



## Article

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### New species of cynipid inquilines of the genus *Ufo* Melika & Pujade-Villar, 2005 (Hymenoptera: Cynipidae: Synergini)

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#### Abstract

Two new species of cynipid inquilines, *Ufo nipponicus* from Japan and *U. cerroneuroteri* from Taiwan are described. Descriptions, diagnoses, biology, and host associations for the new species and a key to *Ufo* species are given. Two *Ufo* species, *U. shirakashii* (Shinji) and *U. shirokashicola* (Shinji) are transferred to *Saphonecrus*. All taxa are supported by morphological and molecular data.

**Key words:** Cynipidae, inquiline, Synergini, *Ufo*, *Saphonecrus*, taxonomy, morphology

#### Introduction

Most of the ca. 1400 described species of Cynipidae are gall inducers, however, around 180 species, classified into nine genera, develop as inquilines inside galls of other cynipids (Pujade-Villar *et al.* 2003, Csóka *et al.* 2005, Nieves-Aldrey & Medianero 2010). In a review on the gallwasps of the Eastern Palaearctic, 18 valid and 5 species with uncertain status of cynipid inquilines from seven genera (*Ceroptres* Hartig, *Saphonecrus* Dalla Torre & Kieffer, *Synergus* Hartig, and *Ufo* Melika & Pujade in oak-cynipid galls; *Periclistus* Förster in rose-cynipid galls and *Synophromorpha* Ashmead in *Diastrophus*-induced galls on *Rubus* L.) were recorded (Abe *et al.* 2007). Recently, seven new species of inquilines were described from Japan and China: one new *Synergus* (Abe *et al.* 2011), four new *Saphonecrus* (Wang *et al.* 2010; Wachi *et al.* 2011a; Liu *et al.* 2012) and two new *Ufo* (Wachi *et al.* 2011b).

*Ufo* was described from Japan with one species, *U. abei* Melika & Pujade-Villar (Melika *et al.* 2005). Later, *U. koreanus* Melika, Pujade-Villar & Choi was described from Republic of Korea (Melika *et al.* 2007). Both species are inquilines in oak galls on *Quercus* subgenus *Quercus* section *Cerris* (Fagaceae). Two species, *U. shirakashii* (Shinji) and *U. shirokashicola* (Shinji), were recently described from Japan from cynipid galls associated with *Quercus* subgenus *Cyclobalanopsis* (Wachi *et al.* 2011b)

All *Ufo* species are known only from the Eastern Palaearctic, synapomorphies and generic diagnostic characters of which were discussed in details elsewhere (Melika *et al.* 2005, 2007). *Ufo* shares some morphological characters with two allied genera, *Saphonecrus* and *Synergus*. *Ufo* and *Saphonecrus*, have the radial cell along the forewing margin opened and the female antenna is 13-segmented; both *Ufo* and *Synergus* have a distinct pronotal carina but in *Synergus* the forewing is with a closed radial cell and the female antenna is 14-segmented (Melika *et al.* 2005). These shared morphological characters place *Ufo* into the *Synergus* complex of inquiline genera, phylogenetic analysis of which was recently published (Ács *et al.* 2010), without *Ufo*, the phylogenetic position of which is still uncertain.