

Mosquitoes (Diptera: Culicidae) originally described from Suriname

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Abstract

Ongoing efforts to refine the taxonomy of the mosquito fauna of French Guiana have led us to re-examine species originally described from neighboring territories. In this paper, we provide a thorough review of the 60 mosquito species originally described from specimens collected in Suriname. Most importantly, the validity of species is assessed by re-examining the primary types (holotype or lectotype) considering the most recent taxonomic work on Neotropical mosquitoes. As a result, *Sabethes (Sabethoides) imperfectus* (Bonne-Wepster & Bonne, 1920) (**stat. nov.**) is resurrected from synonymy with *Sa. (Sbo.) chloropterus* (von Humboldt, 1819); *Sa. (Sbo.) tridentatus* Cerqueira, 1961 is synonymized with *Sa. (Sbo.) imperfectus* (**syn. nov.**); *Culex (Melanoconion) alinkios* Sallum & Hutchings, 2003 is synonymized with *Cx. (Mel.) coppenamensis* Bonne-Wepster & Bonne, 1920 (**syn. nov.**); *Cx. (Mel.) comptus* Sá & Sallum, 2020 is synonymized with *Cx. (Mel.) commevynensis* Bonne-Wepster & Bonne, 1920 (**syn. nov.**); *Cx. (Mel.) curopinensis* Bonne-Wepster & Bonne, 1920 (**stat. nov.**) is resurrected from synonymy with *Cx. (Mel.) pilosus* (Dyar & Knab, 1906d); and *Toxorhynchites (Megarhina) guianensis* (Bonne-Wepster & Bonne, 1920) (**stat. nov.**) is resurrected from synonymy with *Tx. (Meg.) guadeloupensis* (Dyar & Knab, 1906c) and elevated to species rank. Additionally, the synonymies of *Wyeomyia fallax* Bonne-Wepster & Bonne, 1919 with *Wy. (Wyeomyia) medioalbipes* Lutz, 1904 [not with *Wy. (Miamiya) oblita* (Lutz, 1904)] and *Cx. xivylis* Dyar, 1920 with *Cx. (Mel.) bastagarius* Dyar & Knab, 1906b [not with *Cx. (Mel.) intricatus* Brèthes, 1916] are re-validated. Finally, the identity of *Cx. (Mel.) albinensis* Bonne-Wepster & Bonne, 1920 is re-established and discussed with regard to the morphologically close *Cx. (Mel.) rabelloi* Forattini & Sallum, 1987.

Key words: holotype, lectotype, South America, type depository, type locality

Introduction

The principle of priority is a cornerstone of zoological nomenclature, establishing that the valid name of a taxon is the oldest available name assigned to it (International Commission on Zoological Nomenclature 1999). In taxonomy, arguably more than in any other scientific discipline, this principle demands a retrospective and critical evaluation of the validity of names currently in use. This is especially crucial in regions such as the Amazon biome, which hosts one of the highest levels of biodiversity globally, including hundreds of valid mosquito species and a comparable number of synonyms (Wilkerson *et al.* 2021). Numerous arboviruses have been detected in mosquitoes and their vertebrate hosts in the region, highlighting the medical importance of accurate mosquito taxonomy. In recent years, ongoing efforts to refine the taxonomy of the mosquito fauna of French Guiana (Talaga *et al.* 2020; Talaga *et al.* 2021; Talaga & Gendrin 2022; Talaga & Duchemin 2023; Talaga *et al.* 2025) have led us to re-examine the validity of species originally described from neighboring territories. Among them is the Republic of Suriname (hereafter “Suriname”), a country of approximately 163,270 km² located on the northern coast of South America, bordered by

Guyana to the west, French Guiana to the east, and the Brazilian states of Amapá and Pará to the south. Formerly a Dutch colony until its independence in 1975, Suriname retains strong diplomatic, economic and cultural ties with The Netherlands. Suriname's landscape is characterized by a coastal plain overlooking the Atlantic Ocean, bordered by mangroves, marshes and swamp forests interspersed with numerous rivers. The interior is covered with upland (*terra firme*) forest interspersed with numerous watersheds.

Mosquito taxonomy in Suriname was particularly active in the early 20th century, largely due to the pioneer work of Johanna Bonne-Wepster and Cornelis Bonne (Bonne-Wepster & Bonne 1919, 1920, 1923; Bonne 1923; Bonne & Bonne-Wepster 1925). Between 1916 and 1923, they conducted extensive mosquito collections, primarily along the Lawa Railway connecting the capital city of Paramaribo to the southern interior. These efforts resulted in thousands of mounted mosquito specimens and the description of numerous new taxa. Out of the 60 mosquito species originally described from Suriname, only three (namely *Psorophora vanhalli* (Dyar & Knab, 1906a) [synonym of *Ps. (Janthinosoma) ferox* (von Humboldt, 1819)], *Culex aikenii* Dyar & Knab, 1908 [synonym of *Cx. (Culex) quinquefasciatus* Say, 1823] and *Wyeomyia surinamensis* Bruijning, 1959 [synonym of *Wy. (Leonidasdeanea) flui* (Bonne-Wepster & Bonne, 1920)] were not collected by them (Belkin *et al.* 1965). About half of these 57 species were described by J. Bonne-Wepster and/or C. Bonne (Bonne-Wepster & Bonne 1919, 1920, 1923; Bonne 1923) and were originally deposited in the *Instituut voor Tropische Hygiëne* (ITH) in Amsterdam (The Netherlands). The mosquitoes originally deposited at the ITH were transferred in the 1970s to the *Rijksmuseum van Natuurlijke Historie* (RMNH) in Leiden (The Netherlands), which is currently known as Naturalis Biodiversity Center (Ciliberti *et al.* 2023). The remaining species were described by Dyar (1918, 1919, 1920, 1921), Dyar & Knab (1919), Root (1927a) and Komp & Rozeboom (1951), and were originally deposited in the United States National Museum (USNM) in Washington, DC (United States of America).

During his visit to several European museums in 1966, John N. Belkin designated numerous lectotypes, although the validity of many species remained unresolved, pending detailed revisions of the groups involved (Belkin 1968). Since the 1970s, several taxonomic revisions of various diverse taxonomic groups of American mosquitoes were undertaken (Wilkerson *et al.* 2021). The types of most species originally described from Suriname and deposited in the U.S. have already been re-examined since their original description. For example, the type of *Culex tapena* Dyar, 1919 [synonym of *Cx. (Aedinus) amazonensis* (Lutz, 1905)] was re-examined by Berlin & Belkin (1980), and the type specimens of *Cx. (Carrollia) bonnei* Dyar, 1921 by Valencia (1973), *Cx. (Cux.) bonneae* Dyar & Knab, 1919, *Cx. (Cux.) brevispinosus* Bonne-Wepster & Bonne, 1920 (paratype), *Cx. (Cux.) surinamensis* Dyar, 1918 by Bram (1967) and the lectotype of *Cx. (Cux.) usquatus* Dyar, 1918, a member of the Coronator Complex, was examined by Laurito *et al.* (2018). Several type specimens of the subgenus *Melanoconion* were re-examined by Rozeboom & Komp (1950). More recently, the holotypes of *Cx. (Mel.) bibulus* Dyar, 1920 and *Cx. (Mel.) vaxus* Dyar, 1920, both classified in the Educator Group of the subgenus *Melanoconion* as defined by Sirivanakarn (1983), were re-examined and partially illustrated in Sá *et al.* (2022). In contrast, the types deposited in The Netherlands, mainly those originally curated by J. Bonne-Wepster and C. Bonne, have remained largely unexamined since their initial study.

In this paper, we provide a comprehensive review of all mosquito species originally described from specimens collected in Suriname. We focus particularly on the current location of type material, the composition of type series and the delimitation of type localities. Finally, the validity of each species is assessed by re-examining the primary types (holotypes and lectotypes) considering the most recent taxonomic work on Neotropical mosquitoes.

Material and methods

A list of mosquito species originally described from Suriname was first compiled from the taxonomic catalog of the *Mosquitoes of the World* (Wilkerson *et al.* 2021). Information published about the type material of those species was gathered, and an effort made to determine their current location. Type material was searched for and examined in the RMNH by the first author in October 2023.

Type series. Dyar (1918, 1919, 1920, 1921) and Dyar & Knab (1919) always indicated J. Bonne-Wepster as the sole collector of the specimens they received from Suriname. Even though J. Bonne-Wepster and C. Bonne worked jointly, we chose to keep J. Bonne-Wepster as the sole collector of these specimens. Conversely, both were indicated as collectors of primary type specimens of species they originally described from Suriname, except

for *Sabethes kappleri* Bonne, 1923 [synonym of *Sa. (Sabethes) amazonicus* Gordon & Evans, 1922], which was explicitly collected and described solely by Bonne (1923).

Existing collection data on the types of mosquitoes described from Suriname are provided in their original descriptions as well as in *Mosquitoes of Surinam, A study of Neotropical mosquitoes* of Bonne & Bonne-Wepster (1925). Collection data are sometimes incomplete or explicitly missing, and J. Bonne-Wepster and C. Bonne's field notes have unfortunately been lost (Belkin 1968). Nevertheless, an unpublished document titled "Catalogue of mounts of larval skins, hypopygia and other parts of mosquitoes, belonging to the collections made by J. Bonne-Wepster and C. Bonne in Dutch Guiana during the years 1916-1923" was consulted by Belkin (1968) before the specimens were moved to the RMNH. In most cases, the cross-reference of collection data between these different sources is correct, although they occasionally contain inaccuracies, inconsistencies or errors. We present here a synthesis of the available collection data for primary types, both previously published and unpublished (Ciliberti *et al.* 2023). In case of inconsistencies, we always considered the data published by J. Bonne-Wepster and C. Bonne to be more reliable than information published later.

Type localities. Type localities were clarified in accordance with the *International Code of the Zoological Nomenclature* (ICZN) Recommendation 76A (International Commission on Zoological Nomenclature 1999). The geographical designation of the type locality is listed in most cases as it was stated in the original publication, with the correct spelling of Dutch words. The larger geographical entities used in the original descriptions often referred to former administrative entities which are useless today and prone to more confusion. Consequently, former administrative entities were removed and replaced by clearly identified larger geographical entities, with the correct spelling of English words. Corrected information for type localities compared to Wilkerson *et al.* (2021) is indicated in square brackets in the list.

The designation of type localities for the last 16 species described by H.G. Dyar from specimens collected by J. Bonne-Wepster were not provided or reduced to vague terms such as "coastal region" or "interior of the colony" (Dyar 1920, 1921). However, the collection dates were almost always provided with accuracy, allowing us to infer likely collection sites for most of these species by cross-referencing them with the complete collection data available for other species.

Results

Mosquitoes originally described from Suriname. Species described from Suriname are listed chronologically below and numbered (by order of appearance when more than one species is described in the same paper). The abbreviations used for genera and subgenera follow Reinert (2009), Lourenço-de-Oliveira *et al.* (2026) for the recently described subgenus *Leonidasdeanea* of the genus *Wyeomyia*, and Evenhuis & Harbach (2026) for the recently resurrected subgenus *Megarhina* of the genus *Toxorhynchites*. Species names are followed by their authorship, the date of publication and the page number in the publication where the description begins. Parentheses around that information indicate that a species is currently placed in a genus other than the one in which the author(s) originally placed it. Life stages described (abbreviated as A, adult; ♂, male; ♀, female; P, pupa; L, larva) and, if applicable, the genus in which the author(s) originally placed the species, follow the date and page number. For synonymous nominal species, the valid species name followed by its authorship and date of publication is also indicated. Type information is presented as follows: primary type, life stage and associated material in parentheses (if applicable); type locality and depository in parentheses (NE if non-extant); name(s) of the collector(s); date of collection; original and depository specimen numbers (if provided). An asterisk (*) indicates that the depository was confirmed during this study. Additional information about synonymy, lectotype designation, type series, type locality and/or type depository is also provided.

