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## Contributions to the Opiinae (Hymenoptera: Braconidae) of Eastern Iran with updated checklist of Iranian species

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### Abstract

The present work collects the checklist of species of Opiinae (Hymenoptera: Braconidae) from Iran and presents new information about the specimens captured in the Sistan and Baluchestan province during 2009–2011. A total of 68 species belonging to eight genera have been listed, of which nine species including *Opius* (*Hypocynodus*) *arundinis* Fischer, 1964a; *Opius* (*Hypocynodus*) *bouceki* (Fischer, 1958b); *Opius* (*Opius*) *caricivorae* Fischer, 1964b; *Opius* (*Opius*) *exilis* Haliday, 1837; *Opius* (*Opiothorax*) *opacus* Fischer, 1968; *Opius* (*Allophlebus*) *tabificus* Papp, 1979; *Phaedrotoma biroica* (Fischer et Beyarslan 2005a); *Phaedrotoma mirabunda* (Papp, 1982) and *Xynobius rudis* (Wesmaelm, 1835) are new records from Iran.

**Key words:** Braconidae, Opiinae, checklist, new records, Sistan

### Introduction

The Braconidae are major regulators of phytophagous insect populations (LaSalle & Gauld 1992) and they are the second largest family within the Hymenoptera. The majority of braconid species are primary parasitoids of the immature stages of Lepidoptera, Coleoptera and Diptera (Shaw & Huddleston 1991). Within the braconids, the subfamily Opiinae is one of the largest subfamilies containing 1,968 described species known in the world fauna (Yu *et al.* 2012). Fischer (1972a) initially recognized 23 genera (excluding Gnamptodontinae) but, nowadays the number of valid genera varies from 17 (Wharton 1997b) to 24 (Fischer 1987), although some authors distinguish 35 genera (Achterberg & Maeto 1990; Achterberg & Salvo 1997; Achterberg 1997, 2004a, 2004b). The species of the subfamily Opiinae are an assemblage of small parasitic wasps strictly koinobiont parasitoids of Cyclorrhaphous Diptera (Wharton 1997b), mainly of leaf miners and other larvae living in fruits. The hosts are known for only around 300 species, mostly within Agromyzidae, Anthomyiidae, Drosophilidae, Ephydriidae, Psilidae, Scatophagidae and Tephritidae (Fischer 1971a, 1971b, 1972a, 1977, 1987; Shaw & Huddleston 1991). *Opius* Wesmael, 1835 and *Phaedrotoma* Foerster, 1862 are the largest genera, and more than half of the recorded hosts belong to the Agromyzidae (Shaw & Huddleston 1991), which are considered as pests of economic importance (Capinera 2001). Several species of the subfamily Opiinae are considered as important biocontrol agents of leaf mining Agromyzidae and fruit-infesting Tephritidae (Fischer 1971b; Greathead 1975; Wharton 1984, 1997a; Neuenschwander *et al.* 1987; Schuster & Wharton 1993; Salvo & Valladares 1995). On the other hand, Opiinae is closely related to Alysiniinae, based on the morphological data and the type of parasitism on cyclorrhaphous Diptera (Wharton 1988; Quicke & Achterberg 1990) and also molecular analyses (Dowton *et al.* 1998).

*Opius* is the largest genus in Opiinae with over 1,000 species, which has been segregated into 34 subgenera

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