

First report of *Odontothrips biuncus* John, 1921 (Thysanoptera: Thripidae) from Iran, with an updated key to *Odontothrips* species

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The genus *Odontothrips* was erected by Amyot & Serville in 1843. Karny (1907) designated *O. phaleratus* (Haliday) as the type species of the genus. In this genus, the structures of male genitalia are very important in the identification of species. Pitkin (1972) used the structures of male genitalia in the taxonomy of this genus for the first time. Species of *Odontothrips* are typical flower-living thrips, and most species are related to plants of the family Fabaceae. Furthermore, they are associated with other host plant families, such as Araliaceae, Asteraceae, Bignoniaceae, Caprifoliaceae, Convolvulaceae, Poaceae, Sapindaceae and Ulmaceae. Only *O. confusus* Priesner is an important pest (Pitkin, 1972) and other species cause slight damage to flowers.

This genus includes 35 species worldwide (ThripsWiki, 2020), of which six species have already been recorded from Iran (Table 1) (Mirab-balou *et al.*, 2013; Mirab-balou, 2018; Hakimara & Minaei, 2019). The objective of this paper is to record the species *O. biuncus* for the first time collected from Ilam Province, west of Iran. Moreover, a key is provided to the species in Iran. Full nomenclatural information on the genus *Odontothrips* is available on the web (ThripsWiki, <http://thrips.info/wiki/>).

The specimens were slide-mounted using the method of Mirab-balou and Chen (2010) and are deposited at the Collection of Department of Plant Protection, College of Agriculture, Ilam University, Iran (ILAMU).

Key to *Odontothrips* species from Iran

1. Fore tarsi and fore tibia without any teeth (Fig. 1, A); fore wings banded (Fig. 1, E) *iranensis*
- Fore tibia with one or two tubercles on distal inner margin; fore wings not banded 2
2. Distal fore tarsal segment with one or two small hooks or tubercles on inner margin 3
- Distal fore tarsal segment without small hooks or tubercles 5
3. Fore tibia without stout claws, but with one small claw (Fig. 1, B) *meliloti*
- Fore tibia with one or two stout claws at apex 4
4. Fore tibia with one stout claw (Fig. 1, C) *loti*
- Fore tibia with two stout claws *biuncus*
5. Fore wings distinctly shaded; fore tibiae with small teeth *confusus*
- Fore wings pale; fore tibiae apparently without teeth 6
6. Fore wings completely pale; antennal segments III-V as well as VIII yellow *moritzi*
- Fore wings pale except at the extreme apex; antennal segments brown except III which is yellow *phlomidinus*

TABLE 1. *Odontothrips* species recorded in Iran (Mirab-balou, 2018, Hakimara & Minaei, 2019).

Species names	Distribution in Iran	Distribution in the world
<i>O. confusus</i> Priesner	Fars, Kerman, Yazd, Golestan, Lorestan, Alborz, Hamedan, Kordestan, Qazvin, Zanja, Markazi, Azarbaijan-e-Gharbi, Khorasan-e-Shomali Khorasan-e-Razavi, Ilam	China, Hungary, Germany, Czechoslovakia
<i>O. iranensis</i> Mirab-balou et Chen	Hamedan	Iran
<i>O. meliloti</i> Priesner	Fars, Hamedan, Kermanshah, Kordestan, Qazvin, Zanja, Ilam	China, Czechoslovakia, Southern England, France, Germany, Hungary
<i>O. moritzi</i> Hakimara & Minaei	Fars	Iran
<i>O. loti</i> (Haliday)	Zanja, Ilam	China, Russia, North America, Europe, Japan
<i>O. phlomidinus</i> Priesner	Fars	Iran

***Odontothrips biuncus* John (NEW RECORD FOR IRAN)**

Odontothrips biuncus John, 1921: 7.

Syn.: *Taeniothrips konumensis* Ishida, 1931: 37.

