

# The checklist of Poduromorpha (Collembola) from the Kermanshah Province (Iran)

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KAHRARIAN, M.: *The checklist of Poduromorpha (Collembola) from the Kermanshah Province (Iran)*.

**Abstract:** The checklist of Poduromorpha from the Kermanshah Province including 35 species is presented. The list is based on literature sources and personal collecting.

**Keywords:** Collembola, Species list, Kermansha, West part

## Introduction

Relatively little information of Collembola (especially Poduromorpha and Symphyleona) is available from Iran. However the Collembola fauna of some part of Iran was overview in the recent years (SHAYANMEHR et al. 2013, FALAHATI-HOSSEINABAD et al. 2013, DAGHIGHI et al. 2013). Most of this information is associated with the northern and central parts of Iran, while the parts of West and East of Iran are poorly studied.

Kermanshah Province is located in the west of Iran. It has a moderate and mountainous climate and the elevation average of about 1350 meters above sea level. It rains most in the winter and is moderately warm in summer. The annual rainfall is 500 mm. The average temperature in the hottest months is above 22°C.

The records on Collembola from the Kermanshah Province started about 5 years ago with the first one genera included by KAHRARIAN et al. (2011) in "The first report of genus of Entomobryidae (Hexapoda: Collembola) from Iran". Shortly the primarily comprehensive study on Kermanshah springtails has been published by KAHRARIAN et al. (2012). They reported 6 families, 15 genera and 9 species which only 3 genera of them belonged to Poduromorpha. To that time, some researchers has been reported on different taxa of Poduromorpha (GHARAMANINEZHAD et al. 2013, KAHRARIAN et al. 2013, KAHRARIAN et al. 2014, SMOLIS et al. 2016) which among them, 4 species were new to science. Some data on the Poduromorpha fauna of Kermanshah is also contained in taxonomic and faunistic descriptions such as (SHAYANMEHR et al. 2013, YOSEFI-LAFOORAKI & SHAYANMEHR 2014) but until now, the faunistic data on Poduromorpha from the West part of Iran have not been summarised in the form of a comprehensive checklist. In this study, a checklist of the Poduromorpha fauna of Kermanshah based on the published data was compiled.

## Material and methods

The checklist is based on the published information thus being open to be completed by further new species records for Kermanshah and other Province in the west part of Iran. Most cited species were reported just by the author and have not been rerecorded by other.

## Results and Discussion

Totally, 35 species (four of them are unidentified) belonging to 16 genera and 6 families have so far been found in Kermanshah.

**Table 1: Checklist of Poduromorpha species from Kermansha Province (Iran)**

Taxonomy Family/ subfamily/genus/ species	References	Habitat
Family <b>Hypogastruridae</b>		
Genus <b>Ceratophysella</b> Brner, 1932		
<i>Ceratophysella armata</i> (Nicolet, 1841)	Kahrarian 2015	Soil & Leaf litter (Oak jungle)
<i>Ceratophysella denticulate</i> (Bagnall, 1941)	Ghahramaninezhad et al. 2012	Soil & Leaf litter
<i>Ceratophysella stercoraria</i> Stach, 1963	Kahrarian et al. 2012	Soil & Leaf litter (Pine, Oak jungle)
Genus <b>Hypogastrura</b> Bourlet, 1839		
<i>Hypogastrura manubrialis</i> (Tullberg, 1869)	Kahrarian 2015	Soil & Leaf litter (Oak jungle)
<i>Hypogastrura martiani</i> Skarżyński & Kaprus, 2009	Kahrarian et al. 2013	Soil & Leaf litter (Oak jungle)
<i>Hypogastrura purpurescens</i> (Lubbock, 1867)	Kahrarian et al. 2013	Soil & Leaf litter (Oak jungle)
<i>Hypogastrura persica</i> Kahrarian, Vafaei-Shoushtari, Skarżyński & Konikiewicz, 2013	Kahrarian et al. 2013	Soil & Leaf litter (Oak jungle)
<i>Hypogastrura socialis</i> (Uzel, 1891)	Kahrarian et al. 2013	
Genus <b>Willemia</b> Brner, 1901		
<i>Willemia buddenbrocki</i> Huther, 1959	Kahrarian, 2014	Soil & Leaf litter (Oak jungle)
<i>Willemia scandinavica</i> Stach, 1949	Kahrarian, 2014	Soil & Leaf litter (Oak jungle)
Family <b>Neanuridae</b>		
Genus <b>Endonura</b> Cassagnau 1979		
<i>Endonura dichæta</i> Smolis, Kahrarian & Skarżyński, 2016	Smolis et al. 2016a	Soil & Leaf litter (Oak jungle)
<i>Endonura ceratolabralis</i> Smolis, Kahrarian & Skarżyński, 2016	Smolis et al. 2016a	Soil & Leaf litter (Oak jungle)
<i>Endonura persica</i> Smolis, Kahrarian & Skarżyński, 2016	Smolis et al. 2016a	litter in willow shrubs

