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## Sawflies from Zanjan Province, with the first report of *Dolerus murcius* Konow, 1895 (Hymenoptera: Tenthredinidae: Selandriinae) for Iran

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**ABSTRACT.** We present the results of a survey on the sawfly fauna of Anguran Protected Area, Dandi, Mahneshan County, Zanjan Province, Iran. Surveys in 2018 with nets recorded 4 sawfly species in three genera: *Macrophya diversipes* (Schrank, 1782); *Macrophya* nr. *ribis* (Schrank, 1781); *Tenthredo cinctipleuris* (Enslin, 1910) and *Dolerus murcius* Konow, 1895. The last mentioned species is a new record for the Iranian fauna.

**Key words:** Symphyta, Sawflies, Fauna, Zanjan, Iran

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### Introduction

Sawflies are insects of the suborder Symphyta within the order Hymenoptera. Their larval stages feed on plants, mostly externally, but some species induce galls or live inside fruits, or live in tunnels in wood or shoots. The larvae of Orussidae are exceptional: they are parasitoids of wood-boring insects (Smith, 1988; Viitasaari, 2002).

According to previous studies, sawflies include 178 species, 60 genera and 9 families in Iran (Khayrandish et al., 2015, 2017). Subsequent studies of Khayrandish & Ebrahimi (2018) and Khayrandish & Farahani (in press) increased the sawfly species reported from Iran to 187. Due to the lack of information and reports about sawflies in Zanjan Province (only two

species have been reported) (Modares Awal, 1997; Taeger & Blank, 2011), sampling was carried out by sweep net to find out more information about Symphyta.

### Material and methods

The study was conducted in Anguran protected area (Fig. 1), which is an area of 125,000 Ha, located north-west of Zanjan Province, Iran (Fig. 2). Adult sawflies were collected with sweep net on the dog rose (*Rosa* sp.) during June 2018. Major keys to species used for identification of collected sawflies are as follow: Benson (1952, 1968), Zombori (1981), Zhelochovtsev & Zinovjev (1993) and Haris (2000). One male of *Dolerus murcius* is deposited in the Collection of the

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Department of Plant Protection, College of Agriculture, Shahid Bahonar University of Kerman, and the other specimen is deposited in the Biodiversity Museum (Department of Environment, Tehran, Pardisan Park).

### Results

Four species were recognized in Zanjan Province. *Macrophya diversipes* (Schrank, 1782); *Macrophya* nr. *ribis* (Schrank, 1781); *Tenthredo cinctipleuris* (Enselin, 1910) and *Dolerus murcius* Konow, 1895 are recorded for Zanjan fauna for the first time and *D. murcius* is a new record for the Iranian fauna.

### *Macrophya diversipes* (Schrank, 1782)

**Material examined:** (1♀, 1♂), Zanjan Province, Mahneshan County, Dandi, Anguran, (UTM: x: 738703, y: 4055643, 1473m a.s.l.), 11.VI.2018, 1♀, 1♂; Leg.: A. Nadimi.

**Distribution in Iran:** Northern Iran, Alborz, Gilan, Lorestan and Mazandaran Provinces (Khayrandish et al., 2017); Golestan, Isfahan, Khuzestan, Qazvin Provinces (Khayrandish & Ebrahimi, 2018); Golestan and Mazandaran Provinces (Khayrandish & Farahani, in press); Zanjan Province (present study).

**General distribution:** Palaearctic (Taeger et al., 2010).

**Host plants:** *Fragaria* sp. (Çalmaşur & Özbek, 2004).



**Figure 1.** General habitat at Qaleh-Juq, Dandi, Mahneshan County, Iran in June 2018.



**Figure 2.** Representative map of Iran. Red and blue points indicate the study sites in Zanjan province.

***Macrophya nr. ribis* (Schrank, 1781)**

**Material examined:** (4♂♂), Zanjan Province, Mahneshan County, Dandi, Anguran, (UTM: x: 738703, y: 4055643, 1473m a.s.l.), 11.VI.2018, 4♂♂, Leg.: A. Nadimi.

