

FIRST CASES OF GYNANDROMORPHISM IN *PHLEBOTOMUS PERNICIOSUS* NEWSTEAD 1911 (DIPTERA, PSYCHODIDAE, PHLEBOTOMINAE)

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Summary :

Two gynandromorphic specimens of *Phlebotomus perniciosus* Newstead, 1911 are described and illustrated for the first time. The specimens were collected in the Northeast of the Iberian Peninsula (Spain).

KEY WORDS : *Phlebotomus perniciosus*. gynandromorphs. Spain.

INTRODUCTION

During an epidemiological survey of zoonotic leishmaniasis carried out in the NE of the Iberian Peninsula, two gynandromorphic specimens belonging to *Phlebotomus perniciosus* Newstead were collected. According to the literature, this character has been observed in *Lutzomyia longipalpis* (Lutz et Neiva), *L. rorotaensis* Floch et Abbonenc, *Phlebotomus ariasi* Tonnoir, *P. orientalis* Parrot, *Sergentomyia bedfordi* (Newstead), *S. minuta* (Rondani) and *S. minuta parroti* (Adler et Theodor) (revisions summarized by Martínez Ortega *et al.*, 1989 and Gállego *et al.*, 1991). This is the first report of gynandromorphism in *P. perniciosus*.

MATERIAL AND METHODS

Sandflies were collected in July 1991 in Torroja del Priorat (41°15' N 1°00' E) using castor-oil soaked papers. The specimens were fixed in 90° alcohol and mounted in Hoyer's medium previous clearing in lactic acid.

RESULTS

DESCRIPTION OF THE SPECIMENS

Specimen n° 1 : male-like gynandromorph (Fig. 1)

With most of the male genitalia elements (coxites and styles, parameres, genital pump and genital filaments) perfectly

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Résumé : PREMIERES MENTIONS DE GYNANDROMORPHISME CHEZ *PHLEBOTOMUS PERNICIOSUS* NEWSTEAD, 1911 (DIPTERA, PSYCHODIDAE, PHLEBOTOMINAE)

Description de deux exemplaires gynandromorphes de *Phlebotomus perniciosus* Newstead, 1911 capturés dans le nord-est de la Péninsule ibérique (Espagne).

MOTS CLES : *Phlebotomus perniciosus*. gynandromorphes. Espagne.

constituted. Penian valves well constituted but showing a slight reduction in their length. Left lateral lobe or surstyle normally developed and the right one showing a marked degree of atrophy, about 30%. Cerci well-shaped. The absence of three spines in the right style and two in the left one is due, undoubtedly, to a mechanical cause during the collection and/or mounting of the specimen.

Female genitalia is reduced to the presence of the insula and the lobes of the 8th sternite, whose spatulate apophyses appear shortened, distorted and without their apical spines.

It should be noticed that the abdominal end has rotated 180°, which is exceptional in other gynandromorphic specimens, showing the genital claspers a normal position, while the lobes of the 8th sternite have occupied an anomalous position.

The mouth parts are typically male-like, as is the antennal formula.

Specimen n° 2 : female-like gynandromorph (Fig. 2)

The elements of the female genitalia (lobes of the 8th sternite and their spatulate rods and spines, insula, furca, spermathecae with their conducts and basal diverticles) are well-shaped and normally developed. Cerci also normal.

Male genitalia reduced to the presence of a rudimentary left lateral lobe, showing 90% reduction and with only a left genital gonapophysis with a very rudimentary coxite, curved and shorter than the cerci ("median lamina" in some authors) and with the style represented by a spiniform formation implanted in the top of the coxite.

The absence of the head did not allow observation of secondary sexual characters.

