

THE NINTH STERNITE AND HYPROCT OF FIVE SPECIES OF *OLDENBERGIELLA* CZERNY (DIPTERA: HELEOMYZIDAE)

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Abstract: The ninth sternite and hypoproct of five *Oldenbergiella* Czerny species are described: *O. calcarifera* Papp, *O. seticerca* Papp, *O. canalicata* Carles-Tolrá, *O. blascoi* Carles-Tolrá and *O. pappi* Carles-Tolrá. Distinct differences in the hypoproct have been found. Sternite 9 is useful, but not decisive, to identify species.

Key words: Diptera, Heleomyzidae, *Oldenbergiella*, sternite 9, hypoproct.

El esternito 9 e hipoprocto de cinco especies de *Oldenbergiella* Czerny (Diptera: Heleomyzidae).

Resumen: Se describe el esternito 9 e hipoprocto de cinco especies de *Oldenbergiella* Czerny: *O. calcarifera* Papp, *O. seticerca* Papp, *O. canalicata* Carles-Tolrá, *O. blascoi* Carles-Tolrá y *O. pappi* Carles-Tolrá. Se han encontrado diferencias claras en el hipoprocto. El esternito 9 es útil, pero no determinante, para identificar especies.

Palabras clave: Diptera, Heleomyzidae, *Oldenbergiella*, esternito 9, hipoprocto.

Introduction

Recently, in two papers on dipterans caught on cadavers in La Rioja (Carles-Tolrá, 2011) and Zaragoza (Carles-Tolrá *et al.*, 2011), three species belonging to genus *Oldenbergiella* Czerny, 1924 were identified: *O. calcarifera* Papp (1980), *O. seticerca* Papp (1980) and *O. canalicata* Carles-Tolrá (1998).

The identification of the males took place without any difficulty with Papp's (1980) and Carles-Tolrá's (1998) papers.

The identification of the females among *O. calcarifera* and *O. seticerca* shouldn't cause any problems, as both species may be distinguished by the presence or absence of a clump of long hairs in sternite 9, according to Papp (1980: Fig. 11-12). Nevertheless, after having studied a lot of specimens (576) you could see that such character is not good enough to separate these two species.

Another character used to separate both species was the length of basal scutellars bristles, according to Papp (1980: 9-10). Nevertheless, we have observed that they are so variable and gradual that it wasn't also useful to separate both species.

As it was remarked in Carles-Tolrá, 2011 and Carles-Tolrá *et al.*, 2011: "Based on the males identified, the females belong mostly to *O. calcarifera* and *O. seticerca* and, in less number, to *O. canalicata*. In a first attempt to separate the females of these three species it has been seen that it requires a deeper and more detailed study, therefore it has been left for a future paper. Therefore, for the moment, only 116 females of *O. calcarifera* y 1 of *O. seticerca* have been possible to identify, as they were mating". So, the identification of most of the females was impossible, so 576 females were left to be identified.

That obliged to look for other differences and to review other two species of *Oldenbergiella* present in the collection of the author (*O. blascoi* Carles-Tolrá and *O. pappi* Carles-Tolrá).

Sternite 9 (Fig. 4-7)

The sternite 9 is formed by two long more or less narrow sclerites and with more or less short and homogeneous pilosity. Apically, each sclerite bears some long hair on the outer side; on the other hand, on the inner side, there may or not be a row of hairs (clump of hairs in Papp, 1980: Fig. 11).

When observing the sternite 9 of the 576 specimens it was observed that a distinct difference among having and not having such clump of hairs didn't exist, as the number of hairs forming it went from 0 to 7 (rarely 8-9) in each sclerite. Furthermore, some variability in the length of the hairs also appeared.

Hypoproct (Fig. 1-3)

The hypoproct is suboval, pilose, with an anterior projection ("tongue"). For the identification, the pigmented part was used, which may be drop-shaped (Fig. 2-3) or band-shaped (Fig. 1).

