

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre



Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 16. Вып. 2

Vol. 16. No. 2



Ростов-на-Дону
2020

To the knowledge of the fauna of thrips (Thysanoptera) of the Middle East and the South Caspian region

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Abstract. Various thrips materials in different regions of the Middle East and the Caspian region have been collected. New data on the fauna of the region are given. Fifteen species are reported for Lebanon for the first time: *Aeolothrips collaris*, *Melanthrips knechteli*, *Thrips australis*, *Th. hawaiiensis*, *Th. major*, *Th. mediterraneus*, *Th. mareoticus*, *Frankliniella occidentalis*, *Limothrips transcaucasicus*, *Odonthrips phaleratus*, *Compsothrips albosignatus*, *Bacillothrips nobilis*, *Haplothrips leucanthemi*, *H. minutus*, *H. vuilleti*. Nine species, *Aeolothrips intermedius*, *Rhipidothrips elegans*, *Melanthrips fuscus*, *Thrips physapus*, *Limothrips transcaucasicus*, *Dendrothrips saltator*, *Neohydatothrips abnormis*, *Haplothrips aculeatus*, *H. tritici*, are recorded for Azerbaijan for the first time. One unidentified species of (?) *Aeolothrips* was collected in Western Iran, images of this species are given.

Key words: Thysanoptera, Middle East, Iran, Azerbaijan, Lebanon, new records.

К познанию фауны трипсов (Thysanoptera) Ближнего Востока и Южного Прикаспия

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Резюме. Получены новые данные по фауне трипсов, собранных во время экспедиций в разных регионах Ближнего Востока и Прикаспия. Впервые приводятся 15 видов для Ливана – *Aeolothrips collaris*, *Melanthrips knechteli*, *Thrips australis*, *Th. hawaiiensis*, *Th. major*, *Th. mareoticus*, *Th. mediterraneus*, *Frankliniella occidentalis*, *Limothrips transcaucasicus*, *Odonthrips phaleratus*, *Compsothrips albosignatus*, *Bacillothrips nobilis*, *Haplothrips leucanthemi*, *H. minutus*, *H. vuilleti*, – и 9 видов для Азербайджана – *Aeolothrips intermedius*, *Rhipidothrips elegans*, *Melanthrips fuscus*, *Thrips physapus*, *Limothrips transcaucasicus*, *Dendrothrips saltator*, *Neohydatothrips abnormis*, *Haplothrips aculeatus*, *H. tritici*. Один не определенный вид (?) *Aeolothrips* собран в Западном Иране, его изображение дано в работе.

Ключевые слова: Thysanoptera, Ближний Восток, Иран, Азербайджан, Ливан, новые указания.

