

New combinations and a subfamily reassignment in Afrotropical Miltogramminae (Diptera: Sarcophagidae)

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Abstract. As part of revisionary work for the *Manual of Afrotropical Diptera*, the taxonomy and nomenclature of the genus *Chauliooestrus* Villeneuve, 1925 are reviewed. The two orthographies *Chauliooestrus* and *Chaulioestrus* are considered variant original spellings, with the former being the correct original spelling. The species *C. denudatus* (Villeneuve, 1920) (originally in *Pododexia* Brauer & Bergenstamm, 1889) is reassigned to the subfamily Miltogramminae (tribe Sarcotachinini) from its previous placement in the subfamily Paramacronychiinae, based on morphology of the male terminalia. The following new combinations are proposed in the subfamily Miltogramminae (tribe Miltogrammini): *Erioprocta africana* (Curran, 1936) **new comb.** (from previous placement in *Protomiltogramma* Townsend, 1916), *Erioprocta stuckenbergi* (Zumpt & Stimie, 1965) **new comb.** (from previous placement in *Protomiltogramma*) and *Erioprocta triseriata* (Curran, 1936) **new comb.** (from previous placement in *Pterella* Robineau-Desvoidy, 1863). *Erioprocta africana* is recorded from Angola for the first time, *E. stuckenbergi* is recorded from South Africa for the first time and *E. triseriata* is recorded from Lesotho for the first time.

INTRODUCTION

Afrotropical flesh flies (Diptera: Sarcophagidae) currently comprise about 400 species. Most are assigned to 26 described genera, some of which are monotypic, while several species do not fit current generic concepts and will likely require the establishment of new genera (Whitmore *et al.* in press). Of these genera, including the potential new genera, only five belong to the subfamilies Sarcophaginae and Paramacronychiinae, whereas all other genera belong to the subfamily Miltogramminae. Relationships among miltogrammine genera have not yet been fully resolved, although recent phylogenomic studies have laid the foundation for a tribal classification of the subfamily (Johnston *et al.* 2024). As part of revisionary work for the Sarcophagidae chapter of the *Manual of Afrotropical Diptera*, and within the framework of broader phylogenetic studies on global Sarcophagidae, we here introduce a few nomenclatural and taxonomic changes affecting Afrotropical Miltogramminae. Material examined is deposited in the American Museum of Natural History, New York, USA (AMNH) and the KwaZulu-Natal Museum, Pietermaritzburg, South Africa (NMSA). Label data for type specimens are presented verbatim, with clarifications provided in square brackets. The *International Code of Zoological Nomenclature* (ICZN 1999, 2012) is referred to as “ICZN Code”.

RESULTS

Subfamily Miltogramminae

Tribe Sarcotachinini

Genus *Chauliooestrus* Villeneuve, 1925

REMARKS: Villeneuve (1925a, 1925b) published two papers simultaneously in the same issue of the journal *Konowia*. The first paper contains the parenthetical “(*Chauliooestrus capensis*)” (Villeneuve 1925a: 25) in a general discussion of “Tachino-Oestridae” (p. 24), and Villeneuve’s remark that “J’en fais connaître ci-après une autre” (I present another [“forme”] below) can only refer to the second paper, which starts abruptly with “*Chauliooestrus* n. gen.” (Villeneuve 1925b: 48) and “*C. capensis* n. sp.” (p. 49) in consecutive paragraphs. Although separated by 21 pages and without an indication such as “contd.”, the two papers are connected by context. Pont (1980: 884) accordingly treated the combined work of Villeneuve (1925a, 1925b) as one original work and acted as First Reviser (ICZN Code, Art. 24.2), selecting the spelling *Chauliooestrus* as the correct original spelling. It should be mentioned that Hedicke (1925: 23), Bezzi (1926: 1), Townsend (1931: 381) and Emden (1945: 419, 1947: 627) all used the spelling *Chaulioestrus*, but none of these authors mentioned the alternate original spelling and therefore none qualifies as a First Reviser.

Chauliooestrus denudatus (Villeneuve, 1920)

Pododexia denudata Villeneuve, 1920: 156. South Africa, Cape Province, Willowmore.

Chauliooestrus capensis Villeneuve, 1925a: 25. South Africa, Cape Province. Synonymy proposed by Emden (1947) and followed by Pape (1991, 1996).

REMARKS: Originally described in the genus *Pododexia* by Villeneuve (1920), who later described the monotypic genus *Chauliooestrus* Villeneuve, 1925 for another nominal species, *Chauliooestrus capensis* Villeneuve, 1925, which was later synonymized with *Pododexia denudata* by Emden (1947). Pape (1991) accepted this synonymy with some reservations, as he was not able to locate the holotype of *C. capensis*, and described a second species, *Chauliooestrus leza* Pape, 1991. The history of the taxonomic placement of the genus *Chauliooestrus* was reviewed in detail by Pape (1991). Despite initial hints to an affiliation with Sarcophagidae by Villeneuve, which was supported by Emden (1945), the genus was for a long time classified in the oestrid group of families, first in the Cuterebridae (Townsend 1931) and later in the Gasterophilidae (Pont 1980). Pape (1991), in revising the genus, correctly placed it in the sarcophagid subfamily Miltogramminae, based on external morphology and morphology of the male terminalia. However, Pape (1996) later transferred the genus to the subfamily Paramacronychiinae based on a misinterpretation of some features of the male terminalia. The recent study of additional material of *C. denudatus* for the sarcophagid chapter of the *Manual of Afrotropical Diptera* confirmed Pape’s (1991) previous placement of the genus in the Miltogramminae due to the morphology of the distiphallus with sclerotized denticles, a distal (not subapical) acrophallus and the presence of a well-developed epiphallus (see Whitmore *et al.* in press: fig. 154). Here, the genus *Chauliooestrus* is thus formally transferred to the subfamily Miltogramminae, and more specifically to the tribe Sarcotachinini, from its previous placement in the subfamily Paramacronychiinae (Pape 1996, 1998). It remains monophyletic, as the nominal species *C. leza* most likely belongs to a separate species-group currently unplaced to genus within the Sarcotachinini (Whitmore *et al.* in press).