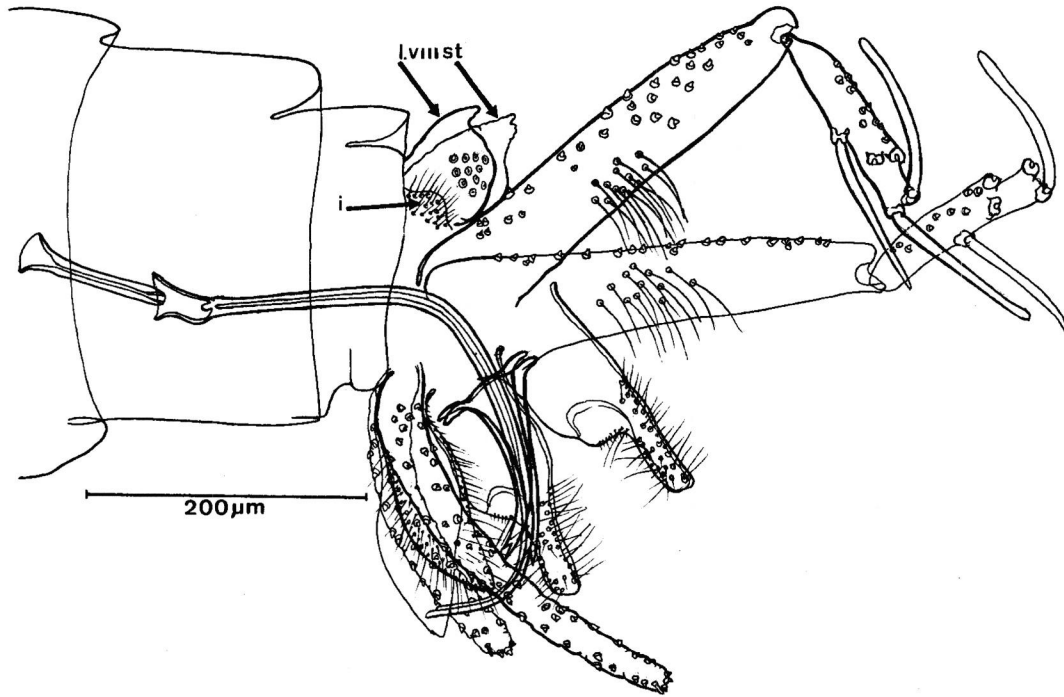


Fig. 1. Male-like gynandromorph of *P. perniciosus* (bar=200 μm) (i=insula, l.viii st=lobes of the 8th sternite in dorsal position).

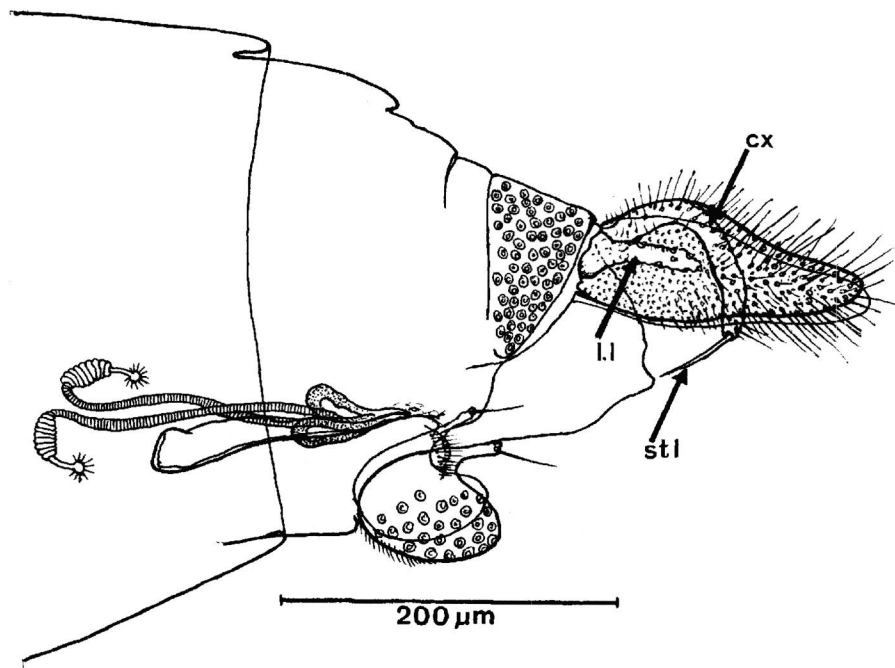


Fig. 2. Female-like gynandromorph of *P. perniciosus* (bar=200 μm) (cx=coxite, stl=style, l.l=lateral lobe).

DISCUSSION

The study of these *P. perniciosus* gynandromorphic specimens seems to confirm previous observations of the relatively high frequencies of the very partial and rudimentary development presented by the structures pertaining to the non dominant sex, frequently only noticeable after very careful examination.

Teratologies more or less pronounced or anomalies, practically constant in the gonapophysis of the gynandromorphs, are once more present in the specimens studied here, although in the male-like specimen they are reduced to a shortening of one of the lateral lobes and to the distortion of the spine-less spatulate rods of the 8th external lobes of the female genitalia.

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