A total of 60 nominal mosquito species has been described from Suriname since 1906, 15 of which are currently considered synonyms (Fig. 1). The holotypes and lectotypes are deposited in two institutions: RMNH (29 species) and USNM (30 species), while the type of *Anopheles bonnei* da Fonseca & da Silva Ramos, 1940 [synonym of *An. (Anopheles) costai* da Fonseca & da Silva Ramos, 1940] was never designated. Valid species names are highlighted in bold, whereas synonymous names are not.

1. *Psorophora vanhalli* (Dyar & Knab, 1906a: 134) (A; *Janthinosoma*), synonym of *Ps. (Janthinosoma) ferox* (von Humboldt, 1819: 340) (A; *Culex*). Holotype ♀: Paramaribo, Suriname (USNM*); coll. Van Hall; date not provided; original no. not provided, USNM type no. 09967.

Psorophora vanhalli was originally described from two males and five females from Paramaribo. Available information concerning the holotype is contradictory; it is indicated as a female in Stone & Knight (1955: 286), but as a male in Belkin *et al.* (1965: 63). The holotype was not specified in the original description, but the specimen of the type series bearing the red type-label in the USNM is a female. *Psorophora vanhalli* was synonymized with *Ps. (Jan.) ferox* by Dyar (1923a: 180), and its status has remained stable since then.

2. *Culex aikenii* Dyar & Knab, 1908: 61 (♂), synonym of *Cx. (Culex) quinquefasciatus* Say, 1823: 10 (A). Lectotype ♂: [Nieuw] Amsterdam, Suriname (USNM); coll. J. Aiken; 17 Feb. 1908; original no. not provided, USNM type no. 11977.

Culex aikenii was originally described from three males from Nieuw Amsterdam (New Amsterdam *orth. var.*). The lectotype male was designated by Stone & Knight (1957: 42). *Culex (Cux.) lachrimans* Dyar & Knab, 1909 was proposed as a *nomen novum* for *Cx. aikenii* Dyar & Knab, 1908, which was preoccupied by *Cx. (Cux.) aikenii* Aiken & Rowland, 1906. Note that the latter was designated a *nomen dubium* by Belkin (1970: 59). *Culex aikenii* Dyar & Knab, 1908 was synonymized with *Cx. fatigans* Wiedemann, 1828 by Edwards (1932: 208), and the latter was synonymized with *Cx. (Cux.) quinquefasciatus* by Stone (1956: 342).

3. *Wyeomyia (Dodecamyia) aphobema* Dyar, 1918: 120 (♂). Holotype ♂: Lawa River, Suriname (USNM); coll. J. Bonne-Wepster; Mar. 1917; original no. not provided, USNM type no. 21915.

The type series of *Wy. (Dod.) aphobema* is limited to the holotype male from an unspecified locality along the Lawa River.

4. *Culex (Culex) surinamensis* Dyar, 1918: 121 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): [Marowynne and Lawa rivers], Suriname (USNM); coll. J. Bonne-Wepster; Mar. 1917; original no. BB975, USNM type no. 21912.

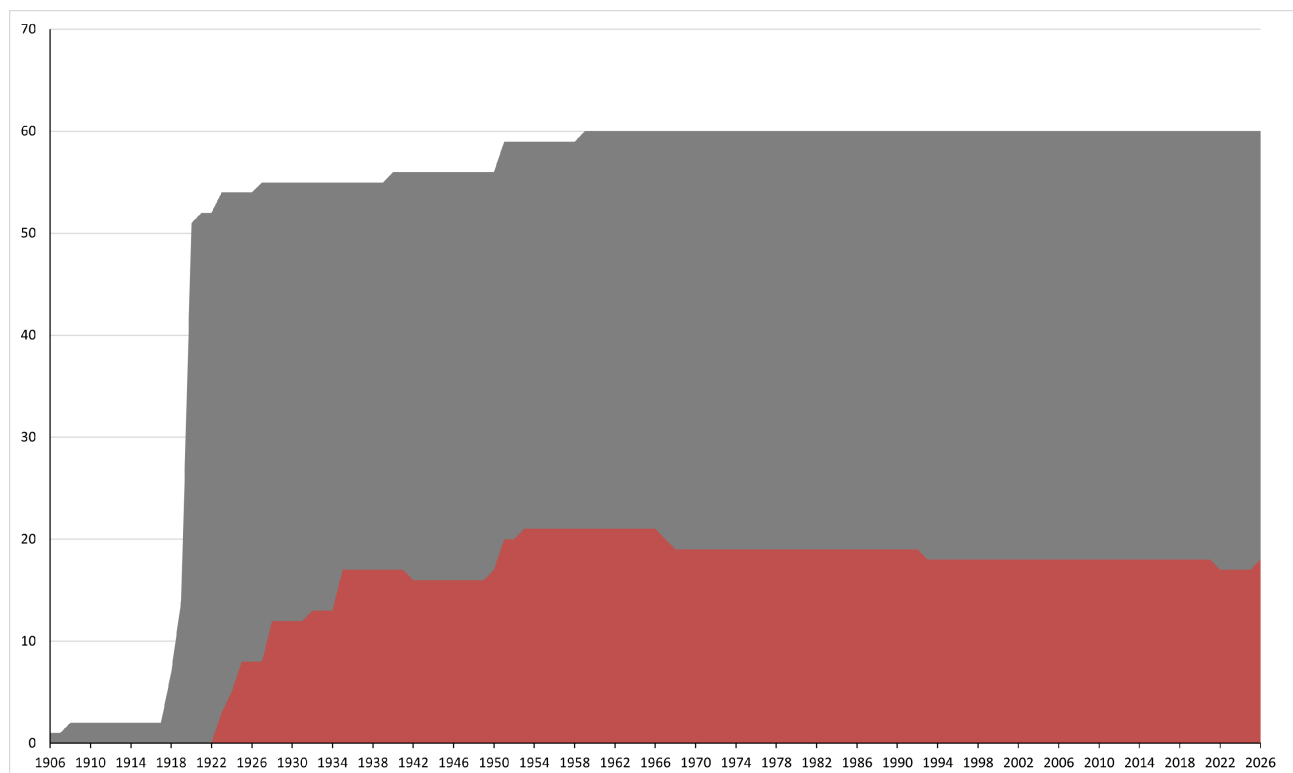


FIGURE 1. Cumulative number of mosquito species originally described from Suriname over the years (grey area) relative to synonymized ones (red area).

Culex (Cux.) surinamensis was originally described from an unspecified number of males, females and larvae from the Marowyne and Lawa rivers. The lectotype male was designated from the type series by Stone & Knight (1957: 56), and was erroneously referred to as the holotype in Belkin *et al.* (1965: 63). Available information on the type locality is contradictory. It is said to be the Marowyne and Lawa rivers in the original description, but Paramaribo is written on the slide of the lectotype (Stone & Knight 1957: 57). This latter information most probably refers to the place where the specimens were sent to Washington, not the actual locality where the specimens were collected in Suriname.

5. *Culex (Culex) usquatus* Dyar, 1918: 122 [erroneously Dyar, 1922 in Wilkerson *et al.* 2021: 884] (♂, ♀, L). Lectotype ♂: Suriname (USNM); coll. J. Bonne-Wepster; date not provided; original no. BB967, USNM type no. 21915.

Culex (Cux.) usquatus was originally described from two males, three females and an unspecified number of larvae and/or larval exuviae from the Marowyne and Lawa rivers (Feb. 1918) and the Suriname River (Feb. 1919). The lectotype male was designated by Stone & Knight (1957: 57), but its specific locality of origin in Suriname cannot be confirmed. Available information on the type locality is contradictory, said to be the Marowyne and Lawa rivers, and Suriname River in the original description, but Paramaribo is written on the slide of the lectotype (Stone & Knight 1957: 57). This information most probably refers to the place where the specimens were sent to Washington, not the actual locality where the specimens were collected in Suriname. Note that *Cx. (Cux.) usquatus* is also listed in error from “Kwakoegeon” in Belkin *et al.* (1965: 66). The lectotype male genitalia were recently photographed in Laurito *et al.* (2018: 751). *Culex (Cux.) usquatus* was synonymized with *Cx. (Cux.) coronator* Dyar & Knab, 1906d by Dyar (1923a: 175), but was later resurrected as a valid species by Bram (1967: 46).

6. *Culex (Melanoconion) alogistus* Dyar, 1918: 126 (♂, ♀, L). Lectotype ♂ (with associated larval exuviae): [Zanderij I], Suriname (USNM); coll. J. Bonne-Wepster; Mar. 1918; original no. BB972, USNM type no. 21914.

Culex (Mel.) alogistus was originally described from four males, one female and an unspecified number of larvae and/or larval exuviae from an unspecified locality in Suriname. The type locality was later specified as “Zanderij I” in Bonne & Bonne-Wepster (1925: 310). The lectotype male was designated by Rozeboom & Komp (1950: 87).

7. *Aedes (Ochlerotatus) eucephalaesus* Dyar, 1918: 127 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): [Zanderij I], Suriname (USNM); coll. J. Bonne-Wepster; 12–20 Mar. 1918; original no. BB971, USNM type no. 21911.

Aedes (Och.) eucephalaesus was originally described from three males, two females and an unspecified number of larvae and/or larval exuviae from “sandy land”. The type locality was restricted to “Zanderij I” in Bonne & Bonne-Wepster (1925: 409). The lectotype male was designated by Stone & Knight (1956: 217).

8. *Culex tapena* Dyar, 1919: 150 (♂), synonym of *Cx. (Aedinus) amazonensis* (Lutz, 1905: 103) (♂, ♀; *Aedinus*). Holotype ♂: Paramaribo, Suriname (USNM); coll. J. Bonne-Wepster; 5 Jan. 1919; original no. not provided, USNM type no. 22623.

The type series of *Cx. tapena* is limited to the holotype male from Paramaribo. *Culex tapena* was synonymized with *Cx. (Ads.) amazonensis* by Dyar (1923b: 190), and its status has remained stable since then.

9. *Culex (Culex) bonneae* Dyar & Knab, 1919: 3 (♂, ♀, L). Lectotype ♂ (with unassociated larval and pupal exuviae): Compagnie des mines d’or, Lawa River, Suriname (USNM); coll. J. Bonne-Wepster; Mar. 1917; original no. BB882, USNM type no. 21646.

Culex (Cux.) bonneae was originally described from two males, three females and an unspecified number of larvae and/or larval exuviae from Compagnie des mines d’or, Lawa River. The lectotype male was designated by Stone & Knight (1957: 44).

10. *Culex (Microculex) chryselatus* Dyar & Knab, 1919: 5 (♂, ♀, P, L). Lectotype ♂ (with unassociated larval and pupal exuviae): Compagnie des mines d’or, Lawa River, Suriname (USNM); coll. J. Bonne-Wepster; Mar. 1917; original no. BB885, USNM type no. 21647.

Culex (Mcx.) chryselatus was originally described from one male, two females and an unspecified number of pupae (or pupal exuviae) and larvae (or larval exuviae) from Compagnie des mines d'or, Lawa River. The lectotype male was designated by Stone & Knight (1957: 45).

11. *Wyeomyia* (subgenus uncertain) *occulta* Bonne-Wepster & Bonne, 1919: 105 (♂, ♀, P, L). Lectotype ♀: [Zanderij I], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1918; original no. BB885, ITH no. 3495, RMNH no. RMNH.INS.1538012.

Wyeomyia occulta was originally described from an unspecified number of males, females, pupae (or pupal exuviae) and larvae (or larval exuviae) from the “sandy district”. Although the locality of Moengo was also mentioned in Bonne & Bonne-Wepster (1925: 94), the type locality was not explicitly clarified. It appears that “sandy district”, “sandy lands” and “Zanderij I” were used interchangeably by Bonne & Bonne-Wepster (1925). To avoid the use of former administrative entities, the type locality is here restricted to “Zanderij I”. The lectotype female was designated by Belkin (1968: 41).

