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New Records of Species of *Sphegigaster* Spinola (Hymenoptera Pteromalidae) from Italy (*)

INTRODUCTION

A specific aim of the Agroecology Project is to study the role of weeds as reservoirs of Hymenoptera species attacking Agromyzidae (Diptera) (Burgio *et al.*, 2000) and thus to improve biological control against *Liriomyza huidobrensis* (Blanchard) and *L. trifolii* (Burgess). Both species were introduced to Italy where they have become significant pests on many economically important plant species. In the course of this study, during 1998 the senior authors collected mined leaves of various plant species from non cropped areas at different sites in Northern Italy. The leaves were stored at 25°C and emerging specimens of Diptera and their parasitoids were collected using a photoelector. In this case, when samples of several leaves of the same plant were put together, the true host cannot be sure; for this reason we indicate the host species reared from unparasitized larvae on the same leaves. Hymenoptera parasitoids from certain weeds proved to be interesting from a faunistic point of view. Beside the well known *Halticoptera circulus* (Walker) and *Stenomalina gracilis* (Walker) (Pteromalidae Miscogasterinae) also two species of *Sphegigaster* Spinola (Pteromalidae Pteromalinae) were obtained. These species and a third one collected by the junior author were not mentioned in the recent checklist on the Italian Chalcidoidea (Pagliano, 1995) and are new for the Italian fauna. The aim of the present paper is to report on these new findings. The material is deposited in the Istituto di Entomologia "Guido Grandi", Bologna, or the Natural History Museum, Berne (NMBE). With regard to nomenclature we follow Noyes (1998) for the Pteromalidae, Papp (1984) for the Agromyzidae and Zangheri (1976) for the names of host plants.

RESULTS AND DISCUSSION

Sphegigaster ?*brevicornis* (Walker, 1833)

1 male from Bologna, Castel San Pietro, 30 m, 10.VI.1998, leg. A. Lanzoni

(*) Lavoro accettato il 10 marzo 2000.

(in coll. Istituto di Entomologia “Guido Grandi”, Bologna), reared from an unidentified species of Agromyzidae on *Cirsium arvense* (L.) Scopoli. The identification of the single male of this species proved difficult, therefore the name is cited with “?”.

The species has also been recorded from Britain and Ireland (Graham, 1969), its biology was unknown.

Sphегigaster orobanchiae Kurdjumov, 1912

1 female from Como, Olgiate-Comasco, Parè, 360 m, 15.VI.1992, leg. H. Baur (in coll. NMBE). The specimen was swept on a meadow.

The species has also been recorded from Central Europe, Iraq, Russia, and the former USSR (Graham, 1969; Kurdjumov, 1912; Noyes, 1998).

It is a parasitoid of *Phytomyza orobanchia* Kalténbach (Kurdjumov, 1912).

Sphегigaster stepicola Bouček, 1965

1 female from Bologna, San Giovanni in Persiceto, 21 m, 07.VII.1998, leg. A. Lanzoni (in coll. NMBE), reared from *Ophiomyia cunctata* (Hendel) on *Sonchus asper* (L.) Hill.

1 female from same locality, 09.VI.1998, leg. A. Lanzoni (in coll. Istituto di Entomologia “Guido Grandi”, Bologna), reared from species of Agromyzidae on *S. asper* (L.) Hill. Specimens of two possible host species, *Liriomyza bryoniae* (Kalténbach) or *Chromatomyia* sp., were obtained from the same sample.

1 male from Forlì-Cesena, San Mauro Pascoli, 21 m, 24.VII.1998, leg. A. Lanzoni (in coll. Istituto di Entomologia “Guido Grandi”, Bologna), reared from further species of Agromyzidae on *S. asper* (L.) Hill. Four species of Agromyzidae, *Chromatomyia horticola* (Goureaux), *Liriomyza huidobrensis* (Blanchard), *L. trifolii* (Burgess), and *O. cunctata* (Hendel), emerged from the plants collected, therefore the exact host relationship remains uncertain.

This species is known from Central Europe, Moldavia, Algeria, Ethiopia, and India (Abate, 1991; Bouček, 1965; Bouček *et al.*, 1979; Graham, 1969; Mani, 1971). It was originally reared in Austria from *Phytomyza albiceps* Meigen on *Cirsium arvense* (L.) Scopoli (Bouček, 1965). It was also recorded in Ethiopia from *Ophiomyia phaseoli* (Tryon) on *Crotalaria laburnifolia* L. (Abate, 1991). In India it was reared as a parasitoid of *Melanagromyza* and *Phytomyza* on *Helianthus* and *Vigna catjang* (Burmans filius) Walpers (Mani, 1971).

The Italian fauna of *Sphегigaster* now comprises seven species which are listed below, including some nomenclatural change with regard to the checklist by Pagliano & Navone (1995).

Sphегigaster ?brevicornis (Walker, 1833)

Sphегigaster mutica (Thomson, 1822)

Sphегigaster nigricornis (Nees, 1834)

Sphегigaster orobanchiae Kurdjumov, 1912

Sphегigaster pallicornis (Spinola, 1808) [= *S. flavicornis* (Walker, 1833)]

Sphегigaster pedunculiventris (Spinola, 1808) [= *S. aculeata* (Walker, 1833)]

Sphегigaster stepicola Bouček, 1965

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SUMMARY

Three species of *Sphegigaster* Spinola (Pteromalidae Pteromalinae), *S. ?brevicornis* (Walker), *S. orobanchiae* Kurdjumov, and *S. stepicola* Bouček are recorded for the first time for the Italian fauna. All species were collected in Northern Italy, specimens of *S. ?brevicornis* and *S. stepicola* emerged as parasitoids of leaf mining Diptera (Agromyzidae) on weeds. Possible new host associations are indicated for *S. stepicola*.

KEY WORDS: Hymenoptera, Pteromalidae, *Sphegigaster ?brevicornis*, *Sphegigaster orobanchiae*, *Sphegigaster stepicola*, biodiversity, agroecology, distribution.

Segnalazione per l'Italia di Specie di *Sphegigaster* Spinola (Hymenoptera Pteromalidae)

RIASSUNTO

Sono segnalate *Sphegigaster stepicola* Bouček, *Sphegigaster ?brevicornis* (Walker) e *Sphegigaster orobanchiae* Kurdjumov (Hymenoptera Pteromalidae), tre specie di parassitoidi nuovi per l'Italia. *S. stepicola* e *S. brevicornis* attaccano Ditteri Agromizidi e sono stati ottenuti da piante erbacee spontanee raccolte in Emilia-Romagna. Sono inoltre indicati nuovi possibili ospiti di *S. stepicola*.

PAROLE CHIAVE: Hymenoptera, Pteromalidae, *Sphegigaster ?brevicornis*, *Sphegigaster orobanchiae*, *Sphegigaster stepicola*, biodiversità, agroecologia, distribuzione.

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