**Distribution in Iran:** Golestan Province (Khayrandish & Farahani, in press); Zanjan Province (present study).

**General distribution:** West Palearctic (Taeger et al., 2010).

**Host plants:** *Sambucus nigra*, *S. racemosa*, and *S. ebulus* (Taeger et al., 1998).

***Tenthredo cinctipleuris* (Enselin, 1910)**

**Material examined:** (1♂), Zanjan Province, Mahneshan County, Dandi, Anguran, (UTM: x: 738703, y: 4055643, 1473m a.s.l.), 11.VI.2018, 1♂; Leg.: A. Nadimi.

**Distribution in Iran:** Alborz and Mazandaran Provinces (Khayrandish et al., 2017); Ardabil Province (Khayrandish &



Ebrahimi, 2018); Zanzan Province (present study).

**General distribution:** West Palaearctic (Taeger et al., 2010).

**Host plants:** Unknown; but adult specimen collected from *Rosa* sp. (present study).

#### *Dolerus murcius* Konow, 1895

**Material examined:** (2♂♂), Zanzan Province, Mahneshan County, Dandi, Qaleh-Juq, (UTM: x: 719532, y: 4055258, 1130m a.s.l.), 12.VI.2018, 2♂♂; Leg.: A. Nadimi.

**Short description:** Head entirely black, most part of head covered with blond hair, labrum and mandibles with denser hair cover, head punctate with almost shining interspace; Antenna black, second and third flagellomeres subequal and first flagellomere a little longer; Thorax black, Mesonotum punctate but density of punctures less than head with almost shining interspace, mesopleuron extremely punctate; Cenchrus wide and dirty white; Legs black, basitarsus long and a little shorter than to tarsomeres 2-4 combined; Wings hyaline, tegula, veins and stigma black; Abdomen reddish yellow (Fig. 3, a-h)

**Distribution in Iran:** Zanzan Province.

**General distribution:** Iran (New record), Spain (Taeger & Blank, 2011).

**Host plants:** Unknown; but two adult specimens collected from *Rosa* sp. (present study).

#### Discussion

According to previous studies, two species were reported from Zanzan Province, *Hoplocampa minuta* (Christ, 1791) and *Tenthredo zonula* Klug, 1817 (Modares Awal, 1997; Taeger & Blank, 2011; Khayrandish et al., 2017), therefore the number of Symphyta species based on the present and previous studies is raised to 6 species in Zanzan province, and 188 species in Iran. Also, the number of species of *Dolerus*, Selandriinae and Tenthredinidae is

now raised to 6, 12 and 139 species in Iran, respectively (Khayrandish et al., 2017; Khayrandish & Ebrahimi, 2018; Khayrandish & Farahani, in press).

*Dolerus murcius* is a rare species which has not been previously known from other countries except mainland of Spain (Haris, 2000). Present work is first report of *D. murcius* from Asia.

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#### Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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**Figure 3.** *Dolerus murcius*, a. forewing; b. lateral view; c. mesonotum; d. dorsal view; e. tarsus; f. abdomen; g. head; h. antenna.

زنبورهای تخم‌ریز آره‌ای از استان زنجان، با اولین گزارش *Dolerus murcius* Konow, 1895  
(Hymenoptera: Tenthredinidae: Selandriinae) برای ایران

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**چکیده:** ما نتایج یک بررسی در مورد فون زنبوهای تخم‌ریز آره‌ای در ناحیه حفاظت شده انگوران، دندی، شهرستان ماه‌نشان، استان زنجان در ایران را ارائه می‌کنیم. بررسی‌هایی که با تور زدن طی سال ۱۳۹۷ صورت گرفت منجر به جمع‌آوری و شناسایی چهار گونه از سه جنس گردید: *Macrophya diversipes* (Schrank, 1782)، *Tenthredo cinctipleuris* (Enslin, *Macrophya* nr. *ribis* (Schrank, 1781) (1910) و *Dolerus murcius* Konow, 1895. گونه آخر گزارش جدید برای فون ایران می‌باشد.

**واژگان کلیدی:** Symphyta، زنبورهای تخم‌ریز آره‌ای، فون، زنجان، ایران