12. *Wyeomyia* (subgenus uncertain) *albosquamata* Bonne-Wepster & Bonne, 1919: 107 (♂, ♀, L). Lectotype ♂: Lawa River, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1917; original no. BB140, ITH no. 3550, RMNH no. RMNH.INS.1537958 with genitalia on slide RMNH.INS.869825.

Wyeomyia albosquamata was originally described from an unspecified number of males, females and larvae (or larval exuviae) from an unspecified locality along the Lawa River. “Lawa district” was also mentioned as the type locality in the catalog consulted by Belkin (1968). The lectotype male was designated by Belkin (1968: 38).

13. *Wyeomyia fallax* Bonne-Wepster & Bonne, 1919: 110 (♀, L), synonym of *Wy. (Wyeomyia) medioalbipes* Lutz, 1904 (in Bourroul 1904: 68) (A). Lectotype ♀: Paramaribo, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Dec. 1916; original no. BB224, ITH no. 3463, RMNH no. RMNH.INS.1538060.

Wyeomyia fallax was originally described from an unspecified number of females and larvae (or larval exuviae) from Paramaribo. The lectotype female was designated by Belkin (1968: 39). *Wyeomyia fallax* was synonymized with *Wy. (Miamyia) oblita* (Lutz, 1904) (in Bourroul 1904: 68) by Bonne & Bonne-Wepster (1925: 118) and later with *Wy. (Wyo.) medioalbipes* by Bruijning (1959: 103). The latter synonymy was accepted by Stone (1969: 3) but was omitted in Knight & Stone (1977: 337) and in Wilkerson *et al.* (2021: 1020). The lectotype female of *Wy. fallax* was examined in the RMNH and turned out to be conspicuously different from *Wy. (Mia.) oblita*, but closer to *Wy. (Wyo.) medioalbipes*. Specifically, the females of *Wy. fallax* and *Wy. (Mia.) oblita* are easily separated based on the presence vs. absence of white scales on the midtarsus. No larval material of *Wy. fallax* was found in the RMNH, but the original description of the larvae is also very different from the description of the larva of *Wy. (Mia.) oblita* based on the type series (Lane & Cerqueira 1942: 563). The synonymy of *Wy. fallax* with *Wy. (Mia.) oblita* is undoubtedly wrong and the synonymy established by Bruijning (1959: 103) is considered here valid. *Wyeomyia (Wyo.) medioalbipes* belong to a complex of species within *Wyeomyia* subgenus *Wyeomyia* known as the Pertinans Group as defined in Belkin *et al.* (1970: 207). This informal group should be thoroughly reviewed, but in the meantime *Wy. fallax* should be considered as a synonym of *Wy. (Wyo.) medioalbipes*, not *Wy. (Mia.) oblita*.

14. *Wyeomyia (Phoniomyia) splendida* Bonne-Wepster & Bonne, 1919: 111 (♂, ♀, P, L). Lectotype ♂ (with associated larval and pupal exuviae): Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; date not provided; original no. BB669, ITH no. 3504, RMNH no. RMNH.INS.1538232 with genitalia and associated larval and pupal exuviae on slide RMNH.INS.869812.

Wyeomyia (Pho.) splendida was originally described from an unspecified number of males, females, pupae (or pupal exuviae) and larvae (or larval exuviae) from the “sandy district” (Mar. 1918), the Lawa River (Mar. 1917) and the Sarah Creek (Jan. 1919). The lectotype male was designated by Belkin (1968: 24), but its specific locality of origin in Suriname cannot be confirmed.

15. *Sabethes (Sabethoides) imperfectus* (Bonne-Wepster & Bonne, 1920: 165) (♀; *Sabethoides*). Holotype ♀: [Dam], [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB589, ITH no. 3426, RMNH no. RMNH.INS.1538271.

Sabethes (Sbo.) tridentatus Cerqueira, 1961: 58 (♂, ♀, P, L). Holotype ♂ (with associated larval and pupal exuviae): Igarapé da Bolívia, Manáus, Amazonas State, Brazil (FSP-USP); coll. C. Elias *et al.*; May 1956; original no. 1.403-3. **syn. nov.**

Sabethes (Sbo.) imperfectus was originally described from two females from an unspecified locality in Suriname. Bonne & Bonne-Wepster (1925: 42) later specified that this species was collected from Dam (Jan. 1919), and Moengo (June 1921). Because the species was described in 1920, it can be inferred that the type series was collected at Dam. The holotype was indirectly designated by the deposit of the second female in the USNM (Belkin 1968: 30). *Sabethes (Sbo.) imperfectus* was synonymized with *Sa. (Sbo.) chloropterus* (von Humboldt, 1819) by Lane (1951: 335). The holotype of *Sa. (Sbo.) imperfectus* is in poor condition – the abdomen and all legs, except one midleg, are missing. However, all the key characteristics currently used to distinguish species of the subgenus *Sabethoides* are well preserved and clearly visible (Neves *et al.* 2024). Specifically, the upper mesepimeral setae reach the mid area of mesopostnotum, the antepnota are covered with metallic blue scales dorsally and the midtarsus is white-scaled anteriorly from the apex of tarsomere 2 to the apex (or almost to the apex) of tarsomere 4. This set of features matches perfectly the original description of *Sa. (Sbo.) tridentatus* Cerqueira, 1961, described from specimens collected near Manaus, Amazonas State, Brazil. Furthermore, collections recently made inside the *Réserve Naturelle Nationale de La Trinité* in French Guiana (Talaga & Gendrin 2022), approximately 170 km east of the type locality of *Sa. (Sbo.) imperfectus*, permitted us to obtain one male (no. ST1#1248) and two females (nos. ST1#0878 and ST1#1774) agreeing in external features to the description of *Sa. (Sbo.) imperfectus*. These specimens match perfectly the male genitalia described and illustrated for *Sa. (Sbo.) tridentatus* by Cerqueira (1961: figs 25–28). Therefore, *Sa. (Sbo.) imperfectus* (Bonne-Wepster & Bonne, 1920) is here resurrected from synonymy with *Sa. (Sbo.) chloropterus* (von Humboldt, 1819), and *Sa. (Sbo.) tridentatus* Cerqueira, 1961 is recognized as its junior synonym. **syn. nov.**

16. *Limatus pseudomethysticus* (Bonne-Wepster & Bonne, 1920: 166) (♀, L; *Lemmamyia*). Lectotype ♀ (with associated larval and pupal exuviae): [Dam], [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB815, ITH no. 3449, RMNH no. RMNH.INS.1538220 with associated larval and pupal exuviae on slide RMNH.INS.869752.

Limatus pseudomethysticus was originally described from four females with associated larval and pupal exuviae from an unspecified locality in Suriname. Bonne & Bonne-Wepster (1925: 54) later specified that this species was collected from Dam (Jan. 1919). The lectotype female was designated by Belkin (1968: 23). *Limatus pseudomethysticus* was synonymized with *Li. asulleptus* (Theobald, 1903) by Dyar (1928: 26) but later resurrected as a valid species by Lane & Cerqueira (1942: 650).

17. *Wyeomyia* (subgenus uncertain) *roucouyana* (Bonne-Wepster & Bonne, 1920: 166) (♀ [erroneously ♂ in Wilkerson *et al.* 2021: 1031], L; *Dendromyia*). Holotype ♀ (with associated larval and pupal exuviae): Lawa [River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1917; original no. BB143, ITH no. 3511, RMNH no. RMNH.INS.1538034 with associated larval and pupal exuviae on slide RMNH.INS.869783.

Wyeomyia roucouyana was originally described from two females with associated larval and pupal exuviae from the Lawa District. The type locality was not clarified in Bonne & Bonne-Wepster (1925: 112). Because the use of former administrative entities should be avoided in favor of more stable geographical entities, the type locality of *Wy. roucouyana* is here emended to Lawa River as suggested in Belkin *et al.* (1965: 62). The holotype was indirectly designated by the deposit of the second female in the USNM (Belkin 1968: 42).

18. *Wyeomyia* (subgenus uncertain) *argenteorostris* (Bonne-Wepster & Bonne, 1920: 167) (♂, ♀, L; *Cleobonnea*). Lectotype ♀: Lawa River, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1917; original no. BB910, ITH no. 3500, RMNH no. RMNH.INS.1537981.

Wyeomyia argenteorostris was originally described from an unspecified number of males, females and larvae (or larval exuviae) from an unspecified locality along the Lawa River. Bonne & Bonne-Wepster (1925: 97) later mentioned the Lawa District as the locality for this species, indicating that both toponyms were used interchangeably. The lectotype female was designated by Belkin (1968: 39).

19. *Wyeomyia* (*Hystatomyia*) *lamellata* (Bonne-Wepster & Bonne, 1920: 168) (♂; *Hystatomyia*). Holotype ♂: [Compagnie des mines d'or], Lawa River, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1917; original no. BB84, ITH no. 3559, RMNH no. RMNH.INS.1537994 with genitalia on slide RMNH.INS.866616.

Wyeomyia (Hys.) *lamellata* was originally described from two males from Compagnie des mines d'or. The holotype was indirectly designated by the deposit of the second male in the USNM (Belkin 1968: 40).

20. *Wyeomyia* (*Leonidasdeanea*) *flui* (Bonne-Wepster & Bonne, 1920: 169) (♀; *Prosopolepis*). Lectotype ♀: [Albina], [Marowynne River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Apr. 1917; original no. not provided, ITH no. 3561, RMNH no. RMNH.INS.1537987.

Wyeomyia (Leo.) *flui* was originally described from unspecified number of females from Albina (Apr. 1917) and Dam (Jan. 1919). The lectotype female was designated by Belkin (1968: 40). Albina is indicated as the sampling locality of the lectotype in the former ITH catalog digitized in Ciliberti *et al.* (2023). *Wyeomyia* (Leo.) *flui* was synonymized with *W.* (*Prl.*) *confusa* (Lutz, 1905) by Lane (1951: 335) but later resurrected as a valid species by Lourenço-de-Oliveira *et al.* (1999: 209).

21. *Culex* (*Carrollia*) *infoliatus* Bonne-Wepster & Bonne, 1920: 170 (♂, ♀, L; as *infoliata*, emended by Dyar 1928: 283). Lectotype ♂: Dam, [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB690, ITH no. 4496, RMNH no. RMNH.INS.1477567 with genitalia on slide RMNH.INS.869850.

Culex (*Car.*) *infoliatus* was originally described from an unspecified number of males, females and larvae (or larval exuviae) from Dam (Jan. 1919). The lectotype male was designated by Belkin (1968: 16).

22. *Culex* (*Culex*) *brevispinosus* Bonne-Wepster & Bonne, 1920: 171 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): Kwakoeegron, Saramacca [River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1919; original no. BB902, ITH no. 4491, RMNH no. RMNH.INS.1477796 with genitalia on slide RMNH.INS.869848 and associated larval and pupal exuviae on slide RMNH.INS.869859.

Culex (*Cux.*) *brevispinosus* was originally described from an unspecified number of males, females and larvae (or larval exuviae) from unspecified localities in Suriname. Bonne & Bonne-Wepster (1925: 237) later specified that this species was collected from Kabelstation (Dec. 1918), Kwakoeegron (Mar. 1919) and Moengo (Jan. 1922). The lectotype male was designated by Belkin (1968: 14) and its sampling locality was specified as Kwakoeegron according to the catalog of J. Bonne-Wepster and C. Bonne.

23. *Culex* (*Melanoconion*) *alcocki* Bonne-Wepster & Bonne, 1920: 171 (♂, ♀, L; as *alcocci*, emended by Belkin 1968: 12). Lectotype ♂ (with associated larval and pupal exuviae): Zanderij [I], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; 1 Mar. 1918; original no. BB462, ITH no. 4137, RMNH no. RMNH.INS.1479714 with genitalia on slide RMNH.INS.855273 and associated larval and pupal exuviae on slide RMNH.INS.866600.

Culex (*Mel.*) *alcocki* was originally described from an unspecified number of males, females and larvae (or larval exuviae) from Zanderij [Zandery I for Zanderij I in Bonne & Bonne-Wepster (1925)]. The lectotype male was designated by Belkin (1968: 12), even though its sampling locality was specified as Kabelstation according to the catalog of J. Bonne-Wepster and C. Bonne.