Introduction

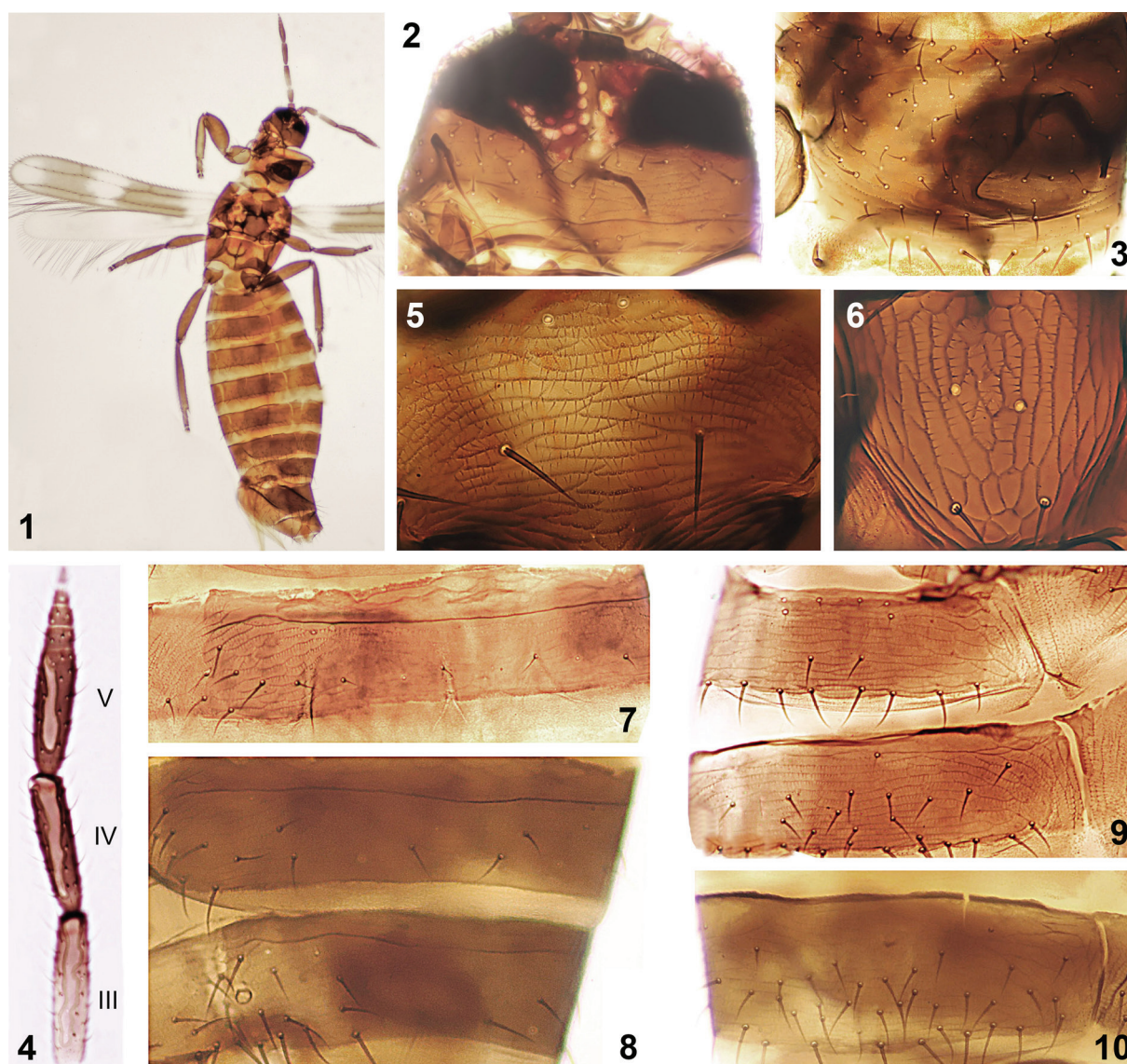
The Thysanoptera of the Middle East and Transcaucasia is studied unevenly. The most studied part is Iran. In this country, 270 species from 82 genera are known of which 211 species belong to the suborder Terebrantia, including 171 species from 53 genera of the family Thripidae, 31 species from 4 genera of the family Aeolothripidae, 8 species from 2 genera of the family Melanthripidae and 1 species of the family Stenurothripidae. The other suborder, Tubulifera, includes 59 species from 22 genera belonging to the family Phlaeothripidae [Minaei, 2013; Mirab-balou et al., 2013; Mirab-balou, 2018]. From adjacent countries, according to recent publications, 193 Thysanoptera species are recorded from Turkey [Tuñç, Hastenpflug-Vesmanis, 2016], but the thrips of Azerbaijan are very poorly known. From Georgia 84 species are listed by Savenko [1947], whilst some information about the Lebanese thrips fauna is presented by zur Strassen [2003], also a checklist of 157 thrips species from Israel [zur Strassen, Kuslitzky, 2011–2012].

Data on the fauna of the thrips of the Middle East and the South Caspian region (Lebanon, Iran, Azerbaijan)

are given in this paper. Distribution of species is given according zur Strassen [2003], zur Strassen, Kuslitzky [2011–2012], Tuñç, Hastenpflug-Vesmanis [2016], Alavi, Minaei [2018], Mirab-balou [2018] and “ThripsWiki – providing information on the World’s thrips” [2020].

Material and methods

All the material used in this work was collected by D.G. Kasatkin in Azerbaijan, Iran and Lebanon and is deposited in the private collection of S.V. Poushkova (cSP, Rostov-on-Don, Russia) and collection of Rostov Branch of All-Russian Plant Quarantine Centre (cRV, Rostov-on-Don, Russia). The insects were collected by sweeping with a net and by shaking onto a white sheet. The thrips were preserved in 70% ethanol and subsequently prepared onto microscope slides in Hoyer’s mounting medium. Identification and photographing were performed on Olympus CX41 and Carl Zeiss AxioLab.A1 microscopes using light and phase-contrast microscopy methods. We used the following publications for identification: Mound, Palmer [1983], zur Strassen [2003], Minaei, Mound [2008], Minaei [2013], Mirab-balou et al. [2013], Alavi, Minaei



Figs 1–10. (?) *Aeolothrips* sp.

