



## *Anomaloppia mazandaranica* (Acari: Oribatida: Oppiidae) n. sp. from Iran

MOHAMMAD ALI AKRAMI<sup>1</sup> & LUIS S. SUBIAS<sup>2</sup>

<sup>1</sup>Department of Plant Protection, College of Agriculture, Shiraz University, Shiraz, Iran; E-mail: akrami@shirazu.ac.ir

<sup>2</sup>Departamento de Zoología, Facultad de Biología, Universidad Complutense, Ciudad Universitaria, 28040 Madrid, Spain; E-mail: subias@bio.ucm.es

### Abstract

A new species of oribatid mite of the family Oppiidae Sellnick, 1937, *Anomaloppia mazandaranica* sp. n., is described from Mazandaran province, Northern Iran. The new species is characterized by its long sensillus with a fusiform-clavate head and 6-7 long barbs; interlamellar seta as long as lamellar and rostral setae; notogastral setae finely barbed and seta *lm* as long as others; and a long solenidion on genu I.

**Key words:** Acari, Oribatida, Oppiidae, new species, Iran

### Introduction

The number of recorded oppiid mite species from Iran has risen in recent years, from 13 in 2001 (Kamali *et al.* 2001) to 51 in 2005 (H. Irani-Nejad *et al.* 2000, H. Irani-Nejad *et al.* 2003, Akrami & Subias, unpublished data), however there is little information on this family in Iran and only two new species of oppiid mites were hitherto described from Iran: *Ramusella abarkouhiensis* and *Anomaloppia iranica*, both described by Bayartogtokh & Akrami (2000). In this paper we describe the second Iranian species of the genus *Anomaloppia* Subias, 1978, namely *Anomaloppia mazandaranica* sp. n..

### *Anomaloppia mazandaranica* sp. n.

(Figs. 1-4)

#### Description

Measurements. Body length 275-310 µm, width 142-160 µm (n=9).

Prodorsum. Rostrum rounded at tip. Rostral setae (*ro*) situated close to each other, barbed. Lamellar (*le*) and interlamellar (*in*) setae thin, setiform, finely barbed and nearly as long as rostral setae. Lamellar line poorly developed, not reaching to the insertion of lamellar seta. Exobothridial setae (*ex*) moderately long and finely barbed. Sensillus (*ss*) long, fusiform-clavate; its head with 6 or 7 long barbs sparsely placed and with some short barbs on the stalk. Bothridia round with small opening. Three pairs of muscle sigillae situated between interlamellar setae, and several anterior to each bothridium.

Notogaster. Notogaster oval, broadly rounded anteriorly, but narrowed posteriorly. Ten pairs of notogastral setae, finely barbed; setae *lm* and *la* nearly situated in same level. Lyrifissures *ia*, *im* and latero-opisthosomal gland (*gla*) opening well developed.

Ventral region. Epimeral region with a few muscle sigillae. Apodemes *I, II, Sj* and *IV* well developed. Epimeral setae mostly short and smooth, only *3c* and *4c* distinctly barbed; epimeral setal formula (I-IV) 3-1-3-3. Discidium (*dis.*) well developed, acute. Genital plates with 5 pairs of setae, 3 on anterior half and 2 on posterior half, 1 pair of aggenital, 2 pairs of anal and 3 pairs of adanal setae. Ano-genital region smooth, with few small sigillae situated posterolaterad of each epimeral seta *4b*; *iad* fissures paraanal, adjacent to anal plates.

Legs. Formula of leg setation (trochanter to tarsus): I (1-5-2+1-4+2-20+2); IV (1-2-2-3+1-10). Structure and setation of legs I and IV as shown in Figures 3 and 4.

### Etymology

The specific name "*mazandaranica*" refers to the region of the type locality of this species, Mazandaran province, Northern Iran.