24. *Culex* (*Melanoconion*) *saramaccensis* Bonne-Wepster & Bonne, 1920: 172 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): Kabelstation, Suriname River, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Dec. 1918; original no. BB483, ITH no. 4146, RMNH no. RMNH.INS.1479773 with genitalia on slide RMNH.INS.855185 and associated larval and pupal exuviae on slide RMNH.INS.855288.

Culex (*Mel.*) *saramaccensis* was originally described from an unspecified number of males, females and larvae (or larval exuviae) from Kabelstation. The lectotype male was designated by Belkin (1968: 20), even though its sampling locality was specified as Gansee according to the catalog of J. Bonne-Wepster and C. Bonne.

25. *Culex* (*Melanoconion*) *albinensis* Bonne-Wepster & Bonne, 1920: 173 (♂, ♀, L). Lectotype ♂: [near] Paramaribo, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; 1919; original no. BB349, ITH no. 4154, RMNH no. RMNH.INS.1540910 with genitalia on slide RMNH.INS.869860.

Culex (*Mel.*) *albinensis* was originally described from an unspecified number of males, females and larvae from near Paramaribo. The lectotype male was designated by Belkin (1968: 12). The lectotype male genitalia were examined in the RMNH and appear identical to the original description of *Cx.* (*Mel.*) *rabelloi* Forattini & Sallum, 1987. When describing the latter species, those authors misinterpreted *Cx.* (*Mel.*) *albinensis* in having a saber-like

seta *l* on the distal division of the subapical lobe of the gonocoxite, which is not the case. In the lectotype, seta *l* is slender on both gonocoxites (Fig. 2A). The cibarial armature of *Cx. (Mel.) rabelloi* female was compared to that of *Cx. (Mel.) albinensis* of Sirivanakarn (1978: 489, fig. 3D, 1983: 316, fig. 9D). However, based on the illustration of the distal division of the subapical lobe of *Cx. (Mel.) albinensis* by the same author (Sirivanakarn 1983: 322, fig. 15F), the description of the cibarial armature was clearly made from the form with the saber-like seta *l*, not typical *Cx. (Mel.) albinensis*. Larval and pupal characteristics of *Cx. (Mel.) rabelloi* were also briefly compared to those of *Cx. (Mel.) albinensis*, but this comparison was based on a single male with associated larval and pupal exuviae from Colombia (Foote 1954: 16), the specific identity of which is impossible to ascertain. This misinterpretation of *Cx. (Mel.) albinensis* by Sirivanakarn (1978, 1983) and Forattini & Sallum (1987) triggered the incorrect use of the name *Cx. (Mel.) rabelloi* instead of *Cx. (Mel.) albinensis* in French Guiana (Talaga *et al.* 2021; Talaga & Gendrin 2022; Talaga & Duchemin 2023; Guidez *et al.* 2024; Talaga *et al.* 2025). However, we are hesitant to place *Cx. (Mel.) rabelloi* in synonymy with *Cx. (Mel.) albinensis* in the absence of *COI* barcode sequences of *Cx. (Mel.) rabelloi* from southern South America where the latter species is supposed to be restricted (Forattini & Sallum 1987). Finally, *Cx. (Mel.) albinensis* of Sirivanakarn (1978, 1983) and Forattini & Sallum (1987) belong to a yet undescribed species which was recently re-collected in French Guiana and will be formally described morphologically and molecularly in a following article.

26. *Culex (Melanoconion) coppenamensis* Bonne-Wepster & Bonne, 1920: 173 (♂, L). Lectotype ♂ (with associated larval and pupal exuviae): Kabelstation, [Suriname River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; May 1919; original no. BB944, ITH no. 4160, RMNH no. RMNH.INS.1479758 with genitalia on slide RMNH.INS.855186 and associated larval and pupal exuviae on slide RMNH.INS.855184.

Culex (Mel.) alinkios Sallum & Hutchings, 2003: 618 (♂). Holotype ♂: Itapuan Farm, Itapitangui, Cananéia County, São Paulo State, Brazil (FSP-USP); coll. O.P. Forattini *et al.*; 9 Feb. 1991; original no. E-12529. **syn. nov.**

Culex (Mel.) coppenamensis was originally described from an unspecified number of males and larvae (or larval exuviae) from Kabelstation. The lectotype male was designated by Belkin (1968: 14). The lectotype male genitalia were examined in the RMNH and no difference was found with the original description and illustration of *Cx. (Mel.) alinkios* Sallum & Hutchings, 2003. Specifically, the distal curved arm of the distal division of the subapical lobe of the gonocoxite, and the shape of the distal half of the gonostylus with a patch of long spicules at midlength arising from the dorsal surface are diagnostic (Fig. 2B). Therefore, *Cx. (Mel.) alinkios* Sallum & Hutchings, 2003 is formally recognized here as a junior synonym of *Cx. (Mel.) coppenamensis* Bonne-Wepster & Bonne, 1920, **syn. nov.** Note that *Cx. (Mel.) coppenamensis* Form 2 of Sallum & Hutchings (2003), which was considered at the time as the true *Cx. (Mel.) coppenamensis*, are now described as *Cx. (Mel.) phyllados* Hutchings & Sallum, 2008 and *Cx. (Mel.) hutchingsae* Talaga, 2022 (in Talaga & Gendrin 2022). Finally, *Cx. (Mel.) coppenamensis* of Hutchings & Sallum (2008) belongs to a yet undescribed species which was recently re-collected in French Guiana and will be formally described morphologically and molecularly in a following article.

27. *Culex (Melanoconion) nicceriensis* Bonne-Wepster & Bonne, 1920: 174 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): Kabelstation, [Suriname River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; May 1919; original no. BB998, ITH no. 4144, RMNH no. RMNH.INS.1479768 with genitalia on slide RMNH.INS.855285 and larval and pupal exuviae on slide RMNH.INS.855284.

Culex (Mel.) nicceriensis was originally described from one male and one female with associated larval exuviae from Kabelstation. The lectotype male was designated by Belkin (1968: 18) and its sampling date was provided according to the catalog of J. Bonne-Wepster and C. Bonne.

28. *Culex maroniensis* Bonne-Wepster & Bonne, 1920: 175 (♂), synonym of *Cx. (Melanoconion) albinensis* Bonne-Wepster & Bonne, 1920: 173 (♂, ♀, L). Holotype ♂: Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; date not provided; original no. BB131, ITH no. 4153, RMNH no. RMNH.INS.1540909 with genitalia on slide RMNH.INS.869854.

The type series of *Cx. maroniensis* is limited to the holotype male from which the collection data was explicitly lost (Bonne-Wepster & Bonne 1920: 176; Bonne & Bonne-Wepster 1925: 305). *Culex maroniensis* was synonymized with *Cx. (Mel.) albinensis* by Lane (1951: 334). The lectotype male genitalia of *Cx. (Mel.) albinensis* and the holotype of *Cx. maroniensis* were compared in the RMNH, and we came to the same conclusion. The “extra chitinous point

at the apex of the second uncal plate” referred to by J. Bonne-Wepster and C. Bonne to distinguish *Cx. maroniensis* from *Cx. (Mel.) albinensis* is a mounting artefact due to the twist of the apical median process of the lateral plate. Otherwise, the distal division of the subapical lobe of the gonocoxite and the ninth tergal lobes are strictly identical between the holotype of *Cx. maroniensis* and the lectotype of *Cx. (Mel.) albinensis*.

29. *Culex (Melanoconion) ensiformis* Bonne-Wepster & Bonne, 1920: 176 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): Dam, [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB744, ITH no. 4183, RMNH no. RMNH.INS.1479764 with genitalia on slide RMNH.INS.855215 and larval and pupal exuviae on slide RMNH.INS.869853.

Culex (Mel.) ensiformis was originally described from an unspecified number of males, females and larvae (or larval exuviae) from Kabelstation and Dam. The lectotype male was designated by Belkin (1968: 15) and its sampling locality and date was provided according to the catalog of J. Bonne-Wepster and C. Bonne. *Culex (Mel.) ensiformis* was synonymized with *Cx. (Mel.) dunni* Dyar, 1918 by Dyar (1923b:188), resurrected as a valid species by Bonne & Bonne-Wepster (1925: 272) and later synonymized with *Cx. (Mel.) zeteki* Dyar, 1918 by Rozeboom & Komp (1950: 98), but then finally resurrected as a valid species by Belkin (1968: 15), resulting in all three nominal species currently being recognized as valid.

30. *Culex (Melanoconion) commevynensis* Bonne-Wepster & Bonne, 1920: 176 (♂). Holotype ♂: Alkmaar, [Commewyne River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Mar. 1919; original no. BB121, ITH no. 4182, RMNH no. RMNH.INS.1479757 with genitalia on slide RMNH.INS.1634616.

Culex (Mel.) comptus Sá & Sallum, 2020 (in Sá *et al.* 2020: 14) (♂, ♀, P, L). Holotype ♂ (with associated larval and pupal exuviae): near Horto Florestal, Presidente Epitácio Municipality, São Paulo State, Brazil (FSP-USP); coll. I.L.R. Sá and L.S. Chaves; 15 Mar. 2016; original no. SP172-30. **syn. nov.**

The type series of *Cx. (Mel.) commevynensis* is limited to the holotype male from Alkmaar. The *Atratus* Group of *Culex* subgenus *Melanoconion* as defined by Sirivanakarn (1983) was recently the subject of a taxonomic revision, but *Cx. (Mel.) commevynensis* was not included because the holotype could not be examined by the authors (Sá *et al.* 2020). In the same article, *Cx. (Mel.) comptus* was newly described as a species assumed to be very close to *Cx. (Mel.) commevynensis*, but different according to the original description of Bonne-Wepster & Bonne (1920: 176) and illustration of Bonne & Bonne-Wepster (1925: fig. 37). Based on the examination of the holotype male genitalia (Fig. 2C), it appears that the ninth tergal lobes illustrated in Bonne & Bonne-Wepster (1925: fig. 37) are misleading and are not smaller in *Cx. (Mel.) commevynensis* compared to the one illustrated for *Cx. (Mel.) comptus*. Overall, no difference was found between the holotype of *Cx. (Mel.) commevynensis* and the original description and illustration of *Cx. (Mel.) comptus* in Sá *et al.* (2020: 16, fig. 9). Furthermore, the *COI* barcode sequence of *Cx. (Mel.) commevynensis* collected in French Guiana clustered in the same barcode index number (BIN BOLD:ADK0771) as specimens identified as *Cx. (Mel.) commevynensis* collected from the type locality of *Cx. (Mel.) comptus* in Brazil (Talaga *et al.* 2025). These morphological and molecular findings support the broad distribution of a single species in South America. Therefore, *Cx. (Mel.) comptus* Sá & Sallum, 2020 (in Sá *et al.* 2020) is formally recognized here as a junior synonym of *Cx. (Mel.) commevynensis* Bonne-Wepster & Bonne, 1920, **syn. nov.**

31. *Culex (Melanoconion) curopinensis* Bonne-Wepster & Bonne, 1920: 177 (♂, ♀, L). Lectotype ♂: [Dam], [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB335, ITH no. 4124, RMNH no. RMNH.INS.1479859 with genitalia on slide RMNH.INS.855303.

