]
- Romanenko, K. E. 1981. *Vrediteli Zashchitnykh Lesonasazhdenii Kirgizii* [Pests of Windbreaker Forest Plantations from Kyrgyzstan]. Izdatel'stvo Ilim, Frunze. 226 pp. [In Russian]
- Zavodchikova, R. E., Zavodchikova, S. A. 2011. The mites living on fir-trees in Kyrgyzstan. In: E. T. Turdukulov (Ed.). *Sokhranenie i Vosproizvodstvo Lesov kak Vazhnogo Sredobrazuyushchego, Klimatoreguliruyushchego Faktora. Materialy Mezhdunarodnoi Nauchno-Prakticheskoi Konferentsii, Posvyashchennoi 95-Letiyu so Dnya Rozhdeniya Zasluzhennogo Deyatelya Nauki, Doktora Biologicheskikh Nauk, Professora Petra Alekseevicha Gana i Mezhdunarodnomu Godu Lesov (2011) (Bishkek, 11–15 September 2011)*. Bishkek, pp. 79–82. [In Russian with English summary]
- Mitrofanov, V. I., Strunkova, Z. I. and Livshits, I. Z. 1987. *Opredelitel' Tetranihovykh Kleshchei Fauny SSSR i Sopredel'nykh Stran (Tetranychidae, Bryobiidae)* [Key to the Tetranychid Mites (Tetranychidae, Bryobiidae) of the USSR and Adjacent Countries]. Donish, Dushanbe. 224 pp. [In Russian]
- Ponomareva, P. E. and Gabrid, N. V. 1981. Konkurentnye vzaimootnosheniya vrediteli sosny obyknovnooi [Competitive interaction between the pests of common pine]. In: A. M. Aukhtikal' nene (Ed.). *Noveishie Dostizheniya Lesnoi Entomologii (Po Materialam VIII S'ezda VEO, Vilnjus, 9–13 Oktyabrya 1979)*. Vilnius, pp. 136–138. [In Russian]
- Strunkova, Z. I. 1983. O vidovoi prinadlezhnosti obyknovnogo pautinnogo kleshcha [To the taxonomic status of common spider mites]. *Izvestia Akademii Nauk Tadzhskoi SSR. Otdelenie Biologicheskikh Nauk*, 2: 29–32. [In Russian]
- Strunkova, Z. I. 1988. K tetranikhofaune Kirgizii [To the knowledge of tetranychofauna of Kyrgyzstan]. *Izvestia Akademii Nauk Tadzhskoi SSR. Otdelenie Biologicheskikh Nauk*, 4: 32–37. [In Russian]
- Wainstein, B. A. 1960. Tetranikhovye kleshchi Kazakhstana (s reviziej semeystva) [Tetranychoid mites of Kazakhstan (with revision of the family)]. *Trudy Nauchno-Issled. Inst. Zashchity Rastenii Kazakh*, 5: 1–276. [In Russian]
- Walter, D. E. and Krantz, G. W. 2009. Collection, rearing, and preparing specimens. In: G. W. Krantz and D. E. Walter (Eds.). *A Manual of Acarology*. Third Edition. Texas Tech University Press, Lubbock, pp. 83–96.