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Natural history and description of *Zatypota kerstinae* sp.nov. (Hymenoptera: Ichneumonidae) reared from *Theridion palmgreni* Marusik et Tsellarius (Araneae: Theridiidae) in Finland

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Abstract

Zatypota kerstinae **sp. nov.**, belonging to the *Polysphincta* group of genera, is described. Its unusual cocoon is figured and a discussion on the natural history, the possible total distribution, the host range and the rarity of the new species is provided. Like all other species of the *Polysphincta* group of genera, the new species is a koinobiont ectoparasitoid of spiders. It has been reared from the theridiid *Theridion palmgreni* Marusik & Tsellarius, 1986 in Finland, collected mainly by beating lower branches of Norway spruce (*Picea abies*) in old forests. The results indicate that *Z. kerstinae* is univoltine with a very narrow realised host range consisting of a single species in Finland. *Z. kerstinae* seems to be a rare species in Finland, not only in entomological collections. *Zatypota* now comprises 7 species in Europe.

Key words: Hymenoptera, Ichneumonidae, Pimplinae, *Polysphincta*, new species, koinobiont, ectoparasitoid, host, spider, *Theridion palmgreni*, Finland

Introduction

The *Polysphincta* group of genera are koinobiont ectoparasitoids of mobile spiders. The host ranges of the species are generally narrow and are relatively well known in most European species (Shaw 1994). During the last decade I have collected several hundred parasitised spiders in Finland, mainly from mature forests dominated by Norway spruce (*Picea abies*). Many new and surprising host records have been made, and several species new to the country have been reared. The aim of this work is to describe an unknown *Zatypota* species reared from the spider *Theridion palmgreni* Marusik & Tsellarius, and to present its natural history. Based on what is known about the biology and the distribution of the host *T. palmgreni* and species closely related to it, the host range, the rarity and the possible distribution of the new species are discussed. The rest of the findings within this study will be dealt with in later papers.

Materials and methods

In the course of this study I have since 2003 collected parasitised spiders throughout Finland, with focus on spruce-dominated forests. The spiders were searched mainly by beating lower branches of spruce over a white sheet spread out on the ground, from where the parasitised specimens have been sought by hand. The parasitised spiders have been reared indoors in small plastic vials (7.5 x 3.5 cm) and fed with *Drosophila* flies from laboratory cultures. For rearing methods see Shaw (1990). Keys used for determining adult wasps have been Fitton *et al*. (1988) and Zwakhals (2006). Morphological terminology in this paper follows Gauld (1991) except for the terms temple and pronotal collar which follow Townes (1969). The definition and the measurement of the height of the face also follow Townes (1969) (from supraclypeal suture to the lower margin of antennal sockets). The measurements were made using an ocular micrometer. Abbreviations used in the text: coll. = date when collected, em. = emergence date of the adult wasp. The illustrations (Fig. 1.) were

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