Culex (Mel.) curopinensis was originally described from an unspecified number of males, females and larvae (or larval exuviae) from unspecified localities in Suriname. Bonne & Bonne-Wepster (1925: 237) later specified that this species was collected from Zandery I (Zanderij I *orth. var.*) (Mar. 1918), Kabelstation (May 1919), Paramaribo (Aug. 1918), Dam (Jan. 1919) and Moengo the year round. The lectotype male was designated by Belkin (1968: 15), and its sampling locality was provided according to the catalog of J. Bonne-Wepster and C. Bonne. *Culex (Mel.) curopinensis* was synonymized with *Cx. (Mel.) pilosus* (Dyar & Knab, 1906d) by Dyar (1924b: 186). The lectotype male genitalia of *Cx. (Mel.) curopinensis* was examined in the RMNH (Fig. 2D) and turned out to be conspicuously different from *Cx. (Mel.) pilosus*, but closer to *Cx. (Mel.) unicornis* Root, 1928 (in Dyar 1928). Therefore, *Cx. (Mel.) curopinensis* Bonne-Wepster & Bonne, 1920, **stat. nov.**, is here resurrected from synonymy with *Cx. (Mel.) pilosus* (Dyar & Knab, 1906d).

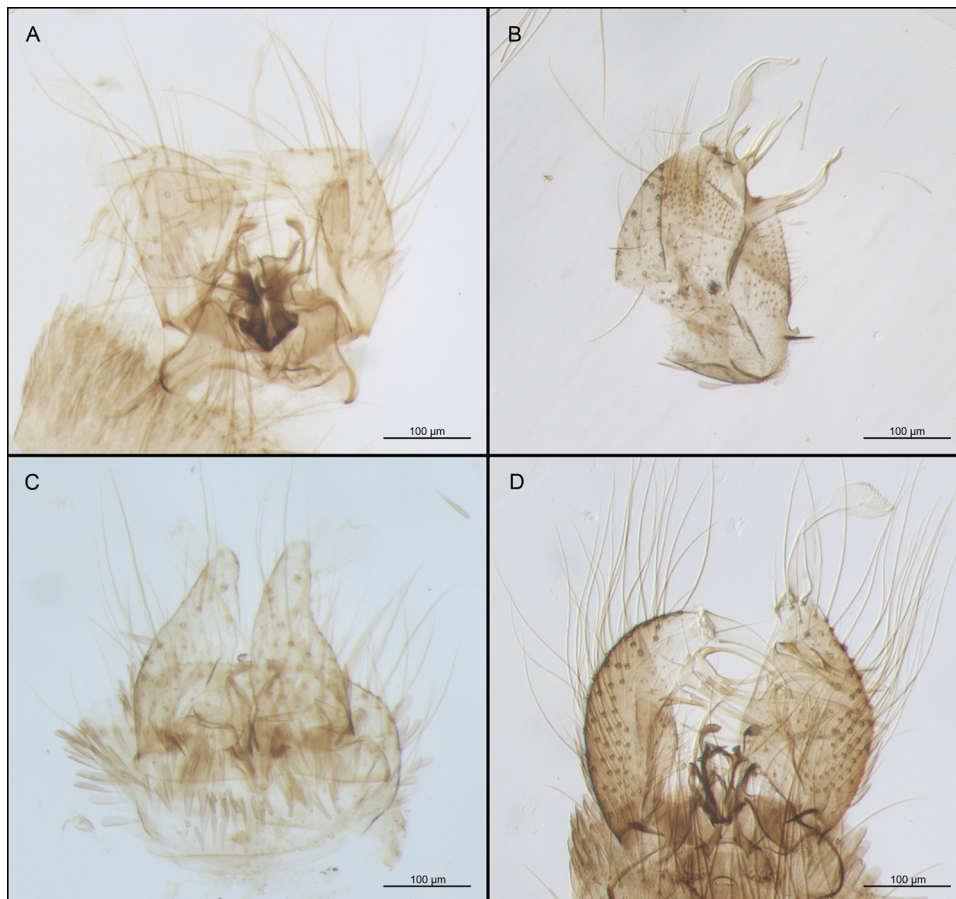


FIGURE 2. Male genitalia of (A) the lectotype of *Culex (Melanoconion) albinensis* Bonne-Wepster & Bonne, 1920, (B) the lectotype of *Cx. (Mel.) coppenamensis* Bonne-Wepster & Bonne, 1920, (C) the holotype of *Cx. (Mel.) commevynensis* Bonne-Wepster & Bonne, 1920 and (D) the lectotype of *Cx. (Mel.) curopinensis* Bonne-Wepster & Bonne, 1920.

Furthermore, collections recently made on the islands of Curaçao and Bonaire (Helleman *et al.* 2025), approximately 270 km northwest of the type locality of *Cx. (Mel.) unicornis* in Venezuela (Rozeboom & Komp 1950: 97), permitted us to obtain several specimens matching the male genitalia described in the original description of *Cx. (Mel.) unicornis* by Dyar (1928: 291) and the subsequent illustration of the lectotype male genitalia in Rozeboom & Komp (1950: fig. 87). Nevertheless, slight morphological differences in the distal subapical lobe and gonostylus, as well as DNA barcode sequence divergence of more than 6% from specimens from French Guiana (Talaga *et al.* 2025) initially identified as *Cx. (Mel.) unicornis*, suggest that *Cx. (Mel.) curopinensis* and *Cx. (Mel.) unicornis* are not conspecific.

32. *Culex multispinosus* Bonne-Wepster & Bonne, 1920: 177 (♂, ♀, L), synonym of *Cx. (Melanoconion) caudelli* (Dyar & Knab, 1906d: 224) (L; *Mochlostyrax*). Lectotype ♂ (with associated larval and pupal exuviae): Kabelstation, [Suriname River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; May 1919; original no. BB942, ITH no. 4122, RMNH no. RMNH.INS.1479857 with genitalia on slide RMNH.INS.869667 but associated larval and pupal exuviae were not found in the RMNH.

Culex multispinosus was originally described from an unspecified number of males, females and larvae from Kabelstation. The lectotype male was designated by Belkin (1968: 18). *Culex multispinosus* was synonymized with *Cx. (Mel.) caudelli* by Dyar (1928: 287), and its status has remained stable since then.

33. *Aedes (Howardina) arborealis* Bonne-Wepster & Bonne, 1920: 178 (♂, ♀, L). Lectotype ♂ (with associated larval and pupal exuviae): Dam, [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB655, ITH no. 3893, RMNH no. RMNH.INS.1475517 with genitalia on slide RMNH.INS.855194 but associated larval and pupal exuviae were not found in the RMNH.

Aedes (How.) *arborealis* was originally described from an unspecified number of males, females and larvae (or larval exuviae) from Dam. The lectotype male was designated by Belkin (1968: 4).

34. *Aedes* (*Protomacleaya*) *argyrothorax* Bonne-Wepster & Bonne, 1920: 179 (♂). Holotype ♂: Paramaribo, Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; date not provided; original no. BB353, ITH no. 3925, RMNH no. RMNH.INS.1475287, but the genitalia were not found in the RMNH.

Aedes (*Pro.*) *argyrothorax* was originally described from two males, one of them from an estate near Paramaribo, the second one from the house of J. Bonne-Wepster and C. Bonne at Fort Zeelandia in Paramaribo (Bonne & Bonne-Wepster 1925: 424). The holotype was indirectly designated by the deposit of the second male in the USNM (Belkin 1968: 4). It is not clear from which locality the holotype originated; thus, Paramaribo is retained as the type locality.

35. *Toxorhynchites aldrichanus* (Bonne-Wepster & Bonne, 1920: 179) (♀ [erroneously ♂ in Wilkerson *et al.* 2021: 1034]; *Megarhinus*), synonym of *Tx.* (*Megarhina*) *bambusicola* (Lutz & Neiva, 1913: 136) (♂, ♀, P, L; *Megarhinus*). Lectotype ♀ (with associated larval and pupal exuviae): Dam, [Sarah Creek], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; Jan. 1919; original no. BB749, ITH no. 4571, RMNH no. RMNH.INS.1538076 with associated larval and pupal exuviae on slide RMNH.INS.869861.

Toxorhynchites aldrichanus was originally described from two females from Dam. The lectotype female was designated by Belkin (1968: 32). *Toxorhynchites aldrichanus* was synonymized with *Tx.* (*Meg.*) *bambusicola* by Dyar (1928: 408), and its status has remained stable since then.

36. *Toxorhynchites* (*Megarhina*) *guianensis* (Bonne-Wepster & Bonne, 1920: 180) (♂, ♀; *Megarhinus guadeloupensis*; ssp.). Holotype ♀: Kwakoeegron, Saramacca [River], Suriname (RMNH*); coll. J. Bonne-Wepster and C. Bonne; July 1918; original no. BB1010, ITH no. 4568, RMNH no. RMNH.INS.1538077.

Toxorhynchites (*Meg.*) *guianensis* was originally described as a subspecies of *Tx.* (*Meg.*) *guadeloupensis* (Dyar & Knab, 1906c) from one female and one male from two unspecified localities in Suriname. The sampling locality of the female was later specified as Kwakoeegron in Bonne & Bonne-Wepster (1925: 464). The male was designated as the lectotype by Belkin (1968: 32) even though J. Bonne-Wepster and C. Bonne clearly stated that “if this male does not correspond with the described female, it should be given a new name” (Bonne & Bonne-Wepster 1925: 464). Based on ICZN Article 72.4.1, specimens doubtfully attributed to the taxon should be expressly excluded from the type series and are not considered to be type specimens. Therefore, the male doubtfully attributed to *Tx.* (*Meg.*) *guianensis* is here excluded from the type series. Consequently, the unique female (no. RMNH.INS.1538077) should be considered as the holotype of *Tx.* (*Meg.*) *guianensis*, as originally intended by Bonne & Bonne-Wepster (1925: 464).

Toxorhynchites (*Meg.*) *guianensis* was synonymized with *Tx.* (*Meg.*) *guadeloupensis* by Lane (1953: 125), probably based on apparently similar white markings of the tarsi. However, some authors have pointed out that records of *Tx.* (*Meg.*) *guadeloupensis* outside the Lesser Antilles were erroneous (Belkin *et al.* 1970: 231). A rapid comparison of external features of the holotype female of *Tx.* (*Meg.*) *guianensis* with the holotype female of *Tx.* (*Meg.*) *guadeloupensis* in the USNM confirmed that both species are conspicuously different, as already specified by Bonne-Wepster & Bonne (1920: 180) and Bonne & Bonne-Wepster (1925: 462). Therefore, *Tx.* (*Meg.*) *guianensis* (Bonne-Wepster & Bonne, 1920) is here resurrected from synonymy with *Tx.* (*Meg.*) *guadeloupensis* (Dyar & Knab, 1906c) and elevated to species rank following Harbach & Wilkerson (2023).

37. *Culex* (*Melanoconion*) *terebor* Dyar, 1920: 56 (♂ genitalia only). Holotype ♂ (genitalia only): Suriname (USNM*); coll. J. Bonne-Wepster; 20 July 1917; original no. BB232, USNM type no. 22733.

The type series of *Cx.* (*Mel.*) *terebor* is limited to the holotype male genitalia from an unspecified locality in Suriname (Pecor *et al.* 1992: 52). The date of collection cannot permit us to suggest any particular locality. Despite the significant increase in sampling efforts in the Amazon biome in recent decades, *Cx.* (*Mel.*) *terebor* has never been reported again (Torres-Gutierrez & Sallum 2015; Hutchings *et al.* 2016, 2018, 2020; Talaga *et al.* 2021). *Culex* (*Mel.*) *terebor* belongs to the Conspirator Group of *Culex* subgenus *Melanoconion* as defined by Sirivanakarn (1983). In the male genitalia, this species is morphologically closer to *Cx.* (*Mel.*) *aliciae* Duret, 1953, *Cx.* (*Mel.*) *dyius* Root, 1927b and *Cx.* (*Mel.*) *olimpioi* Xavier, da Silva & da Silva Mattos, 1970 than to any other species.

According to Rozeboom & Komp (1950: 82), *Cx. (Mel.) terebor* can be separated from *Cx. (Mel.) dyius* by the shape of seta *l* of the distal division of the subapical lobe of the gonocoxite; this also applies to *Cx. (Mel.) aliciae*, which possesses a slender seta *l*.

38. *Culex (Melanoconion) ybarmis* Dyar, 1920: 57 (♂, L). Holotype ♂ (with associated larval exuviae): [near] Paramaribo, Suriname (USNM); coll. J. Bonne-Wepster; date not provided; original no. not provided, USNM type no. 22734.