Material examined - 1♀, 1♂, IRAN: Ilam Province, Strait of Razianeh (Darreh Shahr) (33°25'54" N, 46°49'09" E, 1100m alt.), on meadow grass, *Poa* sp. (Poaceae), 25.iii.2014, leg. M. Mirab-balou.

Diagnosis - Female macroptera (Fig. 2, A). Body dark brown, all tarsi pale yellow, fore tibia brownish yellow (Fig. 3, A), antennal segment III yellow, IV light brown (Fig. 3, D); fore wings brown with white transverse band sub-basally (Fig. 3, F). Head wider than long, ocellar setae pair III arising on or just outside anterior margins of ocellar triangle (Fig. 3, B); 5–6 pairs of postocular setae present. Pronotum with 2 pairs of long posteroangular setae and 4 pairs of posteromarginal setae; mesonotum with anteromarginal campaniform sensilla, median setae at posterior margin; metanotum with median setae long situated at anterior margin, campaniform sensilla present; mesofurca with spinula. Tarsi 2-segmented, distal fore tarsal segment with two small hooks or tubercles on inner margin, apex of fore tibiae with two stout claws near outer margin (Fig. 3, C). Fore wing upper vein with small gap sub-apically; second vein with complete row of setae (Fig. 3, F). Abdominal tergites II to VIII with sculpture between the median setae as well as laterally; VIII with posteromarginal comb broadly interrupted medially; sternites without discal setae, sternite II with two pairs of posteromarginal setae, III–VII with three pairs; median pair of marginal setae on sternite VII arise far in front of margin.

Male - Male smaller than female (Fig. 2, B), with a pair of small stout setae on tergite IX (Fig. 3, E); sternites without pore plates; genitalia with a single pair of stout endothecal spines.

Distribution - Iran (Ilam Province); Russia, China, Japan, Canada, Europe (Mirab-balou *et al.*, 2011).

Remarks - The male genitalia of *O. biuncus* is similar to *O. loti* but the species may be distinguished by the presence of two stout tibial claws (Pitkin, 1972).

