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Review of the Diplazontinae (Hymenoptera, Ichneumonidae) of the Kuril islands, with descriptions of two new species

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Abstract

A sample of 346 specimens of Diplazontinae parasitoid wasps from the Kuril islands was studied. Twenty-six species are reported, *Tymmophorus gelidus* Dasch for the first time for the Eastern Palaearctic. Two new species are described, *Diplazon kurilensis* **sp. n.** and *Homotropus formosus* **sp. n.** *Diplazon urupensis* Uchida is removed from synonymy (**stat. rev.**), and *Promethes persulcatus* Nakanishi is suggested as a synonym of *Promethes bridgmani* Fitton. Reasons are discussed for the large proportion of species with a Holarctic or even multi-regional distribution in the sample, which amounts to17 of the species or 65%.

Key words: parasitoid wasps, faunistics, Russian Far East, distributional patterns

Introduction

The Diplazontinae are a moderately-sized subfamily of parasitoids of the family Ichneumonidae; 347 species are currently recognized worldwide (Yu et al., 2012). Where reliable host records are available, they point to a rather specialized host range of mostly aphidophagous hoverflies (e.g., Schneider, 1951; Fitton & Rotheray, 1982; Rotheray, 1984; Ngamo Tinkeu & Hance, 1997). Most diplazontine species have been described from temperate regions (Yu et al., 2012). Although the tropics are severely understudied, two locally extensive studies suggest that the subfamily does not exhibit an increase in species richness with decreasing latitude as it can be observed in other insect groups (Dasch, 1964b; Gauld et al., 1997), which is in line with the relative scarcity of aphids and aphidophagous syrphids in the tropics.

In the Holarctic region, both the Nearctic (Dasch, 1964a) and the Western Palaearctic faunas (Klopfstein, in press) have been revised, while the Eastern Palaearctic is only partially covered by taxonomic and faunistic studies (Uchida, 1957; Nakanishi, 1967, 1978, 1979, 1985, 1986; Kasparyan & Manukyan, 1987; Manukyan, 1987, 1988; Kasparyan & Manukyan, 1989; Manukyan, 2007; Klopfstein, 2011). Summarizing distributional patterns of Palaearctic diplazontines, Manukyan (1995) pointed out that a high proportion of diplazontine species occurs in several faunistic regions; of the 130 Palaearctic species known at the time; 38% were either cosmopolitan, multi-regional or at least Holarctic. His assessment was however hindered by a lack of taxonomic revisions which compared the Nearctic to the Palaearctic faunas and a gap of knowledge in part of the Eastern Palaearctic region. Even though only a part of the Nearctic species were studied in the revision of the Western Palaearctic fauna, Klopfstein (in press) proposed eight new synonyms between Nearctic and Western Palaearctic taxa, and more can be expected in the future (Dasch, 1964a). Manukyan's estimate is thus probably an underestimate.

I recently received 346 specimens from the Kuril islands, most of which had been collected by the International Kuril Island Project (www.burkemuseum.org/static/okhotskia/ikip/, Sauter, 1996). This material includes 26 species, two of which are here newly described. Given the geographic location of the Kuril islands, between Russian Kamchatka and the Japanese island Hokkaido (Fig. 1), this material is especially interesting with respect to an assessment of the distributional ranges in Diplazontinae.

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In terms of distributional patterns, the proportion of very widespread species in this sample is striking. Only four of the species have been recorded exclusively from the Eastern Palaearctic, of which *D. urupensis* might still turn out to be a synonym of a Holarctic species (see note under this species). *Sussaba sugiharai* has an Eastern Palaearctic and Oriental distribution, and four species are Palaearctic. The remaining 17 species (65%) are Holarctic or even multiregional. This proportion is much higher than the 38% recorded by Manukyan (1995), a discrepancy that is probably caused by a combination of several factors. First, progress in diplazontine systematics has exposed several new synonyms between Nearctic and Palaearctic species since Manukyan's analysis (e.g., Klopfstein, in press). Second, if there is a positive relationship between population density and range, then the limited sample analyzed here might have overlooked some rare species with a restricted distributional range. And third, islands are areas where species with more effective dispersal abilities and thus wider distributions are overrepresented. Future accumulation of taxonomic and distributional data for Diplazontinae will help disentangling the reasons for the high proportion of widely distributed taxa on the Kuril islands, and host record data will help investigating the proximate reasons for the comparatively large distribution ranges.

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