The type series of *Cx. (Mel.) ybarmis* is limited to the holotype male from near Paramaribo.

39. *Culex (Melanoconion) phlogistus* Dyar, 1920: 61 (♂, L). Holotype ♂ (with associated larval exuviae): [Kabelstation], [Suriname River], Suriname (USNM); coll. J. Bonne-Wepster; May 1919; original no. not provided, USNM type no. 22735.

The type series of *Cx. (Mel.) phlogistus* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Kabelstation as the likely type locality for the species and it is emended here accordingly.

40. *Culex (Melanoconion) phlabistus* Dyar, 1920: 63 (♂). Holotype ♂: [Kabelstation], [Suriname River], Suriname (USNM); coll. J. Bonne-Wepster May 1919; original no. not provided, USNM type no. 22736.

The type series of *Cx. (Mel.) phlabistus* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Kabelstation as the likely type locality for the species, and it is emended here accordingly.

41. *Culex (Melanoconion) corentynensis* Dyar, 1920: 65 (♂). Lectotype ♂: [Dam], [Sarah Creek], Suriname (USNM*); coll. J. Bonne-Wepster; 12 Jan. 1919; original no. BB643, USNM type no. 22737.

Culex (Mel.) corentynensis was originally described from two males from an unspecified locality in Suriname. The lectotype male was designated by Rozeboom & Komp (1950: 89). Belkin *et al.* (1965: 64) suggested that this species was probably collected along the Corentyne River. In our opinion, this is unlikely given that J. Bonne-Wepster and C. Bonne made no other collections in this area, plus, some species were also named after a geographical location without the specimens having been collected there (e.g. *Cx. (Mel.) albinensis*, *Cx. (Mel.) coppenamensis* or *Cx. (Mel.) nicceriensis*). The date of collection suggests Dam as the likely type locality for the species, and it is emended here accordingly.

42. *Culex vapulans* Dyar, 1920: 69 (♂), synonym of *Cx. (Melanoconion) bastagarius* Dyar & Knab, 1906b: 170 (♂, L). Lectotype ♂: [near] Paramaribo, Suriname (USNM*); coll. J. Bonne-Wepster; date not provided; original no. BB330 [erroneously BB30 in Belkin *et al.* 1965: 64], USNM type no. 22738.

Culex vapulans was originally described from two males from near Paramaribo. The lectotype male was designated by Rozeboom & Komp (1950: 87), and the remaining male is now the holotype of *Cx. (Mel.) confundior* Komp & Rozeboom (1951: 132). *Culex vapulans* was synonymized with *Cx. (Mel.) bastagarius* by Komp (1935: 7), and its status has remained stable since then.

43. *Culex (Melanoconion) comminator* Dyar, 1920: 70 (♂). Holotype ♂: [Kabelstation], [Suriname River], Suriname (USNM*); coll. J. Bonne-Wepster; May 1919; original no. BB978, USNM type no. 22739.

The type series of *Cx. (Mel.) comminator* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Kabelstation as the likely type locality for the species, and it is emended here accordingly.

44. *Culex (Melanoconion) eastor* Dyar, 1920: 71 (♂). Holotype ♂: [Albina], [Marowynne River], Suriname (USNM); coll. J. Bonne-Wepster; Feb. 1917; original no. not provided, USNM type no. 22740.

The type series of *Cx. (Mel.) eastor* is limited to the holotype male from an unspecified locality of the coastal region. The date of collection suggests Albina as the likely type locality for the species, and it is emended here accordingly.

45. *Culex (Melanoconion) maxinocca* Dyar, 1920: 71 (♂, L). Lectotype ♂ (with associated larval exuviae): [Kabelstation], [Suriname River], Suriname (USNM*); coll. J. Bonne-Wepster; Feb. 1917; original no. BB971, USNM type no. 22741.

Culex (Mel.) maxinocca was originally described from four males with associated larval exuviae from an unspecified locality of the “interior of colony”. The lectotype male was designated by Rozeboom & Komp (1950: 92). The date of collection suggests Kabelstation as the likely type locality for the species, and it is emended here accordingly.

46. *Culex tosimus* Dyar, 1920: 72 (♂, L [L not indicated in Wilkerson *et al.* 2021: 922]), synonym of *Cx. (Melanoconion) maxinocca* Dyar, 1920: 71 (♂, L). Holotype ♂ (with associated larval exuviae): [Kabelstation], [Suriname River], Suriname (USNM); coll. J. Bonne-Wepster; 18 Dec. 1918; original no. BB440, USNM type no. 22742.

The type series of *Cx. tosimus* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Kabelstation as the likely type locality for the species, and it is emended here accordingly. *Culex tosimus* was synonymized with *Cx. (Mel.) maxinocca* by Dyar (1928: 323), and its status has remained stable since then.

47. *Culex (Melanoconion) vaxus* Dyar, 1920: 73 (♂, L). Holotype ♂ (with associated larval exuviae): [Dam], [Sarah Creek], Suriname (USNM*); coll. J. Bonne-Wepster; 18 Jan. 1919; original no. BB671 II [BBII671 in Belkin *et al.* 1965: 64], USNM type no. 22743.

Culex (Mel.) vaxus was originally described from three males from an unspecified locality of the “interior of colony”, and the Lawa River. A lectotype was designated by Stone & Knight (1957: 58), but this change was superfluous given that H.G. Dyar had selected a “type” in the original description. The date of collection of the holotype suggests Dam as the likely type locality for the species, and it is emended here accordingly. The holotype male genitalia were partially illustrated in Sá *et al.* (2022: 1285). *Culex (Mel.) vaxus* was synonymized with *Cx. (Mel.) bibulus* by Dyar (1923a: 179), but it was later resurrected as a valid species by Forattini & Sallum (1993: 98).

48. *Culex (Melanoconion) bibulus* Dyar, 1920: 74 (♂, L). Holotype ♂ (with associated larval exuviae): [Dam], [Sarah Creek], Suriname (USNM*); coll. J. Bonne-Wepster; 24 Jan. 1919; original no. BB713, USNM type no. 22744.

The type series of *Cx. (Mel.) bibulus* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Dam as the likely type locality for the species, and it is emended here accordingly. The holotype male genitalia were partially illustrated in Sá *et al.* (2022: 1264). *Culex (Mel.) bibulus* was synonymized with *Cx. (Mel.) educator* Dyar & Knab, 1906d by Komp (1935: 7), but it was later resurrected as a valid species by Sá *et al.* (2022: 12). Even though morphological differences in the male genitalia are inconspicuous between *Cx. (Mel.) vaxus* and *Cx. (Mel.) bibulus*, the presence of two morphologically close but distinct species was confirmed by DNA barcoding in French Guiana (Talaga *et al.* 2025: 14, fig. 2).

49. *Culex jonistes* Dyar, 1920: 76 (♂), synonym of *Cx. (Melanoconion) ybarmis* Dyar, 1920: 57 (♂, L). Holotype ♂: [Dam], [Sarah Creek], Suriname (USNM*); coll. J. Bonne-Wepster; Jan. 1919; original no. BB765, USNM type no. 22745.

The type series of *Cx. jonistes* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Dam as the likely type locality for the species, and it is emended here accordingly. *Culex jonistes* was synonymized with *Cx. (Mel.) ybarmis* by Komp (1935: 7), and its status has remained stable since then.

50. *Culex (Melanoconion) idottus* Dyar, 1920: 77 (♂). Holotype ♂: [Dam], [Sarah Creek], Suriname (USNM); coll. J. Bonne-Wepster; Jan. 1919; original no. not provided, USNM type no. 22746.

The type series of *Cx. (Mel.) idottus* is limited to the holotype male from an unspecified locality of the “interior of colony”. The date of collection suggests Dam as the likely type locality for the species, and it is emended here accordingly.

51. *Culex xivylis* Dyar, 1920: 78 (♂, L), synonym of *Cx. (Melanoconion) bastagarius* Dyar & Knab, 1906b: 170 (♂, L). Holotype ♂ (with associated larval exuviae): [Dam], [Sarah Creek], Suriname (USNM*); coll. J. Bonne-Wepster; 24 Jan. 1919; original no. BB714a [erroneously BB714c in Stone & Knight 1957: 58 and Belkin *et al.* 1965: 64], USNM type no. 22747.

Culex xivylis was originally described from four males from unspecified localities of the “interior of colony”, the “coastal region” and the “sandy district”. Stone & Knight (1957: 58) considered that a lectotype was designated by Rozeboom & Komp (1950: 92), but this change was superfluous given that H.G. Dyar had selected a “type” in the original description. The date of collection of the holotype suggests Dam as the likely type locality for the species, and it is emended here accordingly. *Culex xivylis* was synonymized with *Cx. (Mel.) bastagarius* by Komp (1935: 7), and later with *Cx. (Mel.) intricatus* Brèthes, 1916 by Rozeboom & Komp (1950: 92). This transfer was not followed by Belkin *et al.* (1965: 64), Stone *et al.* (1959: 267) and Knight & Stone (1977: 252), who still considered *Cx. xivylis* a junior synonym of *Cx. (Mel.) bastagarius* but was accepted later by Pecor *et al.* (1992: 32) and Wilkerson *et al.* (2021: 920). Rozeboom & Komp (1950: 92) argued that the description and illustration of *Cx. xivylis* (as *xivilis* [lapsus]) by Dyar (1928: 331, fig. 286) were based on the type of *Cx. cuchyx* Dyar & Shannon, 1924 [synonym of *Cx. (Mel.) bastagarius*]. Nevertheless, the “inner division of lobe of side piece with the arms not separated” originally described for *Cx. xivylis* by Dyar (1920: 78) is sufficient to exclude *Cx. (Mel.) intricatus* as a potential senior synonym of *Cx. xivylis*. *Culex (Mel.) intricatus* seems common in southern South America, but confirmed records from the Amazon biome are scarce and most probably erroneous (Torres-Gutierrez & Sallum 2015; Hutchings *et al.* 2018). Available evidence suggests that this nominal species was erroneously synonymized with *Cx. (Mel.) intricatus*. Therefore, *Cx. xivylis* Dyar, 1920 is here returned to synonymy with *Cx. (Mel.) bastagarius* Dyar & Knab, 1906b.

52. *Culex (Carrollia) bonnei* Dyar, 1921: 155 (A). Lectotype ♂: [Gansee], [Suriname River], Suriname (USNM); coll. J. Bonne-Wepster; date not provided; original no. BB550, USNM type no. 24862.

Culex (Car.) bonnei was originally described from one male and two females from an unspecified locality in Suriname. The type locality was specified as Gansee in Bonne & Bonne-Wepster (1925: 203). The lectotype male was designated by Stone & Knight (1957: 44) despite its dissected male genitalia were not found in the USNM by those authors. *Culex (Car.) bonnei* was synonymized with *Cx. (Car.) iridescens* (Lutz, 1905) by Bonne & Bonne-Wepster (1925: 200), but it was later resurrected as a valid species by Antunes & Ramos (1939: 376).

53. *Sabethes kappleri* Bonne, 1923: 122 (♀), synonym of *Sa. (Sabethes) amazonicus* Gordon & Evans, 1922: 316 (♀). Holotype ♀: Moengo, Suriname (RMNH*); coll. C. Bonne; Feb. 1923; original no. not provided, ITH no. 3396, RMNH no. RMNH.INS.1538270.

The type series of *Sa. kappleri* is limited to the holotype female from Moengo. *Sabethes kappleri* was synonymized with *Sa. (Sab.) amazonicus* by Dyar (1924a: 99). This synonymy was not accepted by Bonne & Bonne-Wepster (1925: 32), but it was reiterated by Dyar (1928: 12), and its status has remained stable since then.

