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## On the identity of *Prochyliza nigrimana* (Meigen) and *Prochyliza nigricornis* (Meigen) (Diptera: Piophilidae), with a synopsis of *Prochyliza* Walker and description of a new species

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### Abstract

With representatives distributed throughout the Holarctic and Neotropical regions, the genus *Prochyliza* Walker (Diptera: Piophilidae) is known from eight species. There has been, however, considerable controversy over the identity of two of them: the common, synanthropic species *Prochyliza nigrimana* (Meigen), and the rarely collected *Prochyliza nigricornis* (Meigen). The described differences between both species were only based on body colouration but, since a wide colour variation has been documented among *P. nigrimana* individuals, several authors had suggested that both taxa might be just extreme colour variants of the same species. Recent collections from central Spain showed that the colouration characters described for *P. nigricornis* certainly apply to dark *P. nigrimana* individuals, but also to other *Prochyliza* specimens showing distinct morphological characters and genitalia. In order to solve this controversy, the holotypes of both *P. nigrimana* and *P. nigricornis* were studied, concluding that both specimens are conspecific and instating *P. nigricornis* as a subjective junior synonym (**syn. nov.**). A new species, *Prochyliza georgekaplani* **sp. nov.**, is described from specimens collected in central Spain. A synopsis and an updated identification key to the known species of the genus *Prochyliza* are also provided.

**Key words:** taxonomy, necrophagous insects, carrion flies, *Prochyliza georgekaplani* **sp. nov.**, *Liopiophila*, Spain

### Introduction

Synanthropic filth flies have joined man in his dispersal movements throughout the world, thus acquiring cosmopolitan or almost cosmopolitan distributions. Among the Piophilidae, a dipterous family which usually breeds on decaying organic matter, three genera have developed synanthropic tendencies and show a wide geographical range (McAlpine 1977): *Piophila* Fallén, *Stearibia* Lioy, and *Prochyliza* Walker. Because of their synanthropy and their typical association with carrion and proteinaceous products, these genera are of potential forensic use (Martín-Vega 2011) and can represent a major pest for the food industry (Zuska & Laštovka 1965). Whereas genus *Stearibia* contains only a single species (McAlpine 1977) and genus *Piophila* contains two species (Martín-Vega *et al.* 2011), *Prochyliza* is a more diverse genus, being known from eight species according to McAlpine (1977): *P. nigrimana* (Meigen), which shows a wide Holarctic and Neotropical distribution; *P. lundbecki* (Duda), which is Holarctic but restricted to northern areas; *P. brevicornis* Melander, *P. nigricoxa* (Melander & Spuler) and *P. xanthostoma* Walker, the three restricted to the Nearctic region; *P. nigricornis* (Meigen), restricted to the Palaearctic region; and *P. azteca* McAlpine and *P. inca* McAlpine, both restricted to the Neotropical region. It is worth recalling that an alternative classification of the Piophilidae (Ozerov 2004) also includes the species *Liopiophila varipes* (Meigen) in the genus *Prochyliza*, but its larval morphology does not support such combination (Martín-Vega *et al.* 2014).

Nevertheless, the main controversy within genus *Prochyliza* has to do with the identity of the Palaearctic species *P. nigricornis* and the Holarctic and Neotropical species *P. nigrimana*. Described at the same time, the differences between both species were based only on body colour, with *P. nigricornis* being darker in the

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