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The Austrian Piophilidae (Diptera) in the collection of the National Museum of Natural Sciences of Madrid, Spain

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Summary

The Piophilidae (Diptera) collection of the National Museum of Natural Sciences of Madrid, Spain, contains some specimens originally collected in Austria by Gabriel Strobl. After the revision and updating of that material, four species have been identified: *Liopiophila varipes* (Meigen), *Parapiophila vulgaris* (Fallén), *P. vernicosa* Ozerov & Barták and *Stearibia nigriceps* (Meigen). Apparently, the latter three species have not been previously recorded from Austria. Brief notes about the relation of each species with carrion and food industry are given.

Zusammenfassung

Die österreichischen Piophilidae (Diptera) in der Sammlung des Museo Nacional de Ciencias Naturales de Madrid, Spanien.

Die Piophilidae (Diptera) Sammlung des Museo Nacional de Ciencias Naturales de Madrid, Spanien, enthält einige in Österreich von Gabriel Strobl gesammelte Exemplare. Nach der Überarbeitung und Aktualisierung des Materials wurden vier Arten identifiziert: *Liopiophila varipes* (Meigen), *Parapiophila vulgaris* (Fallén), *P. vernicosa* Ozerov & Barták und *Stearibia nigriceps* (Meigen). Offenbar wurden die drei letztgenannten Arten zuvor nicht zuvor aus Österreich gemeldet. Kurze Beiträge zur Beziehung der einzelnen Arten zu Aas und zur Lebensmittelindustrie werden angeführt.

Keywords: Piophilidae, Austria.

Introduction

The family Piophilidae is a relatively small group of Diptera widely distributed throughout the world but more represented in the cooler regions of the North Temperate Zone (MCALPINE 1977). It contains 69 species following OZEROV (2004b) with some corrections regarding the 'thyreophorines' group (MARTÍN-VEGA et al. 2010). Moreover, four species belong to the subfamily Neottiophilinae (MCALPINE 1977, OZEROV 2000), considered as a separate family by OZEROV (2004b).

Larvae of most Piophilidae species develop on decomposing organic matter as well as on proteinaceous substrates. Because of this, many species of this family can cause serious damage in food industry (ZUSKA & LAŠTOVKA 1965). On the other hand, the attraction of some species to carrion makes them valuable forensic indicators (GRASSBERGER & FRANK 2004).

During a revision and study of the Piophilidae specimens deposited in the entomological collection of the National Museum of Natural Sciences of Madrid (Spain), some interesting specimens originally collected by Gabriel Strobl were examined and their identifications were updated and corrected. Four different

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species collected from Austria were identified, and apparently three of them had not been previously recorded from this country. Due to the economical importance of the family Piophilidae in food industry (ZUSKA & LAŠTOVKA 1965) and in forensic entomology, also in Austria (GRASSBERGER & FRANK 2004), the presence of those species is of special interest.

Material

Material examined:

***Liopiophila varipes* (Meigen, 1830):** Labeled as “*Piophila affinis* Meigen v. *nigrifrons* Strobl” (synonym of *L. varipes*). Austria, ‘Styriae Alpes’, without date, leg. G. Strobl: 2 females.

L. varipes was recorded from Austria for the first time by Gabriel Strobl, who described it as “*Piophila affinis* var. *nigrifrons*” (STROBL 1909). It is widespread in the Holarctic Region, and it is often found on carrion, as well as eventually associated with food industry (ZUSKA & LAŠTOVKA 1965). OZEROV (2004b) considers the genus *Liopiophila* Duda as a synonym of *Prochyliza* Walker.

***Parapiophila vulgaris* (Fallén, 1820):** Labeled as “*Piophila affinis* Meigen” (synonym of *Prochyliza nigrimana* (Meigen)). Austria, ‘Styriae Alpes’, without date, leg. G. Strobl: 1 female.

P. vulgaris is, by far, the best known species of the genus. *Parapiophila* McAlpine is a relatively big and controversial genus known from 9-10 species in Europe (OZEROV 2004a, 2004b). McALPINE (1977) offered a key to world species, but he indicated that there were more undescribed species which he had seen. On the other hand, the many similarities of this genus with *Allopiophila* Hendel lead OZEROV (2004b) to suggest the synonymy of both genera. In any case, an exhaustive revision of this group of species is necessary.

P. vulgaris is widespread in the Holarctic Region, but according to OZEROV (2004a) it had not been previously cited in Austria. This species is mainly associated with carrion, and its occurrence in forensic entomology studies is frequent (e.g. FIEDLER et al. 2008). It has also been collected associated with food industry, not only on meat but also on rotten fruit (ZUSKA & LAŠTOVKA 1965).

***Parapiophila vernicosa* Ozerov & Barták, 1993:** Labeled as “*Piophila nigriceps* Meigen” (synonym of *S. nigriceps* (Meigen)). Austria, Admont, without date, leg. G. Strobl: 1 female.

P. vernicosa is a little-known species, only recorded from the Czech Republic so far. It has been collected using decaying meat-baited traps (OZEROV & BARTÁK 1993).

***Stearibia nigriceps* (Meigen, 1826):** Labeled as “*Piophila nigriceps* Meigen” (synonym of *S. nigriceps* (Meigen)). Austria, Admont, without date, leg. G. Strobl: 2 females.

Stearibia Lioy is a small genus known from a single and common species, *S. nigriceps*, which is widespread in the Holarctic and Neotropical Region, although according to OZEROV (2004a) it had not been previously recorded from Austria. Like *P. vulgaris*, it has been collected associated with food industry and on dead corpses (ZUSKA & LAŠTOVKA 1965), being a useful tool for forensic entomology.

Piophilidae specimens of the National Museum of Natural Sciences of Madrid collected by G. Strobl have no collecting dates, although it seems very likely that he could have deposited them in 1907, when he traveled to Spain to study the dipterous fauna (ARIAS ENCOBET 1912). Gabriel Strobl (1846-1925) was the celebrated Austrian entomologist who rebuilt the National History Museum of Admont (Styria, Austria) after the devastating fire that destroyed the original one, and he collected and studied the European insect fauna, mainly the order Diptera, during about 32 years, until his stroke in 1910. One hundred years after that, his collections continue giving us valuable data.

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