

Article

## ***Cheylostigmaeus mahvashae* sp. nov., a new species of the family Stigmaeidae (Acari) from Kermanshah Province, Iran**

MOHAMMAD KHANJANI\*<sup>1</sup> AMIN FIROOZFAR<sup>1</sup> & ALINAGHI MIRMOAYEDI<sup>2</sup>

*Department of Plant Protection, College of Agriculture, Bu-Ali Sina University, Hamedan, Iran. E-mail: mkhanjani@gmail.com*

*Department of Plant Protection, College of Agriculture, Razi University, Kermanshah, Iran. E-mail: alimirmoayedi@gmail.com*

\*Corresponding author

### **Abstract**

A new species *Cheylostigmaeus mahvashae* sp. nov. is described and figured based on males collected from soil under walnut and apricot trees, from Rijab valley, Sarpolzahab, Kermanshah Province, Iran.

**Key words:** Biological control, soil habitats, walnut, apricot

### **Introduction**

The family Stigmaeidae contains 32 genera. Most of them feed on spider mites, scale insects, especially their eggs and also small arthropods but cannot make essential control on them and also some feed on lichen and moss (Santos & Laing 1985; Akyol & Koç 2010), and they are found in different ecosystems. Some members are active on the aerial parts of plants but mostly in the soils habitats. Some species have potential for biological control of plant pests. The genus *Cheylostigmaeus* contains up to present 28 species and of which four species were recorded from Iran namely: *Cheylostigmaeus iranensis* Khanjani & Ueckermann, 2002, *C. ferdowsii* Khanjani *et al.* 2010; *C. hassanpouri* Bagheri *et al.* 2011 and *C. gharakhani* Navai-Bonab *et al.* 2011. In this paper the fifth species *C. mahvashae* sp. nov. was collected from the soil under canopy of walnut and apricot trees in Kermanshah Province, Iran.

### **Materials and methods**

Mite specimens of the new species were taken from soil under canopy of walnut and apricot trees and transferred to Acarological laboratory of Bu-Ali Sina University for processing. The extracted mites were mounted in Hoyer's medium (Walter & Krantz 2009) and were examined under a 1000X magnification of an Olympus BX<sub>50</sub> phase contrast microscope. All drawings were prepared with a camera Lucida. Body length was measured from base of gnathosoma to end of idiosoma and width at level of seta *c*<sub>2</sub>. Lengths of setae were measured from the setal base to the tip of the seta; distances between setae were measured between setal bases, leg measurements are from coxa to pretarsus. The terminology and setal notations used in the description of the new species follow that of Kethley (1990). All measurements are given in micrometers (µm) with that of the paratypes in brackets.

## References

- Akyol, M. & Koç, K. (2010) Contributions to the raphignathoid fauna of Turkey, with a description of a new species of *Cryptognathus* Kramer (Acari: Actinedida: Raphignathoidea). *Turkish Journal of Zoology*, 34, 159–167.
- Bagheri, M. & Ueckermann, E. A. (2011) *Cheyllostigmaeus hassanpouri* n. sp., a new species of the genus *Cheyllostigmaeus* Willmann, 1951 (Acari: Trombidiformes: Stigmaeidae) from northwest Iran. *Acarologia*, 51(3), 347–357.  
<http://dx.doi.org/10.1051/acarologia/20112018>
- Kethley, J. (1990) Acarina: Prostigmata (Actinedida). In: Dindal DL, (ed.), *Soil Biology Guide*. New York (NY): Wiley, pp. 667–756.
- Khanjani, M., Raisii, H., Izadi, H. & Ueckermann, E.A. (2010) A new species of the genus *Cheyllostigmaeus* Willmann (Acari: Stigmaeidae) from Eastern Iran. *International Journal of Acarology*, 36(1), 7–13.  
<http://dx.doi.org/10.1080/01647950903473323>
- Khanjani, M. & Ueckermann, E.A. (2002) The stigmaeid mites of Iran (Acari: Stigmaeidae). *International Journal of Acarology*, 28(4), 317–339.  
<http://dx.doi.org/10.1080/01647950208684309>
- Koç, K. (2005) A new species of the genus *Cheyllostigmaeus* (Acari: Stigmaeidae) from Turkey *Biologia, Section Zoology*, 60(5), 483–487.
- Navaei-Bonab, R., Bagheri, M., Ueckermann, E.A., Ghorbani, H., Mehvar, A. & Saber, M. (2011) *Cheyllostigmaeus gharakhani* n. sp. (Acari: Trombidiformes: Stigmaeidae) from northwest Iran. *Acarologia*, 16, 281–290.  
<http://dx.doi.org/10.1051/acarologia/20112018>
- Oudemans, A.C. (1931) Acarologische Aanteekeningen. LXX. *Entomologische Berichten (Amsterdam)*, 7 (158), 251–263.
- Santos, M.A. & Laing, J.E. (1985) Other predaceous mites and spiders 2.2. 1 Stigmaeid Predators, pp 197–203. In: Helle, W. & Sabelis, M.W. (eds.), *Spider mites their biology natural enemies and Control*. World Crop Pests LB, Elsevier, Amsterdam, The Netherlands, 458 pp.
- Summers, F.M. & Ehara, S. (1965) Re-evaluation of the taxonomic characters in four species of the genus *Cheyllostigmaeus* Willmann (Acarina: Stigmaeidae), *Acarologia*, 7, 49–62.
- Walter, D.E. & Krantz, G.W. (2009) Collection, rearing and preparing specimens. In: Krantz, G.W. & Walter, D.W. (eds.), *A Manual of Acarology*, 3<sup>rd</sup> edition. Lubbock, Texas Technology University press, pp. 83–96.
- Willmann, C. (1951a) Untersuchungen über die terrestrische Milbenfauna im pannonischen klimagebiet osterreiches. *Klimagebiet Österreichs. Sitzungsberichter der Preussischen Akademie der Wissenschaften, Physikalisch-Mathematische Klasse Abt.*, I 160 (1–2), 136–141.
- Willmann, C. (1951b) Die hochalpine Milbenfauna der mittlern Hohen Tauern ins besondere der Grossglockner-Gebietes (Acari). *Bonner Zoologische Beiträge*, 2, 141–176.
- Wood, T.G. (1974) Redescription of *Cheyllostigmaeus longisetosus* Willmann (Acari: Stigmaeidae). *Acarologia*, 16 (1), 62–67.

Accepted by Qing-Hai Fan: 28 Sept. 2013; published 24 Dec. 2013