Genus <i>Protanura</i> Börner, 1906		
<i>Protanura papillata</i> Cassagnau & Delamare Deboutteville, 1955	Smolis et al. 2016b	Soil & Leaf litter (Oak jungle)
<i>Axenylloides bayeri</i> Kseneman, 1935	Kahrarian, 2014	Soil & Leaf litter (Elm trees)
<i>Axenylloides monoculatus</i> Jordana & Ardanaz, 1981	Kahrarian, 2014	Soil & Leaf litter (Oak & Elm trees)
<i>Heteraphorura cf. japonica</i> (Yosii, 1967)	Kahrarian 2015	Soil & Leaf litter (Oak trees)
Genus <i>Orthonychiurus</i> Stach, 1954		
<i>Orthonychiurus folsomi</i> (Schäffer, 1900)	Kahrarian et al. 2016	Soil & Leaf litter (Oak trees)
<i>Orthonychiurus stachianus</i> (Bagnall, 1939)	Kahrarian 2015	Soil & Leaf litter (Oak trees)
Genus <i>Protaphorura</i> Absolon, 1901		
<i>Protaphorura cancellata</i> (Gisin, 1956)	Kahrarian et al. 2016	Soil & Leaf litter (Oak trees)
<i>Protaphorura levantina</i> (Christiansen, 1956)	Kahrarian et al. 2016	Soil & Leaf litter (Oak trees)
<i>Protaphorura sakatoi</i> (Yosii, 1966)	Kahrarian 2015	Soil & Leaf litter (Oak trees)
Genus <i>Spinonychiurus</i> Weiner 1996		
<i>Spinonychiurus tianshanicus</i> Weiner 1996	Kahrarian 2015	Soil & Leaf litter (Oak trees)
Genus <i>Thalassaphorura</i> Bagnall, 1949		
<i>Thalassaphorura zchokkei</i> (Handschin, 1919)	Kahrarian 2015	Soil & Leaf litter (Oak trees)
Genus <i>Vibronychiurus</i> Pomorski, 1998		
<i>Vibronychiurus archivari</i> (Christiansen, 1956)	Kahrarian et al. 2016	
Family <b>Tullbergiidae</b>		
Genus: <i>Metaphorura</i> Stach, 1954		
<i>Metaphorura affinis</i> (Stach, 1954)	Kahrarian et al. 2014 Ghahramaninezhad et al. 2012	Soil & Leaf litter (Oak trees), Grassland
<i>Metaphorura denisi</i> (Bagnall, 1935)	Kahrarian et al. 2014	Soil & Leaf litter (Oak trees), Grassland
Genus <i>Mesaphorura</i> Brner, 1901		
<i>Mesaphorura macrochaeta</i> (Rusek, 1976)	Kahrarian et al. 2014	Soil & Leaf litter (Oak trees), Grassland
<i>Mesaphorura italica</i> (Thibaud, 1996)	Kahrarian et al. 2014	Soil & Leaf litter (Oak trees), Grassland
<i>Mesaphorura hylophila</i> (Rusek, 1982)	Kahrarian et al. 2014	Soil & Leaf litter (Oak trees), Grassland
Genus <i>Fissuraphorura</i> (Rusek, 1991)		
<i>Fissuraphorura duplex</i> (Lucianez & Simon, 1992)	Kahrarian et al. 2014	Soil & Leaf litter (Oak trees), Grassland

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## References

- DAGHIGHI, E., HAJZADEH, J., HOSSEINI, R. & MORAVVEJ, A. 2013: A checklist of Iranian Collembola with six new records from family Isotomidae (Collembola: Isotomidae). - *Entomofauna*: 2: 149-156.
- FALAHATI-HOSSEINABAD, A., SHAYANMEHR, M. & KHYROODIN, A. 2013: A checklist of Iranian Collembola (Insecta: Apterygota). - *Munis Entomology and Zoology* 8: 257-261.
- GHARAMANINEZHAD, S., SHAYANMEHR, M. & YOOSEFI, E. 2013: New record of Collembola from Kermanshah (Iran). - *Journal of Plant Protection* 27(1): 136-138. (In Persian).
- KAHRARIAN, M. 2014: New records of Poduromorpha for the Iranian springtail fauna (Collembola). - *Natura Somogyiensis* 25: 21-26.
- KAHRARIAN, M., SHAOBO, J., NIKPAY, A., MOHAMMADI-NOOR, L., YAN, Z. & YUPING, Z. 2011: The first report of genus of Entomobryidae (Hexapoda: Collembola) from Iran. - *Global Conference on Entomology, March 2012, Chiang Mai, Thailand*, 1: 267-267.
- KAHRARIAN, M., NIKPAY, A. & MOHAMMADI-NOOR, L. 2012: Preliminary checklist of the Collembolan fauna in Kermanshah, Sahneh and Harsin counties (Kermanshah: Iran) with two new records for Iranian fauna. - *Pakistan Entomologist* 34(1): 27-30.
- KAHRARIAN, M., VAFAEI-SHOUSHTARI, M., SOLEYMANNEZHADIAN, E., SHAYANMEHR, M & SHAMS, B. 2014: Tullbergiidae fauna (Collembola) in Kermanshah province (Iran) with addition of new records. - *Natura Somogyiensis* 25: 15-20.
- SHAYANMEHR, M., YAHYAPOUR, E., KAHRARIAN, M. & YOOSEFI-LAFOORAKI, E. 2013: An introduction to Iranian Collembola (Hexapoda): an update to species list. - *ZooKeys* 335: 69-83.
- SMOLIS, A., KAHRARIAN, M., PIWNIK, A. & SKARZYNSKI, D. 2016a: Endonura Cassagnau (Collembola, Neanuridae, Neanurinae) in Iran, with a key to species of the genus (Collembola, Neanuridae, Neanurinae). - *ZooKeys* 553: 53-71.
- SMOLIS, A., SKARZYNSKI, D. KAHRARIAN, M. & KAPRUS, I. J. 2016b: Redescription of *Protanura papillata* Cassagnau & Delamare Debutteville, 1955 (Collembola, Neanuridae, Neanurinae), with new records from Middle East, and with supplemented diagnosis and key to the genus. - *Zootaxa*, Vol 4092, No 2: 293-300.