



## Revision of the Holarctic species of *Dilyta* Förster (Hymenoptera: Figitidae: Charipinae) with descriptions of four new species from the eastern Palaearctic

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### Abstract

The genus *Dilyta*, and the known species of this genus present in the Holarctic, *D. subclavata* Förster from Europe and *D. rathmanae* Menke and Evenhuis from USA, are redescribed. Four new species of *Dilyta* are described from the eastern Palaearctic region: *D. aleevae* sp. n. from Kazakhstan, *D. japonica* sp. n. from Japan, and *D. longinqua* sp. n. and *D. sinica* sp. n. from China. All six species have an  $\cap$ -shaped carina on the apex of the scutellum; this character differentiates these species from the Afrotropical species, which instead have two small symmetrical and parallel carinae. A key to the species of *Dilyta* in the Holarctic is provided. *Apocharips talitzkii* (Belizin) is synonymized with *D. subclavata*.

**Key words:** Hymenoptera, Figitidae, Charipinae, *Dilyta*, new species

### Introduction

The Charipinae are a cosmopolitan subfamily of Figitidae (Hymenoptera: Cynipoidea), and when known, are hyperparasitoids through Hemiptera, attacking braconids in aphids and chalcidoids in psyllids, in contrast to most members of the Figitidae, which are primarily parasitoids of the larvae of Diptera: Cyclorrhapha (Ronquist 1999). A recent study of the phylogenetic relationships of the Charipinae (Paretas-Martínez *et al.* 2007) concluded that this subfamily should not be subdivided into tribes, even if two biological groups can be distinguished based on host use. The first group includes most species of the subfamily (belonging to *Alloxysta* and *Phaenoglyphis*) and are hyperparasitoids of Aphididae via Aphidiinae (Hymenoptera: Braconidae) and Aphelinidae (Hymenoptera: Chalcidoidea) (Fergusson 1986), while the second group (which includes *Dilyta*) are hyperparasitoids of Psyllidae via Encyrtidae (Hymenoptera: Chalcidoidea) (Menke and Evenhuis 1991).

Few species of *Dilyta* have been described in the last 150 years; we have focused on this genus as an object of study over the past few years. Material found in several collections worldwide has resulted in a significant increase of the number of species and the range of distribution of this genus. Until recently, *Dilyta* included only three species: *Dilyta subclavata* Förster from Europe, *D. africana* (Benoit) from D.R. Congo and *D. rathmanae* Menke & Evenhuis from USA. Paretas-Martínez *et al.* (2009) recently described four more species from Africa, *D. australafricana* Paretas-Martínez & Pujade-Villar from South Africa, *D. ghanana* Paretas-Martínez, Pujade-Villar & Melika from Ghana, *D. kenya* Paretas-Martínez & Pujade-Villar from Kenya and *D. somaliana* Paretas-Martínez, Pujade-Villar & Evenhuis from Somalia. One more species is presently being described from the Oriental region (Ferrer-Suay *et al.* in press).

We describe herein four new species of *Dilyta* from the eastern Palaearctic region and give the first record of *D. subclavata* from the Nearctic region. These data significantly increases the number of species of *Dilyta* around the world and the distribution of this genus in the Holarctic region.