The holotype of *Sa. kappleri* was reported to be destroyed by mold in Bonne & Bonne-Wepster (1925: 33), but one foreleg, one midleg and two wings remain in the RMNH. The current synonymy with *Sa. (Sab.) amazonicus* may seem unlikely at first glance because *Sa. kappleri* is described with “some greenish scales” on the mesopostnotum whereas one of the main characteristics of *Sa. (Sab.) amazonicus* is the absence of scale on the mesopostnotum (Gordon & Evans 1922: 316). Nevertheless, considering that the holotype of *Sa. kappleri* was crushed by C. Bonne when collected (Bonne 1923: 123), it is reasonable to assume that these greenish scales were detached from the scutum and/or scutellum and transferred to the mesopostnotum. *Sabethes kappleri* shares with *Sa. (Sab.) amazonicus* the absence of paddle on the hindtarsus and the absence of white scales above the paddle of the midleg (Gordon & Evans 1922: 316). This later characteristic was confirmed after examination of the holotype bearing no white scale at the base of the paddle on the remaining midleg.

54. *Toxorhynchites moengoensis* Bonne-Wepster & Bonne, 1923: 7 (♂, ♀, L; *Megarhinus*), synonym of *Tx. (Megarhina) theobaldi* (Dyar & Knab, 1906c: 246) (♂, ♀; *Megarhinus*). Lectotype ♂ (with associated larval exuviae): Moengo, Suriname (RMNH*); coll. J. Bonne-Wepster; date not provided; original no. not provided, ITH no. 4569, RMNH no. RMNH.INS.1538117 with genitalia on slide RMNH.INS.855306 and larval exuviae on slide RMNH.INS.855307.

Toxorhynchites moengoensis was originally described from an unspecified number of males, females and larvae from Moengo. The lectotype male was designated by Belkin (1968: 33). *Toxorhynchites moengoensis* was synonymized with *Tx. (Meg.) theobaldi* by Lane (1939: 43), and its status has remained stable since then.

55. *Chagasia bonneae* Root, 1927a: 474 (♂, ♀, P, L). Holotype ♂ (with larval and pupal exuviae): Dam, [Sarah Creek], Suriname (USNM); coll. J. Bonne-Wepster; date not provided; original no. BB626, USNM type no. not provided.

The type series of *Ch. bonneae* is limited to the holotype male with associated larval and pupal exuviae from an unspecified locality in Suriname. Bonne & Bonne-Wepster (1925: 546) recorded this species (as *farjardi* [*lapsus*] for *fajardi* (Lutz, 1904) (in Bourroul 1904: 36)) from Dam and Moengo, but link-reared specimens were only obtained from Dam. Thus, it can be deduced that the holotype male with associated larval and pupal exuviae originated from Dam.

56. *Anopheles bonnei* da Fonseca & da Silva Ramos, 1940: 386 (♀), synonym of *An. (Anopheles) costai* da Fonseca & da Silva Ramos, 1940: 385 (♂). Type not designated: Suriname (NE).

Anopheles bonnei was proposed as a replacement name for *An. (Ano.) mediopunctatus* of Bonne & Bonne-Wepster (1925: 538) by da Fonseca & da Silva Ramos (1940: 386). No type was designated, but *An. bonnei* was synonymized with *An. (Ano.) costai* by Sallum *et al.* (1999: 288).

57. *Culex (Melanoconion) foliafer* Komp & Rozeboom, 1951: 121 (♂ genitalia only). Holotype ♂ (genitalia only): Suriname (USNM); coll. J. Bonne-Wepster; date not provided; original no. not provided, USNM type no. 59869.

The type series of *Cx. (Mel.) foliafer* is limited to the holotype male genitalia from an unspecified locality in Suriname.

58. *Culex (Melanoconion) westeriae* Komp & Rozeboom, 1951: 127 (♂ genitalia only; as *westeri*, emended by Stone & Knight 1957: 59). Holotype ♂ (genitalia only): [near] Paramaribo, Suriname (NE); coll. J. Bonne-Wepster and C. Bonne; 5 Dec. 1918; original no. BB366, USNM type no. 59872.

The type series of *Cx. (Mel.) westeriae* is limited to the holotype male genitalia from near Paramaribo. The microscope slide bearing the holotype was found in the USNM, but the mounting medium containing the genitalia was detached; thus, the holotype must be considered non-extant.

Despite the significant increase in sampling efforts in the Amazon biome in recent decades, *Cx. (Mel.) westeriae* has never been reported again (Torres-Gutierrez & Sallum 2015; Hutchings *et al.* 2016, 2018, 2020; Talaga *et al.* 2021). *Culex (Mel.) westeriae* belongs to the Inhibitor Group of *Culex* subgenus *Melanoconion* as defined by Sirivanakarn (1983). Based on its original description and illustration (Komp & Rozeboom 1951: 127, fig. 4), this species is morphologically closer to *Cx. (Mel.) contei* Duret, 1968 and *Cx. seneveti* Clastrier, 1970a [synonym of *Cx. (Mel.) contei*] than to any other species. Specifically, the lateral plate, proximal and distal division of the subapical lobe of the gonocoxite, gonostylus and the ninth tergal lobes in outlines cannot be separated between the three. The holotype of *Cx. (Mel.) westeriae* was not examined by Duret (1968) or Clastrier (1970a, as *westeri*), therefore their comparative studies with that species were based on the original description and illustration. In our opinion, the morphological characteristics mentioned by J.P. Duret and J. Clastrier to distinguish their species from *Cx. (Mel.) westeriae* could either fall within the intraspecific variation of the species or could be the result of a slightly misleading original description of *Cx. (Mel.) westeriae*. Specifically, the unusual minute setae at the base of the ninth tergal lobes correctly described for *Cx. (Mel.) contei* and *Cx. (Mel.) seneveti* could have been easily missed in the mount of *Cx. (Mel.) westeriae*. Unfortunately, now that the holotype is lost, this assumption can never be verified.

59. *Culex (Melanoconion) confundior* Komp & Rozeboom, 1951: 132 (♂ genitalia only). Holotype ♂ (genitalia only): [near] Paramaribo, Suriname (USNM*); coll. J. Bonne-Wepster; date not provided; original no. M94 (P2), USNM type no. 59876.

The type series of *Cx. (Mel.) confundior* is limited to the holotype male genitalia from near Paramaribo (Pecor *et al.* 1992: 18). Despite the significant increase in sampling efforts in the Amazon biome in recent decades, *Cx. (Mel.) confundior* has never been reported again (Torres-Gutierrez & Sallum 2015; Hutchings *et al.* 2016, 2018, 2020; Talaga *et al.* 2021). Based on its original description and illustration (Komp & Rozeboom 1951: 132, fig.

8), this species is morphologically closer to *Cx. (Mel.) dolichophyllus* Clastrier, 1970b than to any other species. Specifically, the lateral plate, the proximal division of the subapical lobe of the gonocoxite, the gonostylus and the ninth tergal lobes in outline cannot be separated between the two. The distal division of the subapical lobe of the gonocoxite is apparently distinct between the two, but the description of *Cx. (Mel.) confundior* is explicitly uncertain regarding this lobe (Komp & Rozeboom 1951: 132). Specifically, the hyaline seta *l* inserted on an independent distal subapical lobe described for *Cx. (Mel.) dolichophyllus* was likely impossible to decipher in the mount of *Cx. (Mel.) confundior*, already qualified as a “poor mount” in the original description (Komp & Rozeboom 1951: 133).

60. *Wyeomyia surinamensis* Bruijning, 1959: 135 (♂), synonym of *Wy. (Leonidasdeanea) flui* (Bonne-Wepster & Bonne, 1920: 169) (♀; *Protopolepis*). Holotype ♂: Ornamibo, Suriname (RMNH*); coll. C.F.A. Bruijning; 11 Aug. 1954; original no. not provided, RMNH no. RMNH.INS.1537993 with genitalia on slide RMNH.INS.856454.

Wyeomyia surinamensis was originally described from three males from Ornamibo. The holotype and the two paratypes are clearly established in the original publication. *Wyeomyia surinamensis* was recently synonymized with *Wy. (Leo.) flui* by Lourenço-de-Oliveira *et al.* (2026).

Type localities of mosquitoes originally described from Suriname

Type localities are listed alphabetically and directly followed by species described from the given locality. Geographical coordinates (precisely pointing out the center of a general area) are provided in decimal degrees using the World Geodetic System 84. Their geographic positions shown in Fig. 3 were estimated based on an historical map of Suriname (Fig. 4). Additional information is provided about the nature, geographic delimitations and orthographic variations of localities.

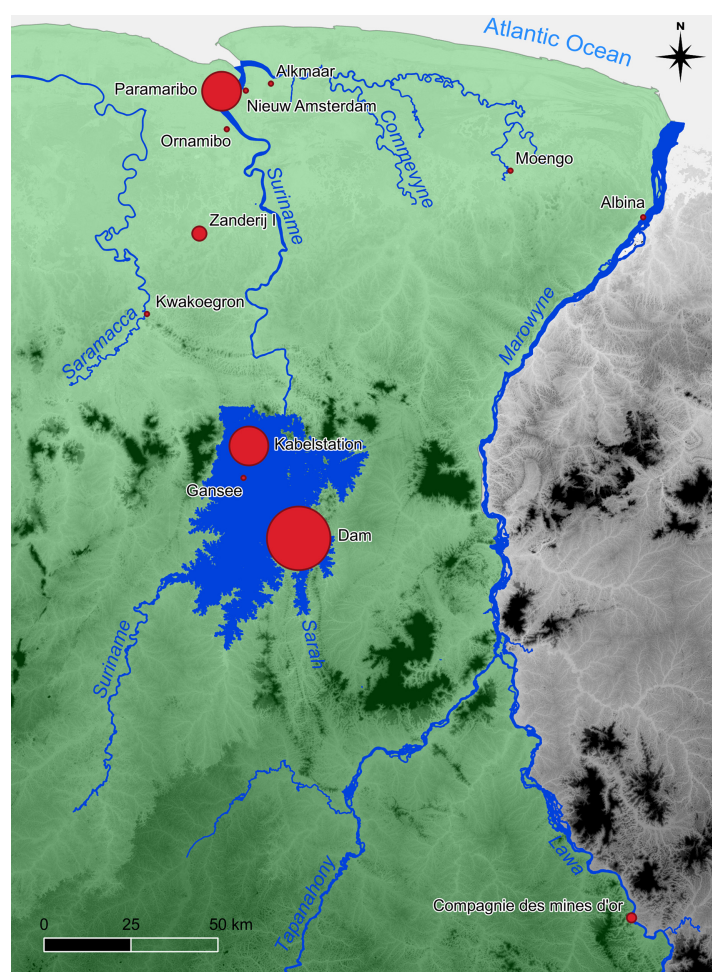


FIGURE 3. Type localities of mosquito species originally described from Suriname (green area). The size of the circle illustrates the relative number of species described (from 1 to 14) from the type locality. The main rivers mentioned in this article are indicated in italic blue. Note that the collecting sites Dam, Gansee and Kabelstation are located within the Brokopondo Reservoir, which was created in 1965 following the construction of a dam.

