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# A new species-group of *Chrysura* Dahlbom, 1845 (Hymenoptera: Chrysididae), with description of *Ch. baiocchii* sp. nov. from Iran

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## Abstract

*Chrysura baiocchii* Rosa **sp. nov.** is described from Iran. Diagnosis of the new species-group *Ch. baiocchii* and discussions on *Ch. radians* group and *Ch. genalis* subgroup are given.

**Key words:** Hymenoptera, taxonomy, new species, Iran

## Introduction

A preliminary study on the Iranian chrysidid fauna was recently published by Rosa *et al.* (2013) listing 184 species in 20 genera. The genus *Chrysura* Dahlbom, 1845 includes 117 valid species in the world, of which 106 are distributed in the Palaearctic Region (Kimsey & Bohart 1991; Arens 2001, 2002, 2004; Linsenmaier 1993; 1997, 1999; Niehuis 1996; Rosa 2009; Rosa *et al.* 2013; Strumia 2007) and 21 in Iran (Rosa *et al.* 2013). *Chrysura* is the second largest genus in the tribe Chrysidini. Known hosts for this genus are bees from the family Megachilidae.

The genus *Chrysura* is characterized by face nearly flat, densely punctate and without median area with cross ridging, sometimes with microreticulation; missing the transversal frontal carina (TFC); malar spaces are usually long, 2 MOD or even more; mandibles usually with a subapical tooth; flagellomeres of males F-II to F-V often bulging ventrally at their base; pronotum usually shorter than scutellum, mesopleuron with scrobal and episternal sulci; fore wing discoidal cell complete; apical margin of T-III usually rounded or subtruncated.

In recent years, Daniele Baiocchi made several entomological trips to Iran. Besides being a coleopterologist, he has collected dozens of chrysidids, which he kindly sent to us for identification. Baiocchi collected some species which are never been recorded before in Iran, and are partly discussed in Rosa *et al.* (2013). One of these Iranian specimens belongs to an outstanding and still undescribed species. Even if it was collected on a single specimen, it bears unique specialised characteristcs, which allow the description of a new species-group somehow related to the *Chrysura radians* group.

## Material and methods

The external and internal morphological features were examined by a stereomicroscope Leica MZ-5. The male genitalia and the female T-V were photographed with a Scanning Electron Microscope (SEM) Jeol 5610 LV. Pictures of the type of *Chrysura foveata* Radoszkowski were taken at the Krakow Museum (PAN) with Nikon D-80 connected to the stereomicroscope Togal SCZ.

*Abbreviations and acronyms*. The following abbreviations are used in the text (after Kimsey & Bohart 1991): **l/w**, length/width ratio; **F**, flagellomere; **MOD**, midocellus diameter; **P**, pedicel; **PD**, puncture diameter; **PPW**, posterior propodeal width; **S**, metasomal sternum; **T**, metasomal tergum; **TFC**, transverse frontal carina; Roman numerals (I, II, III etc.) are used for antennal and metasomal segments.

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7). The shape of each internal segment is extremely modified compared with the internal segments of other species belonging to the genus *Chrysura*. In figures 5 and 6 line-drawings of *Ch. baiocchii* **sp. nov.** and *C. genalis* (Mocsáry) are shown.

*Male*. Unknown.

**Distribution**. The only known specimen of *Ch. baiocchii* **sp. nov.** was collected in southern Iran, at an altitude of 2050 m, 7 km west of Dasht-e-Arzhan village, a locality situated in the upper Qara Agaj valley, in the southern offshoots of the Zagros mountain range (Figs 15, 16). The area is characterized by very dry, rocky ground, with sparse arboreal cover, predominantely formed by *Quercus* sp., together with *Crataegus*, *Fraxinus*, and other genera, with a sparse ground flora of herbaceous plants.

**Phenology**. *Chrysura baiocchii* **sp. nov.** was found in May.

**Biology.** No data are available on the biology of *Ch. baiocchii* **sp. nov.**, but we speculate the host could be Apoidea (Megachilidae) building mud nests in open areas, probably under the large rocks present around Dasht-e-Arzhan. *Ch. baiocchii* sp. nov. has a specialized ovipositor, typical of chrysidid parasitoids of aculeate Hymenoptera which build mud nests. Species of *Chrysura* are well known as parasitoids of Apoidea and Megachilidae in particular. The specimen was collected by using yellow pan traps placed on the ground.

**Etymology.** This species is dedicated to Daniele Baiocchi, who collected the only available specimen and entrusted us with its study.

**Remarks.** Although colour and dimensions are similar, we exclude *Chrysura baiocchii* Rosa **sp. nov.** from the *Ch. genalis* subgroup for the following reasons: subcylindrical habitus (Fig. 1); different shape of the head in frontal view quite different, with eyes, compared with head (Fig. 3), larger than in species belonging to the *Ch. genalis* subgroup (Fig. 4); pubescence only consisting of short whitish hairs, totally devoid of long and dark setae; pronotum more developed than in both sexes of species belonging to the *Ch. genalis* subgroup (in the latter ones the width of the pronotum is not a dimorphic feature); shape of propodeal teeth, last tergite and internal urites.

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