Observing the hypoproct of the 576 females we could check that, although there is certain variability, both forms never came together, so it was able to separate the females into two groups: "*calcarifera*" (band) and "*seticerca*" (drop).

Fortunately, 126 females of *O. calcarifera* and 1 of *O. seticerca* were caught mating, and they helped to confirm such difference.

Results

Correction: in the paper by Carles-Tolrá (2011) 94, and not 49, were the females, collected in La Rioja in the time period 27.2.-6.3.2010, that still needed study.

Oldenbergiella calcarifera Papp, 1980

MATERIAL STUDIED: from the 576 females that still needed

study, 351 have been identified: La Rioja: Villoslada de Cameros: 27.2.-6.3.2010 61 females, 7-20.3.2010 75 females, 21-28.3.2010 193 females; Zaragoza: Luesia, 10.3.2011 16 females, 11.3.2011 6 females. These females are added to the 126 identified in Carles-Tolrá (2011) and Carles-Tolrá *et al.* (2011), as they were mating. Furthermore, 9 more females of the 27 included in the paper by Carles-Tolrá *et al.*, 2000, have been reviewed.

DESCRIPTION. Hypoproct (Fig. 1): pigmented part band-shaped, despigmented in the anterior half; tongue reduced and almost transparent, it may be invisible or look like a small dark fine line (in ventral view). Sternite 9: clump of hairs in general present, although length and number of hairs very variable (Fig. 5-7), they may even lack them (Fig. 4).

***Oldenbergiella seticerca* Papp, 1980**

MATERIAL STUDIED: from the 576 females that still needed study, 224 have been identified: La Rioja: Villoslada de Cameros: 27.2.-6.3.2010 33 females, 7-20.3.2010 64 females, 21-28.3.2010 108 females; Zaragoza: Luesia, 10.3.2011 9 females, 11.3.2011 10 females. These females are added to the only female that was able to be identified in Carles-Tolrá *et al.* 2011, as it was mating. Furthermore, the only female included in the paper by Carles-Tolrá *et al.*, 2000 has been reviewed.

DESCRIPTION. Hypoproct (Fig. 2): pigmented part drop-shaped, uniformly pigmented (anterior tip sometimes darkened and more or less pointed); tongue slightly pigmented and may even be transparent, not or not very much backward curved. Sternite 9: clump of hairs, although in general absent (Fig. 4), it may be formed by a few long hairs.

***Oldenbergiella canalicata* Carles-Tolrá, 1998**

No female of this species among the material that still needed study in Carles-Tolrá, 2011 and Carles-Tolrá *et al.*, 2011 has appeared. 35 females of the 43 included in the paper by Carles-Tolrá & Pujade-Villar, 2003 have been checked.

DESCRIPTION. Hypoproct (Fig. 3): pigmented part drop-shaped, uniformly pigmented (anterior tip very darkened and more or less blunt); tongue very pigmented, dark brown and distinctly backward curved. Sternite 9: clump of hairs in general absent, although it may bear a few long hair.

***Oldenbergiella blascoi* Carles-Tolrá, 1995**

MATERIAL STUDIED: 25 females of the 27 included in the paper by Carles-Tolrá, 1995 have been revised.

DESCRIPTION. Hypoproct: as that of *O. seticerca*, but the tongue may be very clear, more despigmented. Sternite 9: clump of hairs present.

***Oldenbergiella pappi* Carles-Tolrá, 1992**

MATERIAL STUDIED: the 2 females included in the paper by Carles-Tolrá, 1992 have been revised.

DESCRIPTION. Hypoproct: as that of *O. seticerca*; tongue pigmented, curved. Sternite 9: clump of hairs present.

***Oldenbergiella* sp.**

MATERIAL STUDIED: La Rioja: Villoslada de Cameros: 21-28.3.2010 1 female. Among the 576 females that still needed study, one, that has not been able to be identified, has appeared.

