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FIRST RECORD OF *IBALIA JAKOWLEWI* JACOBSON, 1899 AND OF THE SUBGENUS *TREMIBALIA* FOR ITALY (HYMENOPTERA, CYNIPOIDEA, IBALIIDAE)

Riassunto. *Prima segnalazione di* Ibalia jakowlewi *Jacobson, 1899 e del sottogenere* Tremibalia *per l'Italia (Hymenoptera, Cynipoidea, Ibaliidae).*
Ibalia jakowlewi Jacobson, 1899 viene segnalata per la prima volta in Italia sulla base di tre esemplari raccolti in Veneto, che rappresentano anche la prima osservazione per l'Italia del sottogenere *Tremibalia* Kierych, 1973. Si riportano anche alcune osservazioni ecologiche sulle circostanze del ritrovamento.

Summary. *Ibalia jakowlewi* Jacobson, 1899 is hereby recorded for the first time for Italy, based on three specimens collected in the Veneto region, which in turn represent the first record of the subgenus *Tremibalia* Kierych, 1973 for Italy. Some ecological notes based on the circumstances of their sampling are also reported.

Keywords: Hymenoptera, Cynipoidea, Ibaliidae, Tremibalia, first record, Italy.

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INTRODUCTION

The superfamily Cynipoidea comprises both phytophagous and parasitic wasps (HANSEN, 2010; MARTIKAINEN & VIITASAARI, 1996), divided into 5 different families with more than 3000 extant species worldwide (RITCHIE, 1993; RONQUIST, 1999; SHARKEY, 2007). RONQUIST (1999) and PARETAS-MARTINÈZ et al. (2013) identified two major groups based on the sizes and biology of the known species: macrocynipoids (up to 20mm), which contains three families (Austrocynipidae, Ibaliidae and Liopteridae) with a relatively low species richness, and microcynipoids (between 0.7 and 8 mm) which is the most species-rich clade within the Cynipoidea, consisting of Cynipidae and Figitidae.

All Ibaliidae are parasitoids of wood wasp larvae (family Siricidae) in conifers and hardwoods (LIU & NORDLANDER, 1994; MARTIKAINEN & VIITASAARI, 1996; RONQUIST, 1999; HANSEN, 2010; PARETAS-MARTINÈZ et al., 2013). Three genera are recognised worldwide: the monotypic New Guinean *Eileenella* Fergusson, 1992, the East Asian *Heteribalia* Sakagami, 1949, with 5 species, and the mainly Holarctic *Ibalia* Latreillei, 1802, which is, in turn, divided into two subgenera, *Ibalia* and *Tremibalia* Kierych, 1973, with 7 and 6 species, respectively (FERGUSSON, 1992; LIU & NORDLANDER, 1994; RONQUIST, 1995, 1999; NORDLANDER et al., 1996). Of the extant species, only three species occurred in Europe: *Ibalia (Ibalia) rufipes* Cresson, 1879, *Ibalia (Ibalia) leucospoides* (Hochenwarth, 1785) and *Ibalia (Tremibalia) jakowlewi* Jacobson, 1899 (KIERYCH, 1973; RONQUIST & FORSHAGE, 2013), and only the first two of these are also present in Italy (DALLA TORRE & KIEFFER, 1910; SPRADBERY & KIRK, 1978; LIU & NORDLANDER, 1994; PAGLIANO, 1995).

This article provides the first record of the subgenus *Tremibalia* with the species *I. jakowlewi* for Italy and further records on its ecology.

METHODS

A dissecting stereomicroscope (OPTIKA SZM-2) was used for observation and study. Photographs were taken by a Canon Eos 600D, lens Canon MP-E 65mm f/2.8 1-5x Macro and Sigma 105mm f/2.8 Macro DG OS HSM, using Combine ZP for the stacking (HADLEY, 2008).

Specimens were identified using KIERYCH (1973) and LIU & NORDLANDER (1994).

RECORDS

Ibalia (Tremibalia) jakowlewi Jacobson, 1899
= *Ibalia takachihoi* Yasumatsu, 1937: 13-14.

Material examined. Italy, Veneto, Ponte della Priula (TV), ex from *Populus nigra*, 45.824°N 12.241°E (WGS84), 14.V.2017, leg. D. Dal Pos, 1♂, 2♀♀.

DISCUSSION

The species can be easily distinguished by the following morphological features: maximum length of eye more than 2.9 times the length of the malar space, presence of two distinct submedial pits with shallow depression on the pronotum, anterior lateral crest of metacoxa rounded, and wings yellow with a central and an apical black pattern (figs. 1-3)

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Fig. 1. *Ibalia (Tremibalia) jakowlewi*, female from Ponte della Priula (Italy), dorsal view. Total length, including appendages: 15.5 mm.

(KIERYCH, 1973; LIU & NORDLANDER, 1994; MARTIKAINEN & VIITASAARI, 1996). Although the species is widespread throughout the Palearctic with records from Russia, Japan, and Korea, its European distribution was limited to Austria, Czech Republic, Finland, Germany, Poland, and Slovakia (PFEFER, 1983; LIU & NORDLANDER, 1994; MARTIKAINEN & VIITASAARI, 1996; MADL, 2004; HOLÝ, 2008; HOLÝ et al., 2011, 2012; RONQUIST & FORSHAGE, 2013). The present data provide an expansion of the distribution of *Ibalia (Tremibalia) jakowlewi* in Europe with the first record in the northeast of Italy. Two female specimens (figs. 1, 3) were directly collected while emerging on a dead trunk of *Populus nigra* L. (figs. 4-5) within a mixed wood of *Populus nigra* L. and *Robinia pseudacacia* L. (fig. 6) in the Piave river banks. The male (fig. 2) arrived above the dead trunk immediately after the emergence of the first female, a peculiar succession of events that, rather than being a coincidence, suggests the releasing of sex pheromones.

The date of the collection is in accordance with KIERYCH (1973) and HOLÝ et al. (2011), which placed the flying period of the species from May to June.

The biology of the species is poorly known. YASUMATSU (1943) reported that *Tremex longicollis* Konow, 1896 (Symphyta, Siricidae) was the host for *I. jakowlewi* in Japan, while records from Europe showed that *Tremex fuscicornis* (Fabricius, 1787) (Symphyta, Siricidae), a wood wasp species present also in Italy (MASUTTI & PESARINI, 1995; BLANK & TAEGER, 2013), was the host in the region (VON BISCHOFF, 1953; NOSCHIEWICZ, 1957; KIERYCH, 1973; LIU & NORDLANDER, 1994). These records were subsequently corroborated by HOLÝ et al. (2011) in Czech Republic and MARTIKAINEN & VIITASAARI (1996) in Finland. The present paper had no information on host association for the species.

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Figs. 2-3. *Ibalia* (*Tremibalia*) *jakowlewi* from Ponte della Priula (Italy), lateral view. **2:** male, total length including appendages 12.6 mm; **3:** female, total length including appendages: 15.5 mm.

Figs 4-5. Emergence holes on poplar trunk. **4:** first female emerging, head visible on the hole above; **5:** emergence hole of the second female observed.

Fig. 6. View of the dead trunk of *Populus nigra* hosting specimens and of the collecting environment.

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