MATERIAL EXAMINED: 1 male (NMSA-DIP 118037), Namibia, 20 km NW of Grootfontein, Rd 72, 19.28S 17.58E, 22.III.1984, J. Londt & B. Stuckenberg leg. (NMSA).

Tribe Miltogrammini

Genus *Erioprocta* Enderlein, 1936*Erioprocta africana* (Curran, 1936) new comb.

Pterella africana Curran, 1936: 4. South Africa, Transvaal, Pretoria.

REMARKS: Originally described from South Africa, subsequently recorded from Uganda and Zimbabwe (Pape 1996) and here recorded from Angola for the first time. Following Johnston *et al.*'s (2024) resurrection of the genus *Erioprocta* Enderlein, 1936 for species formerly classified in the genus *Pterella* Robineau-Desvoidy, 1863 whose males possess "sexual patches" ventrolaterally on the posteriormost abdominal tergites (see Cerretti *et al.* 2015; Whitmore *et al.* in press: fig. 142), and following examination of material in NMSA, we here transfer this species to *Erioprocta* Enderlein, 1936, **new comb.**, from its previous placement in *Protomiltogramma* Townsend, 1916 (Pape 1996). Species in these two genera can also be distinguished by the shape of the lower calypter, which is conspicuously more rounded in profile in *Protomiltogramma* (see Whitmore *et al.* in press: fig. 46).

MATERIAL EXAMINED: 1 female (holotype), [South Africa, Transvaal] Pretoria, 14.2.[19]28, H.K. Munro [leg.] (AMNH). 1 male, South Africa, Transvaal, Johannesburg, [no date], F. Zumpt leg. (NMSA) [labelled "allotype" by F. Zumpt]. 1 male, Angola (**new country record**), Rio Longa, 8.III.1972, S. Lus-suso leg. (NMSA). 1 male, Angola, Rocadas, 19–22.II.1972, R. Cunene leg. (NMSA).

Erioprocta stuckenbergi (Zumpt & Stimie, 1965) new comb.

Pterella stuckenbergi Zumpt & Stimie, 1965: 16. Lesotho, Maseru District, Roma Mission.

REMARKS: Originally described from Lesotho and here recorded from South Africa for the first time. Following Johnston *et al.*'s (2024) resurrection of the genus *Erioprocta* for species formerly classified in the genus *Pterella* Robineau-Desvoidy, 1863 whose males possess "sexual patches" (see Cerretti *et al.* 2015; Whitmore *et al.* in press: fig. 142), and following examination of the holotype of *Pterella stuckenbergi* in NMSA, we here transfer this species to *Erioprocta*, **new comb.**, from its previous placement in *Protomiltogramma* (Pape 1996). Species in these two genera can also be distinguished by the shape of the lower calypter, which is conspicuously more rounded in profile in *Protomiltogramma* (see Whitmore *et al.* in press: fig. 46).

MATERIAL EXAMINED: 1 male (holotype), Basutoland [= Lesotho], Maseru District, Roma Mission, B. & P. Stuckenberg [leg.], 4–13 Jan. 1963; Valley floor, old lands, 5500 ft. (NMSA). 1 male, South Africa (**new country record**), Royal Natal National Park, -28.71156 28.83819, 14–17.I.2019, J. Midgley & K. Williams leg. (NMSA). 1 male, South Africa, Eastern Cape, 5 km ENE of Rhodes, 30°47'S 28°00'E, 2066 m, 4–5.II.1992, Malaise trap (ravine), Natal Museum Expedition leg. (NMSA). 1 male, South Africa, Western Cape, 70 km W of Laingsburg, 900 m, J. & B. Londt leg. (Macchia vegetation) (NMSA).

Erioprocta triseriata (Curran, 1936) new comb.

Pterella triseriata Curran, 1936: 4. South Africa, Orange Free State, Bloemfontein.

REMARKS: Originally described from South Africa, subsequently recorded from Gambia and Kenya (Pape 1996) and here recorded from Lesotho for the first time. Following Johnston *et al.*'s (2024) resurrection of the genus *Erioprocta* Enderlein, 1936 for species formerly classified in the genus *Pterella* Robineau-Desvoidy, 1863 whose males possess "sexual patches" ventrolaterally on the posteriormost abdominal tergites (see Cerretti *et al.* 2015; Whitmore *et al.* in press: fig. 142), and following examination of material in NMSA, we here transfer this

nominal species to *Erioprocta* from its previous placement in *Pterella*, **new comb.** (Pape 1996). The female holotype of this species could not be located in either NMSA or AMNH.

MATERIAL EXAMINED: 2 males (NMSA-Dip 117975, NMSA-Dip 029509), Lesotho [as Basutoland] (**new country record**), Maseru District, Roma Mission, 4–13.I.1963, B. & P. Stuckenberg leg. (valley floor, old lands, 5500 ft) (NMSA).

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