### Types

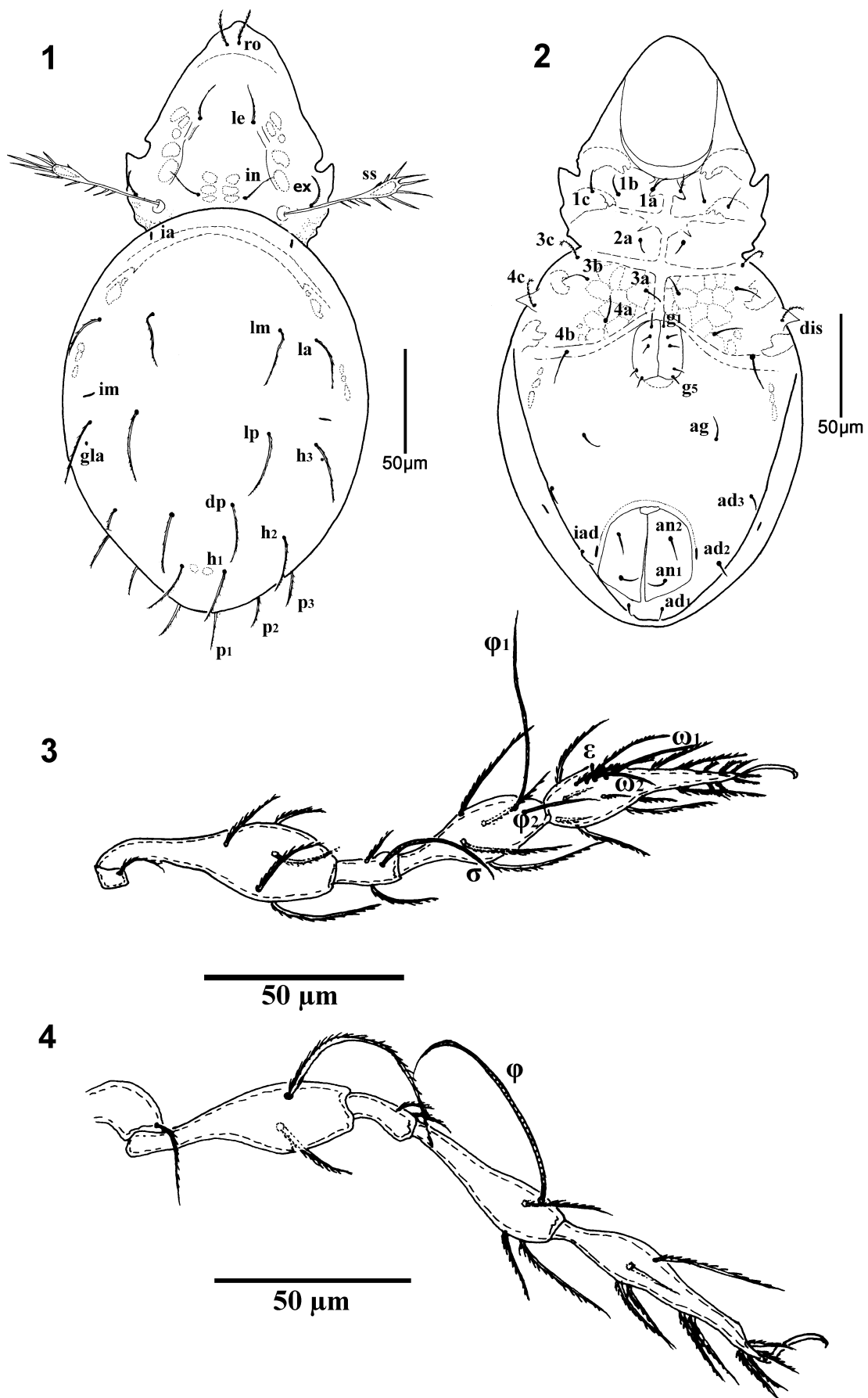
Holotype: Asram village, Soorak, Mazandaran province, Iran, soil, 36°61'N, 53°23'E, 28m above sea level, 3-VI-2004, M. A. Akrami leg. Eight paratypes: one from same sample as holotype, three from Nowshahr, Mazandaran province, Iran, soil, 36°7'N, 51°30'E, 19m above sea level, 28-IX-2000 and 17-VII-2003, M. A. Akrami leg., one from Kojoor road, Mazandaran province, Iran, soil, 36°2'N, 51°5'E, 1472m above sea level, 18-VII-2003, M. A. Akrami leg., 1 from Royan road to Firoozkola, Mazandaran province, Iran, soil, 36°30'N, 51°5'E, 1630m above sea level, 10-IV-2004, M. A. Akrami leg., one from Chaloos road (185 km N from Tehran), Mazandaran province, Iran, soil, 36°30'N, 51°2'E, 21m under sea level, 10-IV-2004, M. A. Akrami leg., one from Babol road to Ghaemshahr (5 km SE from Babol), Mazandaran province, Iran, soil, 36°54'N, 52°67'E, 1m above sea level, 3-VI-2004, M. A. Akrami leg. The holotype and five paratypes are deposited in the Department of Plant Protection, Shiraz University, Iran and the rest are deposited in the Department of Plant Protection, Tehran University, Iran.

