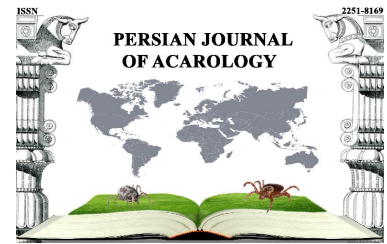




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## Correspondence

### First record of *Antennoseius pannonicus* Willmann (Mesostigmata: Ascidae) from Iran

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The family Ascidae includes more than 370 described species belonging to 17 genera (Moraes *et al.* 2016). Berlese (1916) established the genus *Antennoseius* and later a related genus, *Vitzthumia*, was erected by Thor (1930) as a monobasic genus to accommodate a new species, *V. oudemansi*, differentiated from the former by retaining the ambulacrum and claws on leg I. Ryke (1962) synonymized these genera and Bregetova (1977) recognized *Vitzthumia* as a subgenus of *Antennoseius s. str.* The relationship between the genus *Anystipalpus* and both subgenera of *Antennoseius* was reviewed by Lindquist and Moraza (2009). Moraes *et al.* (2016) reported 62 species under *Antennoseius* of which 37 species belong to *Antennoseius (Antennoseius)*, 19 species to *Antennoseius (Vitzthumia)*, and six species without subgenus placement. Currently, Kazemi (2018) determined *A. (A.) alexandrovi* Bregetova, 1977 and *A. (A.) arvensis* Kalúz, 1994 as junior synonyms of *A. (A.) avius* Karg, 1977 and also *A. (A.) japonicus* Ishikawa, 1979 and *A. (A.) sinicus* Guo & Gu, 1997 as junior synonyms of *A. (A.) hispaniensis* Bernhard, 1963. So, the current number of *Antennoseius* species should be 58. Until now, 14 species of *Antennoseius* have been reported from Iran, including 12 species of *Antennoseius s. str.* and two species of *A. (Vitzthumia)* (Kazemi and Rajaei 2013; Kazemi 2018).

In this research, one female specimen of *A. (A.) pannonicus* Willmann, 1951 was found from under elytra of an unknown species of *Harpalus* Latreille (Carabidae) collected in Naharkhoran Forest, Golestan Province, northern Iran. The mite was cleared in Nesbitt's solution and then mounted into Hoyer's medium on a microscope slide. This is the first record of this species for mite fauna of Iran.

#### *Antennoseius (Antennoseius) pannonicus* Willmann, 1951 (Fig. 1)

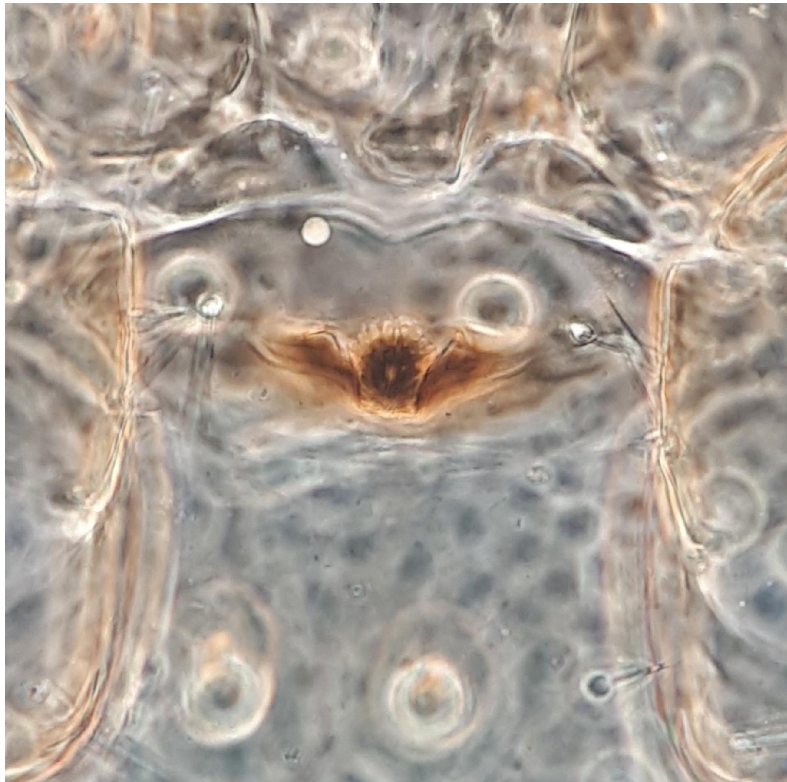
*Antennoseius pannonicus* Willmann, 1951: 109.

#### Diagnosis

Podonotal and opisthonotal shields with 19 and 15 pairs of setae, respectively; seta j1 simple,

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short; j2-j5 short, robust; other podonotal and opisthonotal setae needle-like, usually slightly thickened near the base, sometimes with short barbs. Sternal shield with two pairs of setae; with a prominent brownish crown-shaped sclerotized structure behind st1 level; setae st3 off sternal shield on soft cuticle. Anal shield pear-shaped. Peritremes reaching to anterior level of coxae I. Anterior margin of epistome with three short dentate projections. Deutosternal groove with seven multidentate rows. Coxal setae on legs I-IV simple.



**Figure 1.** *Antennoseius (A.) pannonicus* – Presternal platelets and anterior region of the sternal shield.

**Measurements of the Iranian specimen (in  $\mu\text{m}$ )** – Idiosoma 706 long, 345 wide at the level of setae j6. Podonotal and opisthonotal shields 359 and 288 long and 291 and 294 wide at the widest level, respectively. Sternal shield 150 long and 107 wide at st2 level. Genital shield 167 long and 82 wide at the level of st5. Anal shield 127 long and 91 wide at broadest level (length of the shields were measured from anterior to poster margins along the mid-line).

**Note** – Size of the collected specimen in this research is considerably larger than that of the original description [idiosoma length 540, width 285] and also re-description of the species by Faraji *et al.* (2017) [idiosoma length 565 (530–590)]. However, all diagnostic features of the Iranian specimen conform to those presented in the original description and re-description of the species.

**World distribution** – This species has been found in association with different species of carabid beetles, including *Amara consularis* (Duftschmid) from Eastern Ukrain (Trach 2013); *Calathus fuscipes* (Goeze) from France (Faraji *et al.* 2017); *Harpalus calceatus* (Duftschmid) from Eastern Ukrain and France (Trach 2013; Faraji *et al.* 2017); *Harpalus distinguendus* (Duftschmid) from France (Faraji *et al.* 2017); *Harpalus rufipes* (De Geer) from France (Faraji *et al.* 2017); *Nebria salina* Fairmair & Laboulbène from France (Faraji *et al.* 2017); *Ophonus diffinis* (Dejean) from Eastern Ukrain (Trach 2013); *Poecilus cupreus* (L.) from France (Faraji *et al.* 2017); *Pterostichus madidus* (Fabricius) from France (Faraji *et al.* 2017); *Pterostichus melanarius* (Illiger) from France (Faraji *et al.* 2017); *Scybalicus oblongiusculus* (Dejean) from France (Faraji *et al.* 2017) and *Harpalus* sp. in this paper. Also, the species has been collected in litter (Evans 1958) and

soil (Willmann 1951; Ryke 1962; Kontschán *et al.* 2016).

#### Material examined

One female removed from under elytra of *Harpalus* sp. collected in Naharkhoran Forest, Golestan Province (36° 76' 8" N, 54° 47' 53" E, alt. 623 m a.s.l.), 7 June 2017, F. Bahrami coll., deposited in Acarological Collection, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran.

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