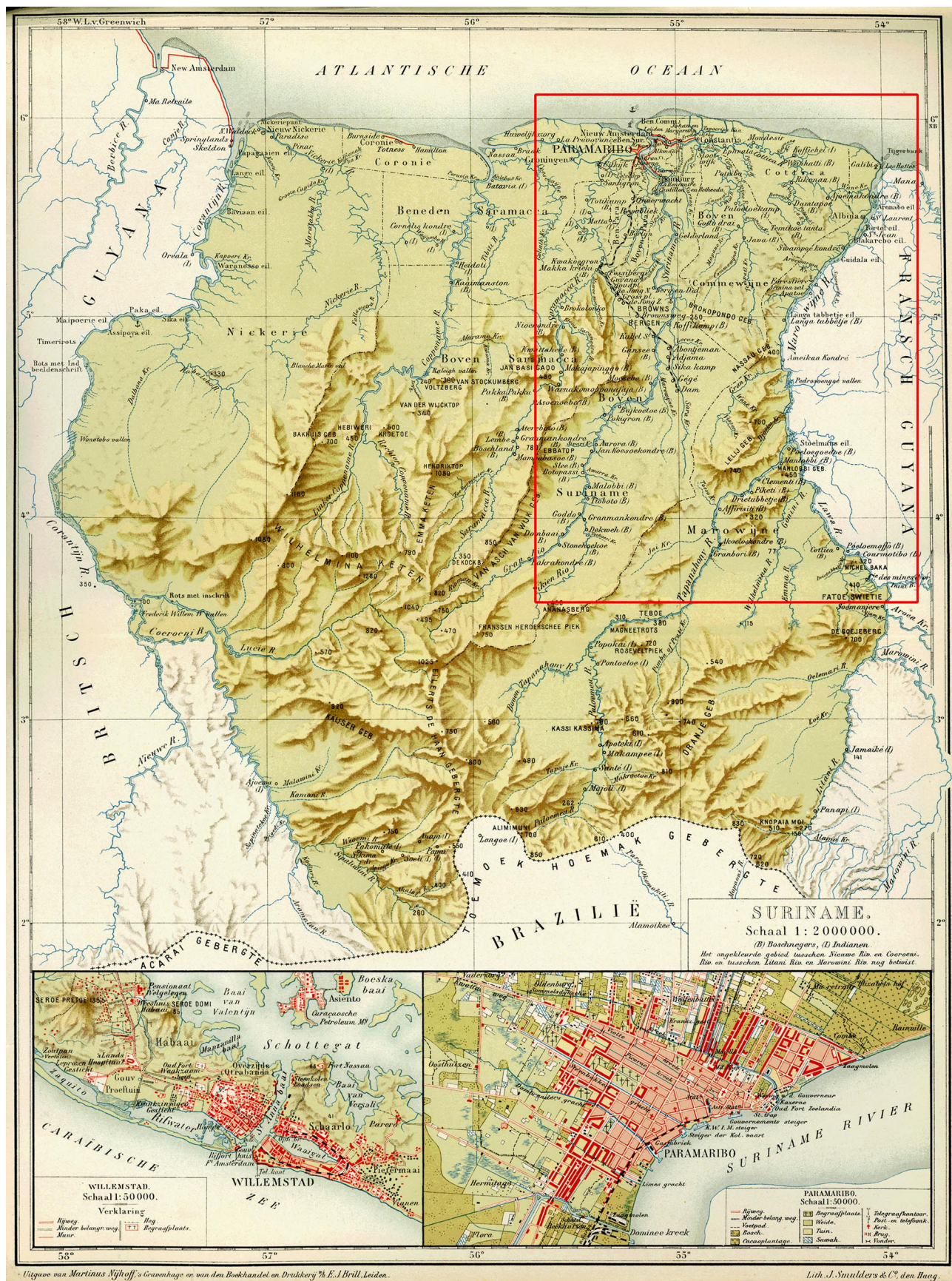


FIGURE 4. Historical map of Suriname from the 1914–1917 period, showing most of the localities mentioned by J. Bonne-Wepster and C. Bonne, especially those along the Lawa Railway. The red rectangle shows the geographical extent of Fig. 3.

Albina, Marowyne River. 20. *Wj. (Leo.) flui* and 44. *Cx. (Mel.) eastor*.

Geographical coordinates: 5.49848°, -54.05745°. Area defined by the town of Albina situated on the west side of the lower Marowyne River (Marowijne *orth. var.*).

Alkmaar, Commewyne River. 30. *Cx. (Mel.) commevynensis*.

Geographical coordinates: 5.84486°, -55.02193°. Area defined by the town of Alkmaar situated on the south side of the lower Commewyne River (Commevijne *orth. var.*).

Compagnie des mines d'or, Lawa River. 9. *Cx. (Cux.) bonneae*, 10. *Cx. (Mcx.) chryselatus* and 19. *Wj. (Hys.) lamellata*.

Geographical coordinates: 3.68332°, -54.08747°. Area defined by the French gold placer mining, owned by the Compagnie des mines d'or, situated on the west side of the Lawa River.

Dam, Sarah Creek. 15. *Sa. (Sbo.) imperfectus*, 16. *Li. pseudomethysticus*, 21. *Cx. (Car.) infoliatu*s, 29. *Cx. (Mel.) ensiformis*, 31. *Cx. (Mel.) curopinensis*, 33. *Ae. (How.) arborealis*, 35. *Tx. aldrichanus*, 41. *Cx. (Mel.) corentynensis*, 47. *Cx. (Mel.) vaxus*, 48. *Cx. (Mel.) bibulus*, 49. *Cx. jonistes*, 50. *Cx. (Mel.) idottus*, 51. *Cx. xivylis* and 55. *Ch. bonneae*.

Geographical coordinates: 4.66667°, -54.95000°. Area defined by the southernmost station of the Lawa Railway situated along the Sarah Creek (Sara Kreek *orth. var.*). This area was partially flooded around 1965 when the Brokopondo Reservoir was filled.

Gansee, Suriname River. 52. *Cx. (Car.) bonnei*.

Geographical coordinates: 4.82328°, -55.09297°. Area defined by the former village of Gansee on the Suriname River. This village was flooded around 1965 when the Brokopondo Reservoir was filled.

Kabelstation, Suriname River. 24. *Cx. (Mel.) saramaccensis*, 26. *Cx. (Mel.) coppenamensis*, 27. *Cx. (Mel.) nicceriensis*, 32. *Cx. multispinosus*, 39. *Cx. (Mel.) phlogistus*, 40. *Cx. (Mel.) phlabistus*, 43. *Cx. (Mel.) comminutor*, 45. *Cx. (Mel.) maxinocca* and 46. *Cx. tosimus*.

Geographical coordinates: 4.90597°, -55.07902°. Area defined by the former station of the Lawa Railway crossing the Suriname River by cable car. This area was flooded around 1965 when the Brokopondo Reservoir was filled.

Kwakoe Gron, Saramacca River. 22. *Cx. (Cux.) brevispinosus* and 36. *Tx. (Meg.) guianensis*.

Geographical coordinates: 5.24796°, -55.34318°. Area defined by the former station of the Lawa Railway near the village of Kwakoe Gron on the east side of the Saramacca River.

Lawa River. 3. *Wj. (Dod.) aphobema*, 12. *Wj. (subgenus uncertain) albosquamata*, 17. *Wj. (subgenus uncertain) roucouyana* and 18. *Wj. (subgenus uncertain) argenteorostris*.

Geographical coordinates: not applicable. Area defined as the west side of the Lawa River from the Compagnie des mines d'or downstream to the Tapanahony River where the watercourse changes to the Marowyne River.

Marowyne and Lawa rivers. 4. *Cx. (Cux.) surinamensis*.

Geographical coordinates: not applicable. Area defined as the west side of the Marowyne River (Marowijne *orth. var.*) and Lawa River upstream to the Compagnie des mines d'or.

Moengo. 53. *Sa. kappleri* and 54. *Tx. moengoensis*.

Geographical coordinates: 5.61925°, -54.40119°. Area defined by the town of Moengo.

Nieuw Amsterdam. 2. *Cx. aikenii*.

Geographical coordinates: 5.82680°, -55.08690°. Area defined by the town of Nieuw Amsterdam (New Amsterdam *orth. var.*) situated at the confluence of the Suriname and Commewyne rivers.

Ornamibo. 60. *Wy. surinamensis*.

Geographical coordinates: 5.72676°, -55.13627°. Area defined by the village of Ornamibo situated on the west side of the Suriname River.

Paramaribo and surroundings. 1. *Ps. vanhalli*, 8. *Cx. tapena*, 13. *Wy. fallax*, **25. *Cx. (Mel.) albinensis***, 34. *Ae. (Pro.) argyrothorax*, **38. *Cx. (Mel.) ybarmis***, 42. *Cx. vapulans*, **58. *Cx. (Mel.) westeriae*** and **59. *Cx. (Mel.) confundior***.

Geographical coordinates: 5.82520°, -55.14975°. Area defined by the capital city of Paramaribo, and its natural and semi-natural surroundings.

Zanderij I. 6. *Cx. (Mel.) alogistus*, 7. *Ae. (Och.) eucephalaeus*, 11. *Wy. (subgenus uncertain) occulta* and **23. *Cx. (Mel.) alcocki***.

Geographical coordinates: 5.45636°, -55.20730°. Area defined by the former station of the Lawa Railway, approximately 45 km south of Paramaribo, near the town of Zanderij (*Zandery orth. var.*).

Unspecified localities in Suriname

Dyar (1918: 122) and Bonne-Wepster & Bonne (1919: 113) mentioned several localities in the original descriptions of **5. *Cx. (Cux.) usquatus*** and **14. *Wy. (Pho.) splendida***, respectively. Even though their lectotypes are clearly identified, their specific localities of origin in Suriname cannot be confirmed. The collection data of *28. Cx. maroniensis* were definitely lost, while no information was ever provided on the collection of **37. *Cx. (Mel.) terebor*** and **57. *Cx. (Mel.) foliafer***. Finally, no type was designated for *56. An. bonnei*.

Discussion

The taxonomic history of mosquitoes of the Amazon biome is deeply intertwined with the early 20th-century collections of J. Bonne-Wepster and C. Bonne in Suriname (Bonne-Wepster & Bonne 1919, 1920, 1923; Bonne 1923; Bonne & Bonne-Wepster 1925). The long-term storage of their primary types in The Netherlands, away from the main centers of Neotropical research, has apparently hindered the stability of certain taxa. By re-examining primary types currently deposited at the RMNH, and to a lesser extent at the USNM, this study addresses significant nomenclatural gaps and applies the principle of priority to revised long-standing synonymies.

The resurrection of *Sa. (Sab.) imperfectus*, *Cx. (Mel.) curopinensis* and *Tx. (Meg.) guianensis* from synonymy underscores the necessity of direct type examination. The proposed synonymy of *Sa. (Sbo.) tridentatus* with *Sa. (Sbo.) imperfectus*, *Cx. (Mel.) alinkios* with *Cx. (Mel.) coppenamensis* and *Cx. (Mel.) comptus* with *Cx. (Mel.) commevynensis* demonstrates how descriptions of new species can overlook older names simply due to limited access to type material (Cerqueira 1961; Sallum & Hutchings 2003; Sá *et al.* 2020). Similarly, some difficulties in accessing type material deposited in the USNM were also experienced during this study. Notably, the identities of *Cx. (Mel.) confundior*, *Cx. (Mel.) terebor* and *Cx. (Mel.) westeriae* regarding subjective junior synonyms are postponed until the remaining holotypes in the USNM, and additional material, can be directly examined.

Furthermore, the clarification of type localities through the cross-referencing of collection dates and historical catalogs provides a more robust geographical framework for future surveys (Ciliberti *et al.* 2023). Refining vague designations like “coastal region” or “interior of the colony” to specific sites (e.g. Dam, Kabelstation or Zanderij I) along the former Lawa Railway is important for understanding the distribution of the species.

Despite the taxonomic clarifications provided in this study, a significant portion of the primary types examined here date back more than a century, and many are represented only by aged specimens with degraded morphological features or incomplete life stages. Future efforts should prioritize the targeted collection of topotypic (or near topotypic) material to enable integrative taxonomic approaches. Specifically, the association of larval and pupal exuviae with adult forms remains essential for many species whose immature stages are still poorly described or unknown. Furthermore, the systematic use of DNA barcoding and high-throughput sequencing on fresh specimens from the type localities will be crucial to corroborate the morphological boundaries and to uncover potential cryptic species complexes (Talaga *et al.* 2025). Such integrative approaches, extending beyond classical morphology alone, are essential for building a robust taxonomic framework for mosquitoes of the Neotropical Region.

In conclusion, this review emphasizes that accurate mosquito taxonomy is not merely a nomenclatural exercise

but a fundamental requirement for the correct use of taxonomic names. As efforts to refine the taxonomy of the mosquito fauna of French Guiana continue, the stability provided by the re-evaluation of these 60 nominal species originally described from Suriname will serve as a more robust taxonomic baseline for mosquito research in the Neotropical Region.

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