

New records of Psocoptera (Psocodea: Insecta) in Iran

MORTEZA KAHRARIAN

Department of Plant breeding and Agronomy, College of Agriculture, Kermanshah Branch,
Islamic Azad University, Kermanshah, Iran.
e-mail: mortezakahrarian@gmail.com

KAHRARIAN, M.: *New records of Psocoptera (Psocodea: Insecta) in Iran.*

Abstract: Five species of Psocoptera were identified as new records for the Iranian fauna from different regions of the country: *Liposcelis edaphica* Lienhard, 1990; *Liposcelis priesneri* Enderlein, 1925; *Liposcelis silvarum* (Kolbe, 1888), *Liposcelis* sp. of group *A* and *Liposcelis* sp. of group *D*. More ever three species including: *Liposcelis corrodens* (Heymons, 1909), *Liposcelis decolor* (Pearman, 1925) and *Liposcelis keleri* Günther, 1974 are reported for the first time in for the Western Provinces of Iran.

Keywords: Psocids fauna, Western Provinces of Iran, *Liposcelis*.

Introduction

Psocoptera are found almost everywhere: Under the barks of trees, grasses and palms, in decayed organic matter, in ground litter, under stones, nests of birds and mammals (BROADHEAD & RICHARDS 1980, 1982, LIENHARD & MIFSUD 2015) raw material stores, manufacturing factories, and also museum (CHIN et al. 2010).

The Psocids fauna of several countries in the world was already overview in the recent years (YOSHIZAWA & LIENHARD 2010, CHIN et al. 2010, LIU et al. 2014, LIENHARD & MIFSUD 2015). Iranian Psocids fauna is still poorly studied and at the initiation of this study, 15 species of Psocoptera are known from Iran (NIKPAY 2016, AGHADOKHT et al. 2015, GOL et al. 2015, KHANDEHROO et al. 2014, 2015, JARAYANI et al. 2014, AHADYAT & ZANGENEH 2007, JALALIZAND et al. 2005). With these new records, the number of Psocids species known from Iran increases to a total of 20. So there is a certain probability that the future research increase the record species new for this country or even species new to science.

Material and methods

This study was carried out during 2012-2015 in 10 county of Kermanshah province along with the Marivan (Kordestan Province) and Malayer (Hamedan province) counties. The specimens were collected from a total of 15 sites ranging in elevation 1039 m a.s.l. to 2302 m a.s.l. from the dead and dying leaves of different trees (Oak, Pine,

Cherry, Walnut), grasses and under stones. The Psocids species were collected directly with entomological aspirators, hand or extracted by Berlese funnel. In total 50 specimens were available for study. Most of these were dissected in 75 % ethyl alcohol and identified by Prof. Charles Lienhard Natural, History Museum, Geneva, Switzerland. Most of the material mentioned below is deposited in the Psocoptera collection, Natural History Museum, Geneva, Switzerland but a small reference collection of some of the species mentioned is deposited at the department of Entomology, Islamic Azad University, Kermanshah, Iran.

Results and Discussion

Totally, 8 species of the *Liposcelis* have been found by this research. The Psocids species marked with star (*) are recorded for the first time for the fauna of Iran, while *Liposcelis corrodens* (HEYMONS, 1909), *Liposcelis decolor* (PEARMAN, 1925) and *Liposcelis keleri* GÜNTHER, 1974 are a first report for the Western Provinces of Iran.

Liposcelis edaphica Lienhard, 1990*

Material examined: one specimen (♀), collected in the litter around oak trees (*Quercus infectoria*) from Sare pol-e- Zahab County, Patagh village (N 34°24 E 046°00, elev. 1451) in Kermanshah Province, Iran, September 2013. Leg. M. Kahrarian.

General distribution: in Europe and Asia Countries such as Greece and China (YOSHIZAWA & LIENHARD 2010). It is the first record of this species in Iran.

Liposcelis priesneri Enderlein, 1925*

Material examined: One specimen (♀), collected in the litter around Walnut trees (*Juglans regia* L.) from Sahneh County, Derekeh village (N 34°27 E 047°40, elev. 1911) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian.

General distribution: Albania, Cyprus, Greece, Italy, former Yugoslavia (YOSHIZAWA & LIENHARD 2010). It is the first record of this species in Iran.

Liposcelis silvarum (Kolbe, 1888)*

Material examined: One specimen (♀), collected in the litter around oak trees (*Q. infectoria*) from Marivan county (N 35°30 E 046°25, elev. 1320) in Kordestan Province, Iran, April 2016. Leg. M. Kahrarian.