1 – habitus; 2 – head; 3 – pronotum; 4 – antennomeres III–IX; 5 – sculpture of mesonotum; 6 – sculpture of metanotum; 7–8 – tergites; 9–10 – sternites.

Рис. 1–10. (?) *Aeolothrips* sp.

1 – общий вид; 2 – голова; 3 – переднеспинка; 4 – III–IX членики усиков; 5 – скульптура среднеспинки; 6 – скульптура заднеспинки; 7–8 – тергиты; 9–10 – стерниты.

[2018]. The plants from which thrips were collected are given for some species.

Family Aeolothripidae

Aeolothrips ericae Bagnall, 1920

Material. Iran: 1♀ (cSP), Kermanshah Prov., near Shamshir vill., 34.987951 N / 46.430794 E, 20–22.05.2015.

Distribution. Europe, Russia, Turkey, Israel, Iran.

Aeolothrips intermedius Bagnall, 1934

Material. Azerbaijan: 1♀ (cRV), near Gobustan vill., 3.05.2013; 1♀ (cRV), Agstafa Distr., near Poylu vill., 8–10.06.2013; 1♀ (cRV), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014.

Distribution. Morocco, Europe, Russia, Turkey, Israel, Iran, China. The first record for Azerbaijan.

(?) *Aeolothrips* sp. (Figs 1–10)

Material. Iran: 1♀ (cSP), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, on *Cynoglossum* sp. or *Anchusa* sp., 16–17.05.2017.

Notes. This species differs by follow characters: lines of sculpture with microtrichia on mesonotum oriented transversely, on metanotum longitudinally; tergites with ciliate microtrichia laterally; sternites completely covered with microtrichia. In addition, it is similar to *A. manteli* Titschack, 1962 by presented antennal sensorium on 5th antennomere. But according to the personal communication of G. (Bert) Vierbergen, mesonotum of (?) *Aeolothrips* sp. with medial pair of setae almost as long as lateral pair, in *A. manteli* medial pair of setae about half the length of lateral pair; also, in *A. manteli* discal setae absent on sternites. Unfortunately, the single available

specimen does not allow a confident conclusion about species identity.

Aeolothrips collaris Priesner, 1919

Material. Lebanon: 1♀ (cRV), Beirut, on Apiaceae, 8.05.2018.

Distribution. Widespread from southern Europe, the Mediterranean Region to Syria and Iran, Afghanistan, India, Bangladesh, China, Mongolia, USA. The first record for Lebanon.

Rhipidothrips elegans Pelikan, 1961

Material. Azerbaijan: 1♀ (cRV), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014.

Distribution. Slovakia, Ukraine, Kazakhstan. The first record for Azerbaijan.

Family Melanthripidae

Melanthrips fuscus (Sulzer, 1776)

Material. Azerbaijan: 1♀ (cRV), near Gobustan vill., 3.05.2013; 3♀ (cRV), Shamakhi Distr., near Pirkuli vill., 40.794522 N / 48.618339 E, 19–20.05.2014; 1♀ (cRV), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014. Iran: 2♀ (cRV), Kermanshah Prov., near Shamshir vill., 34.987951 N / 46.430794 E, 20–22.05.2015; 1♀ (cRV), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, 16–17.05.2017.

Distribution. North Africa, Egypt, Europe, Cyprus, Israel, Turkey, Iran, China. The first record for Azerbaijan.

Melanthrips knechteli Priesner, 1936

Material. Lebanon: 2♀ (cRV), Shouf, 1.6 km E Fraidis, 33.707311 N / 35.706064 E, 10–11.05.2018.

Distribution. Europe, Turkey, Iran, China. The first record for Lebanon.

Family Thripidae

Thrips atratus Haliday, 1836

Material. Iran: 1♀ (cRV), Albourz Prov., near Gachsar vill., Veleyetrul River valley, 2300–2700 m, 28–30.05.2015; 1♀ (cRV), Golestan Prov., near Gorgan, Ziarat vill., 36.672964 N / 54.4688 E, on *Dianthus* sp., 27.05.2016.

