

NEW REPORT OF SUBORDER SYMPHYPLEONA SPECIES (COLLEMBOLA) FROM KOHGILOYEH PROVINCE (IRAN)

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ABSTRACT: Six species of suborder Symphypleona are recorded from Kohgiluyeh province (South-Western Iran): *Dicyrtomina ornata* (Nicolet, 1842) (Dicyrtomidae), *Sminthurides aquaticus* (Bourlet, 1842) (Sminthuridae), *Sminthurinus signatus* (Krausbauer, 1898), *Sminthurinus transversalis* Axelson, 1905, *Sminthurinus reticulatus* Cassagnau, 1964, *Sminthurinus elegans* (Fitch, 1863) (Katiannidae). Apart from *Sminthurinus elegans*, all species are new for Iran.

KEY WORDS: Collembola, Symphypleona, Dicyrtomidae, Sminthuridae, Katiannidae, Iran.

Suborder of Symphypleona is one of the biggest groups of collembola species which are recognized by globular body and long antennae. Most species are Epedaphic and live in soil and leaf litter mostly. They feed on algae, lichens and plant derived tissues. Fauna of the family of some territories of Asia remains. However, poorly studied Iran, a big country with diverse nature conditions, was paid very little (if not the least) attention by collembologists. Cox (1982), was the first to publish the list of Collembola recorded in Iran, 70 species (with 7 of which belonging to the family Sminthuridae from the North-Western and Northern provinces of the country was recorded by him. Moravvej et al. (2003) reported 3 species of Sminthuridae family. Falahati Hossein Abad et al. (2012) reported 1 species of Katiannidae family and so far the fauna of the suborder of Symphypleona comprises 16 members.

The fauna of Iran is still poorly studied and no keys to species are available.

MATERIALS AND METHODS

Collection springtails:

Soil and leaf litter samples were collected mainly from Choram areas, during 2011 and 2012. All samples were retained in white plastic boxes and then were transferred to the Entomology Laboratory of Gorgan University of Agricultural Sciences and Natural Resources

Extracted Springtails:

The Collembola were extracted by our patent (Designing and manufacturing portable and rechargeable separator of terrestrial Arthropods of the soil) (Fig. 1). Afterwards transferred to small vials with camel hair brush, and were preserved in 75% alcohol for further study.

Preparation of slides:

Specimens were cleared in a Nesbitt solution and mounted on slides with Hoyer medium. Afterwards the slides were transferred to oven for 3-5 day. The slides were examined under Olympus BX51-TF microscope.

Identification:

The monograph of Fjellberg (2007) was primarily applied to identify the genera and species.

RESULTS

Six species of suborder Symphypleona belonging to three families Dicyrtomidae, Sminthurididae and Katiannidae comes from three genera *Dicyrtomina*, *Sminthurides* and *Sminthurinus* are discovered in our materials (Table 1). The region that collembola are collected (Fig. 2).

DISCUSSION

Five species, *Dicyrtomina ornata*, *Sminthurides aquaticus*, *Sminthurinus signatus*, *Sminthurinus transvernalis*, *Sminthurinus reticulatus* are new for Iranian fauna. *Sminthurinus elegans* was already recorded by (Cox, 1982; Falahati Hossein Abad et al., 2012; Moravvej et al., 2003).

Dicyrtomina ornata was recorded from Norway and Syria. General distribution: Palaearctic.

Sminthurides aquaticus is common and widely distributed in ponds and along shores of atrophic lakes. General distribution: Holarctic.

Sminthurinus signatus is mainly finds in moss and litter of the forest floor, and also in damp ground. Few records from other Nordic countries. General distribution: Palaearctic.

Sminthurinus transvernalis is common, no recent Nordic records. General distribution: Palaearctic.

Sminthurinus reticulatus (Fig. 3) specimens were swept from lush meadow vegetation in slopes surrounding the old greenhouse. General distribution: Palaearctic.

Sminthurinus elegans is one of the most populated species of collembola in Kohgiluyeh province. The color pattern distinguished this specie from others (Fig. 4). Probably widely distributed, but mostly scattered records from dry meadows and moss/litter in forests.

LITERATURE CITED

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Figure 1. Designing and manufacturing portable and rechargeable separator of terrestrial Arthropods of the soil.



Figure 2. Map of Iran showing the Province (*) from which Collembola have been collected.



Figure 3. *Sminthurinus reticulatus* (original).



Figure 4. *Sminthurinus elegans* (original).

Table 1. Recorded species of suborder Symphypleona.

Species	habitat	location	coordinate	Altitude (m)	date
<i>Dicyrtomina ornata</i> (Nicolet,1842)	Soil and Moss	Elghechin village	N 36 65 59 E 56 62 20	325	2011/9/29
<i>Sminthurides aquaticus</i> (Bourlet, 1842)	Soil	Forest-choram	N 36 57 50 E 57 23 30	645	2011/12/2
<i>Sminthurinus signatus</i> (Krausbauer, 1898)	Soil	Elghechin village	N 36 57 33 E 56 23 29	500	2012/1/14
<i>Sminthurinus transversalis</i> Axelson, 1905	Soil and Moss	Forest-Elghechin village	N 36 47 53 E 56 23 29	350	2011/12/18
<i>Sminthurinus reticulatus</i> Cassagnau, 1964	Soil and Moss	Vegetable-garden	N 36 49 33 E 57 35 59	412	2012/11/12
<i>Sminthurinus elegans</i> (Fitch, 1863)	Soil and Moss	Forest-Elghechin village	N 36 47 53 E 56 23 29	350	2011/12/18