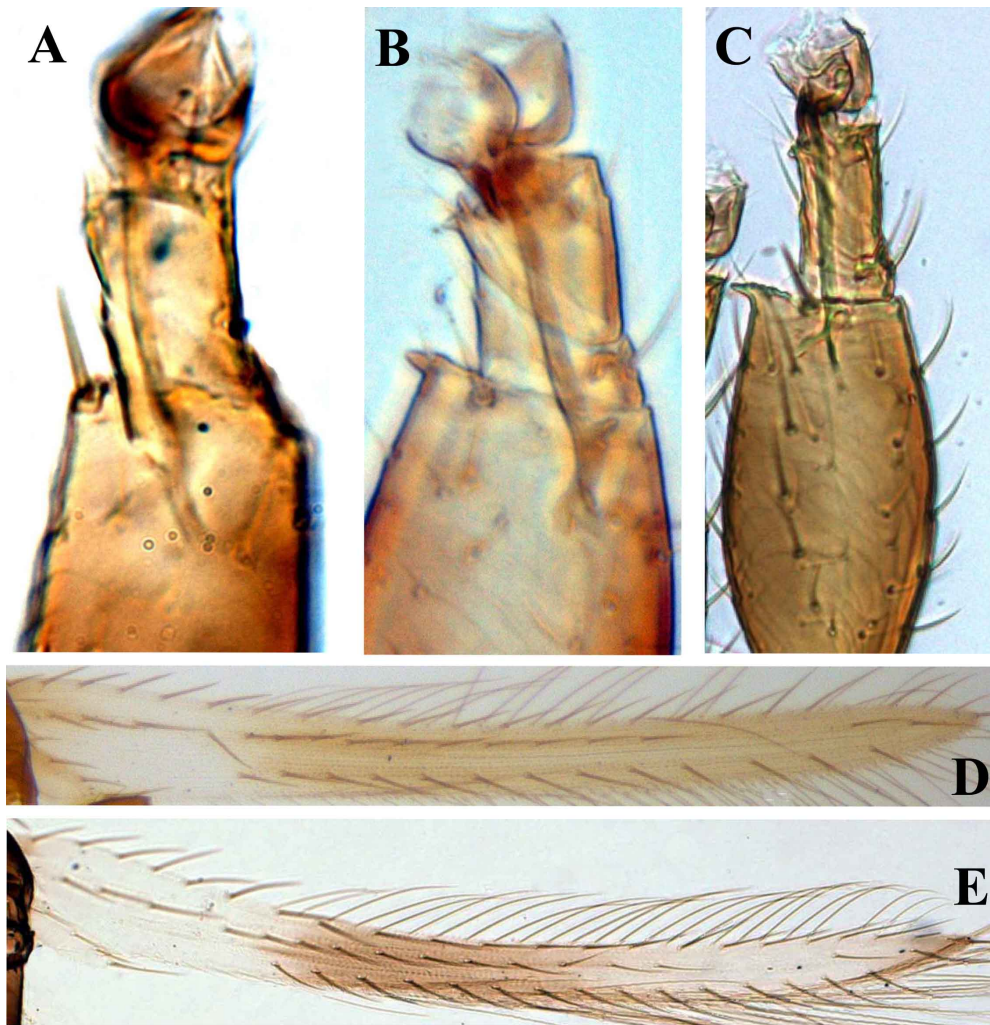


FIGURE 1. *Odontothrips* species (A–C, Fore leg): A. *O. iranensis*, B. *O. meliloti*, C. *O. loti*, (D–E, Fore wing): D. *O. confusus*, E. *O. iranensis*.

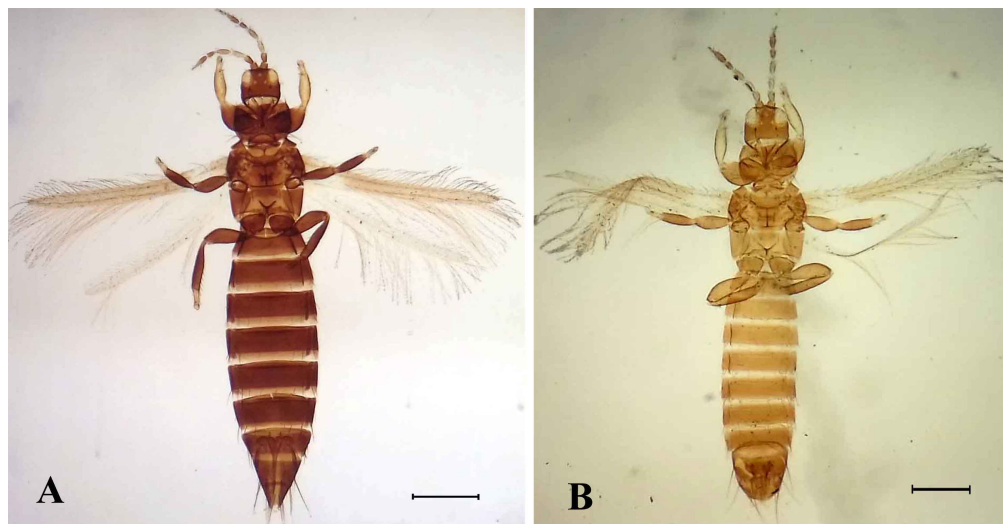


FIGURE 2. *Odontothrips biuncus*: A. female, B. male. (Scale ber = 200 microns).