DESCRIPTION. Hypoproct: as that of *O. calcarifera*, but anterior despigmented part very narrow, lineal; tongue reduced, transparent. Sternite 9: clump of hairs present. Basal scutellar bristles shorter than scutellum. Terguite 9 bearing a pair of small and curved posterolateral sclerites, an only character among the five species revised. It could belong to an undescribed species.

Conclusion

For the identification of the females of *Oldenbergiella* species, the study of the pigmented part of the hypoproct and its anterior projection (tongue) is needed, together with other characters like the clump of posterior hairs on sternite 9 and the length of basal scutellars.

Acknowledgements

My most sincere thanks to Jane Pérez (Barcelona) for reviewing the English.

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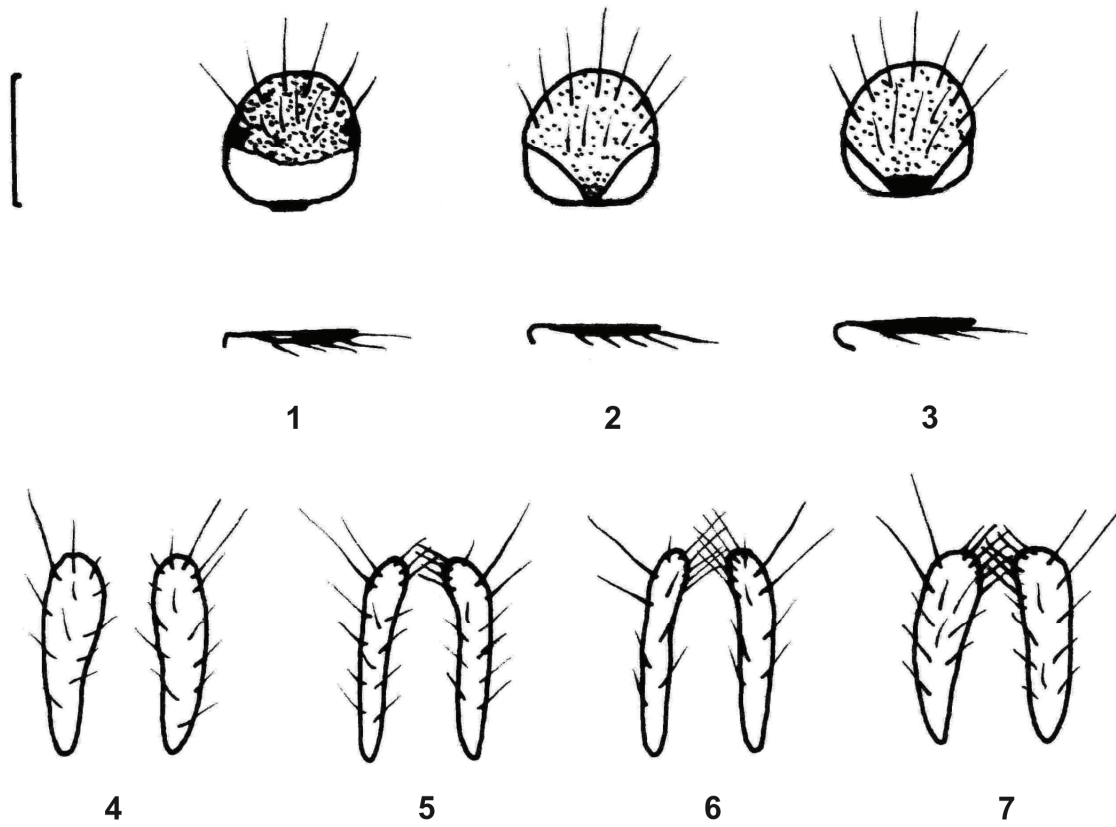


Fig. 1-7. *Oldenbergiella* spp: 1-3: hypoproct in ventral and lateral view: 1) *O. calcarifera* Papp, 2) *O. seticerca* Papp, and 3) *O. canalicata* Carles-Tolrà. 4-7: *Oldenbergiella* spp: sternite 9: variability in the number and length of the inner apical hairs (clump of hairs). Scale = 0.1 mm.