Distribution. Europe, Russia, Cyprus, Turkey, Iran, China, Mongolia, Korea, Canada, USA.

Thrips australis (Bagnall, 1915)

(Fig. 11)

Material. Lebanon: 5♀, 1♂ (cRV), Beirut, on flowers of *Eucalyptus* sp., 10.05.2018.

Distribution. Tunisia, Spain, Turkey, Iran, China, Australia, Canada, Colombia, Costa Rica. The first record for Lebanon.

Thrips hawaiiensis (Morgan, 1913)

Material. Lebanon: 4♀ (cRV), Beirut, on flowers of *Eucalyptus* sp., 10.05.2018.

Distribution. Widespread across the world. The first record for Lebanon.

Thrips major Uzel, 1895

Material. Lebanon: 2♀ (cRV), Shouf, 1.6 km E Fraidis, 33.707311 N / 35.706064 E, 10–11.05.2018.



Figs 11–12. Species of the genus *Thrips*, habitus.

Рис. 11–12. Виды рода *Thrips*, общий вид.

11 – *Th. australis* (Bagnall, 1915); 12 – *Th. mareoticus* (Priesner, 1932).

Distribution. Morocco, Europe, Russia, Turkey, Israel, Iran, China, Mongolia. The first record for Lebanon.

Thrips mareoticus (Priesner, 1932)

(Fig. 12)

Material. Lebanon: 1♀ (cSP), Beirut, on Apiaceae, 10.05.2018.

Distribution. Morocco, Egypt, Germany, Cyprus, Turkey, Israel, Iran. The first record for Lebanon.

Thrips meridionalis (Priesner, 1926)

Material. Iran: 4♀ (cRV), Azarbayjan-e Qarbi Prov., near Rajan vill., 37.799 N / 49.63285 E, 25–27.05.2014; 1♀ (cRV), Albourz Prov., near Gachsar vill., 36.110133 N / 51.333847 E, on *Berberis* sp., 31.05–02.06.2014; 1♀, Northern Khorosan Prov., Darkesh vill., 37.434842 N / 56.751614 E, on *Antirrhinum majus*, 23.05.2016; 3♀ (cRV), Golestan Prov., near Gorgan, Ziarat vill., 36.672964 N / 54.4688 E, 27.05.2016; 1♀ (cRV), Lorestan Prov., near Dorud, 5 km SW Chgabdard vill., 33.501061 N / 9.003441 E, 14–15.05.2017. Lebanon: 1♀ (cSP), Shouf, 1.6 km E Fraidis, 33.707311 N / 35.706064 E, 10–11.05.2018; 1♀ (cRV), Bcharre, Horsh Ehdn Reserve, 34.309261 N / 35.982406 E, 15–17.05.2018; 1♀ (cRV), Akkar, Fnaydek vill., Ezer forest, 34.472778 N / 36.207281 E, 24–25.05.2018.

Distribution. Europe, Georgia, Armenia, Turkey, Cyprus, Lebanon, Israel, Iraq, Iran, India.

Thrips mediterraneus Priesner, 1934

Material. Lebanon: 1♀ (cSP), Bcharre, Horsh Ehden Reserve, 34.309261 N / 35.982406 E, 15–17.05.2018.

Distribution. Tunis, Algeria, Europe, Israel.

Thrips physapus Linnaeus, 1758

Material. Azerbaijan: 1♀ (cRV), Shamakhi Distr., near Pirkuli vill., 40.796744 N / 48.618339 E, 19–20.05.2014.

Distribution. Morocco, Europe, Russia, Iran, Mongolia. The first record for Azerbaijan.

Thrips pillichii Priesner, 1924

Material. Iran: 1♀ (cRV), Kurdistan Prov., near Marivan, 18.05.2017.

Distribution. Europe, Turkey, Iran, China.

Thrips tabaci Lindeman, 1889

Material. Azerbaijan: 2♀ (cRV), Lankaran Distr., near Khanbular water reservoir, 38.667728 N / 48.773939 E, 7–8.06.2014; 3♀ (cRV), Baku env., Starye Surukhany, on Cucumis sativus, 06.2016. Lebanon: 1♀ (cRV), Bcharre, Horsh Ehden Reserve, 34.309261 N / 35.982406 E, 15–17.05.2018.

