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urn:lsid:zoobank.org:pub:76431B07-5805-41A2-8CBD-C0271A76E1D6

On the identity of *Bithoracochaeta sociabilis* Blanchard (Diptera: Muscidae): a new synonym of *Atherigona orientalis* Schiner

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Everard Eells Blanchard (1889-1971) was a distinguished figure of the Argentinean entomology. During his productive career, Blanchard described numerous species of Diptera, mostly on Tachinidae and Sarcophagidae, and published more than 150 articles (Cortés 1973). Blanchard worked for many years at the “División de Zoología Agrícola, Ministerio de Agricultura y Ganadería” (Agricultural Zoology Division, Ministry of Agriculture and Livestock) and later (as director) at the “Instituto de Patología Vegetal (Institute of Plant Pathology). After Blanchard’s decease, most specimens of his collection were sent to “Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Capital Federal, Buenos Aires (MACN), and some few specimens were retained at “Instituto Nacional de Tecnología Agropecuaria”, Castelar, Buenos Aires (INTA) (Dr. Axel O. Bachmann, pers. comm.).

Several endemic species of Muscidae from Argentina are only known from the original description and were never revised. As part of a continuous study on nominal species of Calyptratae and their name-bearing types housed in Argentinean institutions (Mulieri *et al.* 2010; Patitucci *et al.* 2011), the present work revises the only nominal species of Muscidae described by Blanchard.

Bithoracochaeta sociabilis was described by Blanchard (1937: 41) based on an unspecified number of males and females collected from Loreto, Misiones province, Argentina by Dr. A. Ogloblin, and from Chaco province, Argentina by Dr. P.C.L. Denier. Blanchard provided a detailed description and suggested this species would be close to *Bithoracochaeta leucoprocta* (Wiedemann). The specimens were designated as “cotipos” (syntypes according to ICZN 1999: Art 73.2) by Blanchard and, at the time, were deposited in his personal collection. After the original description, *B. sociabilis* was mentioned in few works. Albuquerque (1956) stated that *B. sociabilis* probably belong to the genus *Austrocoenosia* Malloch, and more recently, Couri and Motta (2000) transferred temporarily the species to the genus *Neodexiopsis* Malloch. However, in both proposed nomenclatural actions, the mentioned authors did not revise the type series of *B. sociabilis*.

We examined the type series of *B. sociabilis* deposited at Instituto Nacional de Tecnología Agropecuaria, Castelar, Buenos Aires (INTA), and found this nominal species to be a junior synonym of *Atherigona orientalis* Schiner, 1868. The morphological characters provided by Pont (1992) in his redescription of *A. orientalis*, were used here for the identification of specimens.

Atherigona orientalis is a widespread and common species throughout the warm areas of the Old World and New World, and their larvae usually breed in plant decaying matter. This species often produces secondary infestations on crop plants (cotton, fruits, vegetable, etc.) (Pont 1992) and is considered an important pest of fruits and vegetables (Rodrigues *et al.* 2006). The specimens examined by Blanchard were collected on cotton and tomato.

The distributional range of *A. orientalis* in the Neotropical region extends from the southern United States to northeast Argentina. The first record in Argentina was made by Pont (1992) based on specimens housed at the Natural History Museum, London, United Kingdom. He recorded the species to Iguazú (Misiones province). We provide here an update of the geographical distribution of this species in Argentina (Figure 4).

All the specimens studied belong to the following institutions (acronyms in parentheses): Administración Nacional de Laboratorios e Institutos de Salud “Dr. Carlos G. Malbrán”, CeNDIE - Departamento Vectores, Buenos Aires, Argentina (ANLIS); Instituto e Fundación Miguel Lillo, Tucumán, Argentina (IFML); Instituto Nacional de Tecnología Agropecuaria, Castelar, Buenos Aires (INTA).

***Atherigona orientalis* Schiner, 1868**

(Figs 1–4)

Atherigona orientalis Schiner, 1868: 295. Type-locality: “Tellnschong”, Nicobar Is.

Coenosia excisa Thomson, 1869: 560 Type-locality: Ross Is. [Cocos-Keeling Is.].

Atherigona trilineata Stein, 1900: 157. Type-locality: Papua New Guinea, Friedrich Wilhelmshafen (= Madang).

Acritochaeta pulvinata Grimshaw, 1901: 42. Type-locality: Hawaii, Olaa.

Atherigona marginipalpis Stein, 1906: 66. Type-locality: Cameroun.

Atherigona excisa var. *flavipalpis* Malloch, 1928: 303. Type-locality: Sumatra.