General distribution: cosmopolitan, in Germany, Austria, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Hungary, Italy, Luxembourg, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, former USSR, former Yugoslavia, Armenia, Mongolia, Morocco, Canary Islands, USA (YOSHIZAWA & LIENHARD 2010). It is the first record of this species in Iran.

Liposcelis sp. of group A*

Material examined: Two specimens (♀), collected in the litter around Pine trees (*P. eldarica*) from Kermanshah city (N 34°20 E 047°06, elev. 1337) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian; One specimen (♀), collected in the litter around oak trees (*Q. infectoria*) and under stones from Dalaho County (N 35°52 E 043°06, elev. 1667) in Kermanshah Province, Iran, January, 2014. Leg. M. Kahrarian.

Liposcelis sp. of group *D**

Two specimens (♀), collected in the litter around Pine trees (*P. eldarica*) from Kermanshah city (N 34°20 E 047°06, elev. 1337) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian.

Liposcelis corrodens (Heymons, 1909)

Material examined: Four specimens (♀), collected in the litter around Walnut trees (*J. regia* L.) from Malayer county/ Choghazard village (N 34°19 E 048°51, elev. 1780) in Hamedan Province, Iran, May 2014. Leg. M. Kahrarian; One specimens (♀), collected in the litter around Elm trees (*Ulmus densa* Litv.) from Harasam County (N 33°51 E 046°50, elev. 2302) in Kermanshah Province, Iran, March, 2014. Leg. M. Kahrarian; Two specimens (♀), collected in nests of birds in the Cave, from Sahneh County (N 34°26 E 047°10, elev. 1808) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian; Two specimen (♀), collected in the litter around oak trees (*Q. infectoria*) and under stones from Dalaho County (N 35°52 E 043°06, elev. 1667) in Kermanshah Province, Iran, January, 2014. Leg. M. Kahrarian.

General distribution: Nearly cosmopolitan, often domestic, In Many countries such as Germany (YOSHIZAWA & LIENHARD 2010). In Iran this species is reported by JALALIZAND et al. 2005.

Liposcelis decolor (Pearman, 1925)

Material examined: Five specimens (♀), collected in the litter around Cherry trees (*Prunus avium* L.) from Sahneh County, (N 34°28 E 047°40, elev. 1366) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian; One specimen (♀), collected in the litter around Walnut trees (*J. regia* L.) from Paveh county (N 35°01 E 046°22, elev. 1554) in Kermanshah Province, Iran, October 2013. Leg. M. Kahrarian; Three specimens (♀), collected in Grassland from Eslamabad-e-Gharb County, Siakhor village (N 34°07 E 046°36, elev. 1442) in Kermanshah Province, Iran, July 2013. Leg. M. Kahrarian; Two specimens (♀), collected in the soil around straw from Kangavar County, Ghoreh jil village (N 34°28 E 047°55, elev. 1503) in Kermanshah Province, Iran, December 2012. Leg. M. Kahrarian; One specimen (♀), collected in the litter around Walnut trees (*J. regia* L.) from Sare pol-e- Zahab County, Gerdehno village (N 34°43 E 045°48, elev. 1039) in Kermanshah Province, Iran, May 2012. Leg. M. Kahrarian; One specimen (♀), collected in the Grassland from Javanrood County, Kani Gohar village (N 34°46 E 046°25, elev. 1330) in Kermanshah Province, Iran, May 2012. Leg. M. Kahrarian; One specimens (♀), collected in the litter around Pine trees (*P. eldarica*) from Kermanshah city (N 34°20 E 047°06, elev. 1337) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian.

General distribution: In some European Countries such as UK, Germany and France. In Iran this species is reported by JALALIZAND et al. 2005.

Liposcelis keleri Günther, 1974

Material examined: Two specimens (♀), collected in the litter around Walnut trees (*J. regia* L.) from Paveh county (N 35°01 E 046°22, elev. 1554) in Kermanshah Province, Iran, October 2013. Leg. M. Kahrarian; One specimens (♀), collected in the litter around Pine trees (*P. eldarica*) from Kermanshah city (N 34°20 E 047°06, elev. 1337) in Kermanshah Province, Iran, April 2014. Leg. M. Kahrarian; Two specimens (♀), collected in the litter around oak trees (*Q. infectoria*) from Kermanshah city, Sanbali village (N 34°25 E 047°17, elev. 1917) in Kermanshah Province, Iran, April, 2016. Leg. M. Kahrarian.