Distribution. Cosmopolitan (there were no specific records or reports for Lebanon and Azerbaijan), pest species.

Thrips trehernei Priesner, 1927

Material. Iran: 1♀ (cRV), Golestan Prov., near Gorgan, Ziarat vill., 36.672964 N / 54.4688 E, 27.05.2016.

Distribution. Europe, Turkey, Iran, China, Australia, North America.

Tenothrips frici (Uzel, 1895)

Material. Iran: 1♀ (cRV), Gilan Prov., near Barehsar vill., 36.74955 N / 49.720965 E, on Euphorbia sp., 8.05.2017.

Distribution. Europe, Turkey, Israel, Iran, Kazakhstan, India, Australia, USA.

Frankliniella occidentalis (Pergande, 1895)

Material. Azerbaijan: 6♀ (cRV), Baku env., Starye Surukhany, on Cucumis sativus, 06.2016. Lebanon: 4♀ (cRV), Bcharre, Horsh Ehden Reserve, 34.309261 N / 35.982406 E, 15–17.05.2018; 1♀ (cRV), Batroun, near Harissa, Tannourine Reserve, 34.205875 N / 35.932106 E, 17–18.05.2018; 2♀ (cRV), Bekaa, near Nahle vill., 34.047469 N / 36.283681 E, 20–21.05.2018.

Distribution. Widespread around the world. The first record for Lebanon.

Limothrips transcaucasicus Savenko, 1944

Material. Azerbaijan: 1♀ (cSP), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014. Iran: 1♀ (cRV), Albourz Prov., near Gachsar vill., 36.110133 N / 51.333847 E, 31.05–02.06.2014; 2♀ (cRV), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, 16–17.05.2017. Lebanon: 3♀ (cRV), Batroun, near Harissa, Tannourine Reserve, 34.205875 N / 35.932106 E, 17–18.05.2018.

Distribution. Turkey, Georgia, Iran, Uzbekistan. The first record for Lebanon and Azerbaijan.

Odontothrips phaleratus (Haliday, 1836)

Material. Lebanon: 1♀ (cRV), Bekaa, near Nahle vill., 34.047469 N / 36.283681 E, on Lathyrus sp., 20–21.05.2018.

Distribution. Europe, Russia. The first record for Lebanon.

Dendrothrips saltator Uzel, 1895

Material. Azerbaijan: 1♀ (cRV), Lankaran Distr., near Khanbular water reservoir, 38.667728 N / 48.773939 E, on Quercus sp., 7–8.06.2014.

Distribution. Europe, Russia, Turkey, Israel, Iran, India. The first record for Azerbaijan.

Neohydatothrips abnormis (Karny, 1910)

Material. Azerbaijan: 2♀ (cRV), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014. Iran: 1♀ (cRV), Golestan Prov., near Gorgan, Ziarat vill., 36.672964 N / 54.4688 E, on Astragalus sp., 27.05.2016.

Distribution. Europe, Iran. The first record for Azerbaijan.

Family Phlaeothripidae

Subfamily Idolothripinae

Compsothrips albosignatus (Reuter, 1884)

Material. Lebanon: 5♀ (cRV), Akkar, 2.5 km SE Qoubaiyat, 34.552644 N / 36.296044 E, 22–23.05.2018.

Distribution. North Africa, Europe, Russia, Turkey, Iran. The first record for Lebanon.

Bacillothrips nobilis (Bagnall, 1909)

Material. Lebanon: 3♀, 1♂ (cRV), Beirut, on Eucalyptus sp., 10.05.2018; 5♀ (cRV), Akkar, 2.5 km SE Qoubaiyat, 34.552644 N / 36.296044 E, on dead trees branches, 22–23.05.2018.

Distribution. Europe. The first record for Lebanon.

Subfamily Phlaeothripinae

Haplothrips aculeatus (Fabricius, 1803)

Material. Azerbaijan: 1♀ (cRV), near Khyzy, 40.918158 N / 49.061039 E, 22–23.05.2014; 2♀ (cRV), Lankaran Distr., near Khanbular water reservoir, 38.667728 N / 48.773939 E, 7–8.06.2014.

Distribution. Europe, Iran, China, Japan, South-East Asia. The first record for Azerbaijan.