Bithoracochaeta sociabilis Blanchard, 1937: 41. Type-locality: Argentina, Misiones, Loreto. **Syn. nov.**

Lectotype designation for *B. sociabilis*. All specimens bear labels with original data of locality, date and collector. Blanchard (1937) mentioned as “habitat” of *B. sociabilis* the localities of Loreto in Misiones province, and Chaco province, but did not provide an explicit mention of the type-locality. To determine which specimens constitute the type series (ICZN 1999: Art 72,4.1.1.), we have taken into account the presence of original labels indicating the type-status. The specimens collected in Loreto bears the labels indicating their type condition.

Labels are quoted verbatim, lines separated by slash. Lectotype and paralectotypes were labeled with a red label, accordingly.



FIGURES 1–3. *Bithoracochaeta sociabilis* Blanchard. 1. Male paralectotype, lateral view. 2. Cover slips of lectotype. 3. Original labels of lectotype.

LECTOTYPE male (INTA) glued on card (Fig. 1), and legs, wing & terminalia on plastic cards pinned with the specimen (Fig. 2); with the following labels (Fig. 3): “Loreto / 26/XII/1935 / Ogloblin” handwritten on white paper, black frame; “S/ guavita / Eugenia / sp.” handwritten on white paper, black frame; “Bithoracochaeta / sociabilis / Blnchd. [handwr.] / det. E.E. Blanchard [print.]” on white paper, black frame; “251” handwritten with blue ink, on white paper, black frame; “Holotypus [print.] / ♂ [handwr.]” on red paper; “Lectotype / Bithoracochaeta sociabilis / Blanchard 1937 / L. D. Patitucci det. 2012” [red label, printed]. PARALECTOTYPES (INTA): One female glued on card, “Est. Exp. Loreto / 193[print.].5-12-26[handwr.] / Dr. A. Ogloblin [print.]” on white paper; “S/ guavita / (Eugenia sp.)” handwritten on white paper, black frame; “Bithoracochaeta / sociabilis / Blnchd. [handwr.] / det. E.E. Blanchard [print.]” on white paper, black frame; “250” handwritten with blue ink, on white paper, black frame; “Paratypus [print.] / ♀ [handwr.]” on red paper; “Paralectotype / Bithoracochaeta sociabilis / Blanchard 1937 / L. D. Patitucci det. 2012” [red label, printed]. One male in good condition, glued on card, “S/ guavita / Eugenia / sp.” handwr. on white paper, black frame; “Loreto / 26/XII/35 / Ogloblin” handwr. on white paper, black frame; “253” handwr. with blue ink, on white paper, black frame; “Paratypus [print.] / ♂ [handwr.]” on red paper; “Paralectotype / Bithoracochaeta sociabilis / Blanchard 1937 / L. D. Patitucci det. 2012”



FIGURE 4. Geographic distribution of *A. orientalis* in Argentina. Black dots: new records; black stars: province new record (inexact data); gray squares: previous distribution.

[red label, printed]. One female glued on card, legs on plastic cards pinned with the specimen; “S/ guavita / Eugenia / sp.” handwr. on white paper, black frame; “Loreto / 26/XII/35 / Ogloblin” handwr. on white paper, black frame; “252” handwr. with blue ink, on white paper, black frame; “Paratypus [print.] / ♀ [handwr.]” on red paper; “Paralectotype / *Bithoracochaeta sociabilis* / Blanchard 1937 / L. D. Patitucci det. 2012” [red label, printed].

Other material examined. ARGENTINA. CHACO: 8 females, 4 males, Chaco, 1935, Blanchard det. (INTA), 2 females, 6 males, El Zapallar [now General José de San Martín]. Zapiola leg. Blanchard det. (INTA); CORRIENTES: 2 females, Bella Vista, Corrientes, 8-III-1939, on tomato. Blanchard det. (INTA); FORMOSA: 4 females, 1 male, Formosa, VI-1938, on cotton. Mallo leg. Blanchard det. (INTA); MISIONES: 5 females, Iguazú, X-1998. Mariluis leg. (ANLIS); SALTA: 2 females, Aguaray, 14/19-II-1950. Golbach leg. Snyder det. [as *A. orientalis*] (IFML); 2 females, 1 male, Santa Rosa, Oran, 24-VI-1948. Rosillo leg. Blanchard det. (INTA); SANTIAGO DEL ESTERO: 2 females, 1 male, Santiago del Estero, 15-II-1954. Blanchard det. (INTA). [All specimens determined by Blanchard as *B. sociabilis*.]

Distribution in Argentina (Fig. 4): Chaco (General José de San Martín) (new record); Corrientes (Bella Vista) (new record); Formosa (new record); Misiones (Iguazú, Loreto); Salta (Aguaray, Santa Rosa) (new record); Santiago del Estero (new record).

Acknowledgements

Thanks to the curator Ing. Rubén La Rosa for the loan of material and for his help during the study of specimens at INTA. We also thank to Dr. Axel O. Bachmann and Andrea Motter.

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