General distribution: In Many countries such as Germany, Austria, Cyprus, France, Greece, Hungary, Italy, Morocco, Spain, Sweden, Switzerland, former Yugoslavia (YOSHIZAWA & LIENHARD 2010). In Iran this species is reported by AHADIYAT (2004) and JALALIZAND et al. 2005.

Acknowledgment

Thanks should be given to Dr. Charles Lienhard (Natural History Museum of the City of Geneva, Geneva, Switzerland) for their complete cooperation and identification of these psocids. Also I wish to thank from The Islamic Azad University for supporting projects. This research was supported by Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.

References

- AGHADOKHT, P., FEKRAT, L., & SADEGHI, H. 2015: First report of *Graphopsocus cruciatus* (Linnaeus) and *Ectopsocopsis cryptomeriae* (Enderlein) (Psocoptera: Psocomorpha: Stenopsocidae and Ectopsocidae) from Iran. - *Entomofauna* 36: 217-220.
- AHADIYAT, A. 2004: A new record of psocids (Psocoptera) for the insect fauna of Iran. Proceeding of the 16th Iranian Plant Protection Congress 2004; 28 August -1 September 2014; vol. 1: Pests. Iran University of Tabriz, p. 95.
- AHADIYAT, A. & ZANGENEH, A. M. 2007: First report of *Ectopsocus briggsi* and *Trichopsocus Dalii* (Psocoptera: Psocomorpha: Ectopsocidae and Trichopsocidae) from Iran. - *Florida Entomologist* 90: 790-791.
- BROADHEAD, E., RICHARDS, A. M. 1980: The Peripsocidae and Psocidae (Psocoptera) of East Africa. - *Systematic Entomology* 5: 357-397.
- CHIN, H. C., JEFFERY, J., AAMAD, N. W., KIANG, H. S., OMAR, B., OTHMAN, H., & LIM, L. H. 2010: First Report of *Liposcelis bostrychophila* Badonnel (Psocoptera: Liposcelidae) as a Museum Insect Pest in Malaysia. - *Sains Malays* 39(2): 329-331.
- GOL, A., KHANDEHROO, F., SADEGHI, H., & MORAVVEJ, G. 2015: First report of *Lachesilla quercus* Kolbe, 1880 (Psocoptera: Psocomorpha: Lachesillidae) from Iran. - *Entomofauna* 22: 273-284.
- JALALIZAND, A. R., HATAMI, B., KHAJEHALI, J., & OSTOVAN, H. 2005: Report of four psocid species for fauna of Iran. - *Journal of Entomological Society of Iran* 25: 61-62.
- JARAYANI, R., TALEBI, A., SEDARATIAN, A., & MOCKFORD, E. 2014: *Liposcelis Paeta* (Psocoptera: Liposcelidae), A new record from Iran. - *Journal of Entomological Society of Iran* 34: 95-96.
- KHANDEHROO, F., MORAVVEJ, G., SADEGHI, H. & FEKRAT, L. 2014: A new species of the family Mesopsocidae (Insecta: Psocoptera) on ash trees from Iran. - *Journal of Entomological Society of Iran* 34: 69-70.
- KHANDEHROO, F., MORAVVEJ, G., SADEGHI, H. & FEKRAT, L. 2015: First report of *Lepinotus reticulatus* and *Ectopsocus vishnyakovae* (Insecta: Psocoptera) from Iran. - *Journal of Entomological Society of Iran* 35 (1): 73-74.
- LIENHARD, C., & MIFSUD, D. 2015: Psocids from Malta (Insecta: Psocodea: 'Psocoptera'), with new synonymy for *Peripsocus stagnivagus* based on the discovery of its first Palaearctic male. - *Zootaxa* 3936: 251-260.
- LIU, L., LI, F., & LIU, Z. 2014: A new species of *Symbiopsocus* Li (Psocodea: "Psocoptera": Psocidae) from Taiwan, China, with a revised checklist and key to species. - *Zootaxa* 3774 (3): 289-294.
- NIKPAY, A. 2016: First report of occurrence of Psocoptera (Trogium) apterum on sugarcane from Iran. - *Sugar Tech.* (In Press)
- YOSHIZAWA, K., & LIENHARD, C. 2010: In search of the sister group of the true lice: A systematic review of booklice and their relatives, with an updated checklist of Liposcelidae (Insecta: Psocodea). - *Arthropod Systematics & Phylogeny* 68(2): 181-195.