### Remarks

The genus *Anomaloppia* now includes nine species of semicosmopolitan distribution (Subias, 2004). Three of them have rostral setae straight, divergent and with their insertions close together: *Anomaloppia differens* Mahunka & Topercer, 1983 from centromeridional Europe, *Anomaloppia ozkani* Ayyildiz, 1989 from Turkey and *Anomaloppia iranica* Bayartogtokh & Akrami, 2000 from Iran. Though they resemble the new species, *A. ozkani* and *A. iranica* (which are very similar to each other) are distinguishable from *Anomaloppia mazandaranica* sp. n. by: 1) sensillus moderately long, more fusiform and with 11 or 12 barbs close to each other; 2) interlamellar seta shorter than lamellar seta and both smooth; 3) notogastral setae shorter and also smooth; 4) seta *lm* slightly shorter than others; 5) solenidion on genu I half as long as that in new species. *A. mazandaranica* sp. n. also resembles to *A. differens* because of the fine barbulation of notogastral setae, but differs from *A. differens* by its sensillus that is more clavate and its head with fewer barbs, longer and more sparsely placed.

### Acknowledgement

The senior author is grateful to Dr. A. Saboori, University of Tehran, Karaj, Iran, for his guidance. This study was partly supported by the project "Biodiversity of oribatid mites of Mazandaran province", funded by Tehran University.



**FIGURES 1-4:** *Anomaloppia mazandarunica* sp. n. **1**, Dorsal view; **2**, Ventral view; **3**, Leg I (left, antiaxial view), **4**, Leg IV. (right, antiaxial view)

## References

- Ayyildiz, N. (1989) Mites of the family Oppiidae (Acari: Oribatida) from Turkey. *Journal of Natural History*, 23, 1373-1379.
- Bayartogtokh, B. & Akrami, M.A. (2000) Oribatid mites (Acari: Oribatida) from Iran, with descriptions of two new species. *Journal of the Acarological Society of Japan*, 9, 129-145.
- Haddad Irani-Nejad, K., Kamali, K. & Maleki Milani, H. (2000) Some pycnonotic brachypylinae oribatid mites of cotton fields in Moghan plain. *Iranian Journal of Agricultural Science*, 31, 737-751 (in Persian).
- Haddad Irani-Nejad, K., Hajiqaanbar, H.R. & Talebi Chaichi, P. (2003) Oribatid mites of the sugarbeet fields in Miandoab plain. *Journal of Agricultural Science*, 14, 55-67 (in Persian).
- Kamali, K., Ostovan, H. & Atamehr, A. (2001) *A catalog of mites and ticks (Acari) of Iran*. Islamic Azad University Scientific Publication Center. 192 pp.
- Mahunka, S. & Topercer, E. (1983) Some new oribatids from Czechoslovakia (Acari). *Folia Entomologica Hungarica*, 44, 229-237.
- Subias, L.S. (2004). Listado sistematico, sinonimico y biogeografico de los acaros oribatidos (Acariformes, Oribatida) del mundo (1758-2002). *Graellsia*, 60 (num. extr.): 3-305.