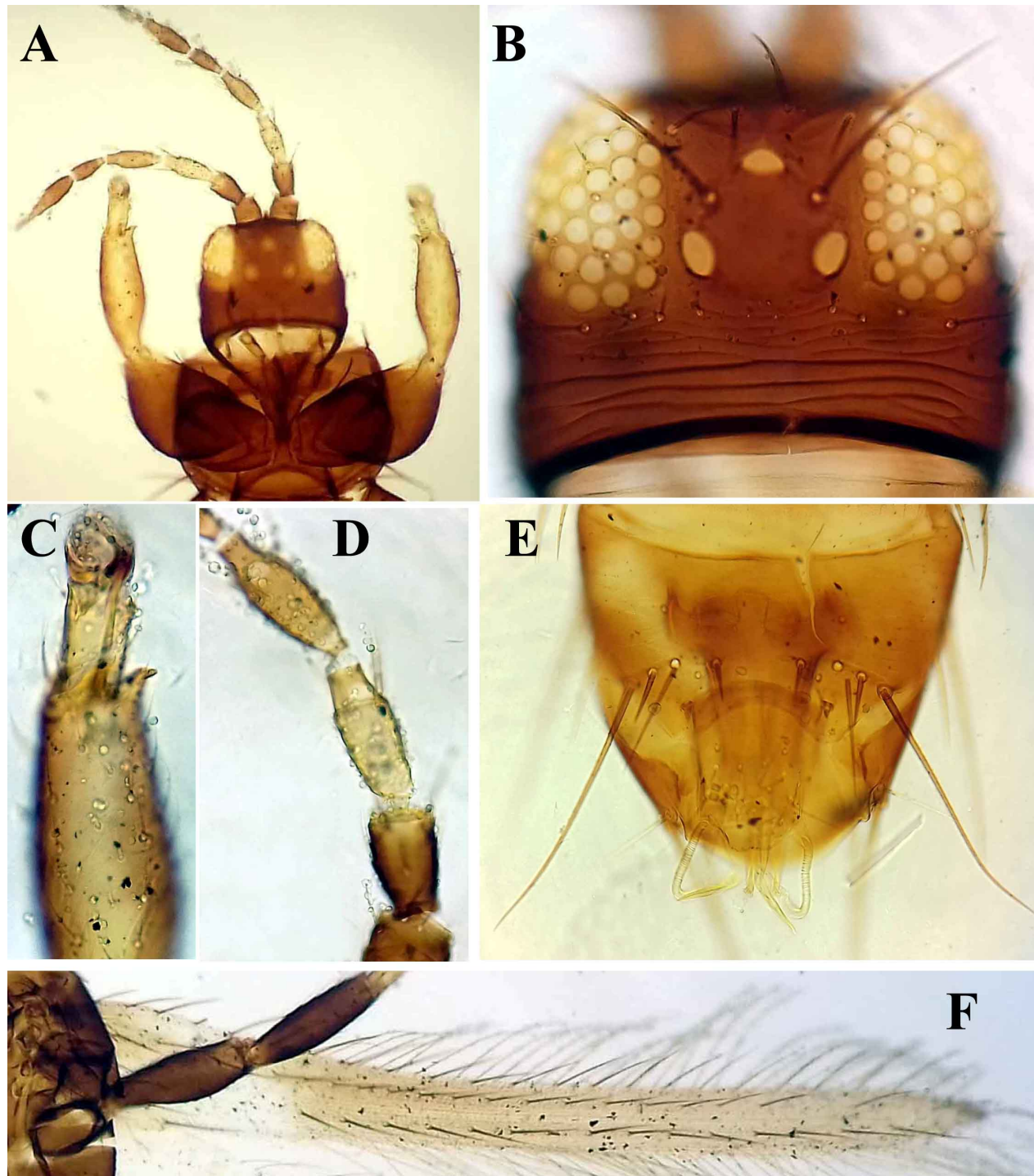


FIGURE 3. *Odontothrips biuncus* (A-D, F: female; E: male): A. head and pronotum, B. pronotum, C. fore leg, D. antennal segments II-IV, E. abdominal tergite IX of male, F. fore wing.

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