Haplothrips distinguendus (Uzel, 1895)

Material. Iran: 1♀ (cRV), Lorestan Prov., near Dorud, 5 km SW Chgabdard vill., 33.501061 N / 9.003441 E, 14–15.05.2017.

Distribution. Europe, Iran.

Haplothrips leucanthemi (Schrank, 1781)

Material. Lebanon: 1♀ (cRV), Bekaa, near Nahle vill., 34.047469 N / 36.283681 E, 20–21.05.2018.

Distribution. Europe, Turkey, Iran, China, Australia, New Zealand, North America, South America. The first record for Lebanon.

Haplothrips minutus (Uzel, 1895)

Material. Iran: 2♀ (cRV), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, 16–17.05.2017. Lebanon: 1♀ (cRV), Batroun, near Harissa, Tannourine Reserve, 34.205875 N / 35.932106 E, on cereals, 17–18.05.2018.

Distribution. Europe, Iran. The first record for Lebanon.

Haplothrips reuteri (Karny, 1907)

Material. Iran: 2♀ (cRV), Hamadan Prov., 1 km E Ylfan, 34.740476 N / 48.621117 E, on Asteraceae, 10–11.05.2017.

Distribution. Egypt, Sudan, Europe, Russia, Turkey, Israel, Iran, Pakistan, India, China, Mongolia.

Haplothrips tritici (Kurdjumov, 1912)

Material. Azerbaijan: 1♀ (cRV), Siazan Distr., Besh-Barmaq Mount., 18.05.2014. Iran: 1♀ (cRV), Azerbaijan-e-Qarbi Prov., near Rajan vill., 37.799 N / 49.63285 E, 25–27.05.2014; 1♀ (cRV), Gilan Prov., near Gash Sara vill., 36.667177 N / 49.70406 E, on Gramineae, 9.05.2017.

Distribution. Europe, Russia, Turkey, Israel, Iran, China, Korea. The first record for Azerbaijan.

Haplothrips vuilleti Priesner, 1920

Material. Iran: 1♀ (cRV), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, 16–17.05.2017. Lebanon: 2♀ (cRV), Shouf, 1.6 km E Fraidis, 33.707311 N / 35.706064 E, 10–11.05.2018; 3♀ (cRV), Batroun, near Harissa, Tannourine Reserve, 34.205875 N / 35.932106 E, 17–18.05.2018.

Distribution. Europe, Turkey, Iran. The first record for Lebanon.

Neoheegeria dalmatica Schmutz, 1910

Material. Iran: 1♀ (cRV), Lorestan Prov., 24 km S Azna, 33.279639 N / 49.499288 E, 16–17.05.2017.

Distribution. Algeria, Turkey, Israel, Iran, Uzbekistan.

Phlaeothrips coriaceus (Haliday, 1836)

Material. Iran: 1♀ (cSP), Golestan Prov., near Gorgan, Ziarat vill., 36.672964 N / 54.4688 E, on Berberis sp., 27.05.2016; 1♀ (cRV), Gilan Prov., near Barehsar vill., 36.74955 N / 9.720965 E, on dead trees branches, 8.05.2017.

Distribution. Europe, Iran.

The knowledge about the Thysanoptera fauna of Azerbaijan, Iran and Lebanon are significantly added after our investigations. One species (?) *Aeolothrips* unknown for Iranian fauna was found. In addition, 9 species from 8 genera are recorded for the first time for Azerbaijan and 15 species from 9 genera for Lebanon.

Acknowledgements

The authors are sincerely grateful to Prof. Dr D. Azar (Lebanese University, Beirut, Lebanon) for the great help in carrying out the Lebanese expedition and Ms S. Saba (Horsh Ehden Reserve, Ehden, Lebanon) for the opportunity to work in the Horsh Ehden Reserve, to Dr L.A. Mound (Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia) for help in determination of *Thrips mareoticus*, also to G. (Bert) Vierbergen (Netherlands Food and Consumer Product Safety Authority, Laboratory of Entomology, Wageningen, Netherlands) and Dr J. Alavi (Research Center of Agriculture and Natural Resources of North Khorasan, Bojnourd, Iran) for consultation.

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Received / Поступила: 14.06.2020

Accepted / Принята: 10.08.2020

Published online / Опубликована онлайн: 6.10.2020