

Notes on the Muscidae of New Guinea (Diptera)

IV. Species described by Stein from 1910 to 1920

by

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Abstract

The 19 species of Muscidae from New Guinea described by STEIN (1910—1920) are discussed. Type-material for 16 of these has been located, otherwise it is regarded as destroyed. Lectotypes are designated where appropriate, and species are assigned to modern genera. Three lectotypes are designated, seven new combinations established, and one new synonymy proposed.

This is the fourth and last paper in this series on the types of New Guinea Muscidae. Supplementary and corrective data will be included in my proposed revision of the Muscidae from this region. The species discussed in this paper were described by STEIN in five papers (1910, 1915, 1918, 1919 and 1920b), and were collected in New Guinea and the Bismarck Archipelago except for a few from Seram, Waigeo and Saonek which are included here for the sake of completeness.

In his 1910 paper STEIN described only one species from New Guinea, *Coenosia longipila*; the rest of the species were from other parts of the Indo-Australasian region.

In 1915, in a paper on Muscidae from Formosa, STEIN included a key to the species of *Limnophora* Robineau-Desvoidy known to him from the Indo-Australasian region. In this key there are four species designated as new that are not described in this paper, viz. *aurantiaca*, *cylindrica*, *flexa* and *venisetta*. Three of these were described subsequently: *aurantiaca* (1918; Deslacs Is.), *cylindrica* (1920b; Waigeo Is.), and *veniseta* (1920b; Java). The first two are discussed below. *L. flexa* was never described: STEIN must have been referring to *Anaclysta flexa* (Wiedemann) and evidently wrote "*flexa* nov. spec." in error. These three names date from the year in which the key was published, not from the date of their description, and they are valid names according to the International Code of Zoological Nomenclature (1961).

In 1918, STEIN described a few Muscidae from New Guinea, *Limnophora aurantica* and some *Mydaea* Robineau-Desvoidy. He also gave a key to the species of *Mydaea* known to him from the Indo-Australasian region, and this key has given rise to a number of misunderstandings: both SÉGUY and MALLOCH have asserted that some of the species included in the key as new species were never described. This is not true, for there are published descriptions for all these species. STEIN listed 26 species in this key as new. 11 of these were described in the same paper: two from New Guinea (*bistriata* and *rufiventris*) and nine from other parts of the Indo-Australasian region (*antennata*, *attenta*, *diaphana*, *lauta*, *morosa*, *pallens*, *splendida*, *tenax* and *tibiella*). Five were subsequently described in 1919, all from New Guinea (*armata*, *decipiens*, *distincta*,

frontalis and *quadristriata*). Six were subsequently described in 1920b, four from Java (*laccata*, *semipellucida*, *setulipes* and *vittithorax*), one from Waigeo (*demens*) and one from Seram (*semidiaphana*). Two had already been described and were not new species at all (*diluta* Stein, 1900; *dolosa* Stein, 1909). One was subsequently described in 1920a from Simalur (*setulinervis*). One, *spinipes*, was a new species based on specimens studied and described by STEIN many years previously (1901; see PONT, 1966: 91—92 and 96—97). These facts are summarised in Table I.

TABLE I

Summary of the new species mentioned in STEIN's (1918) key to Indo-Australasian species of *Mydaea* Robineau-Desvoidy

Species	Where described	Type-locality
<i>antennata</i>	1918 : 151.	Formosa
<i>armata</i>	1919 : 203.	New Guinea
<i>attenta</i>	1918 : 167.	Calcutta
<i>bistriata</i>	1918 : 168.	New Guinea
<i>decipiens</i>	1919 : 204.	New Guinea
<i>demens</i>	1920b : 78.	Waigeo
<i>diaphana</i>	1918 : 169.	Ceylon
(<i>diluta</i>)	1900 : 139.	New Guinea)
<i>distincta</i>	1919 : 205.	New Guinea
(<i>dolosa</i>)	1909 : 235.	Java)
<i>frontalis</i>	1919 : 206.	New Guinea
<i>laccata</i>	1920b : 49.	Java
<i>lauta</i>	1918 : 152.	Formosa, Hong Kong
<i>morosa</i>	1918 : 170.	Ceylon
<i>pallens</i>	1918 : 170.	Ceylon, Penang
<i>quadristriata</i>	1919 : 208.	New Guinea
<i>rufiventris</i>	1918 : 171.	New Guinea
<i>semidiaphana</i>	1920b : 80.	Seram
<i>semipellucida</i>	1920b : 51.	Java
<i>setulinervis</i>	1920a : 44.	Simalur
<i>setulipes</i>	1920b : 51.	Java
<i>spinipes</i>	1901 : 193—194.	—
<i>splendida</i>	1918 : 172.	Ceylon
<i>tenax</i>	1918 : 172.	India, Hong Kong
<i>tibiella</i>	1918 : 173.	India
<i>vittithorax</i>	1920b : 52.	Java

It should be borne in mind that this key does not in fact include all the species known to STEIN, omitting a few of his own species, e.g. *belomyzina*. It includes some but not all of the species described in his post-1918 papers.

In 1919, he published descriptions of five of the *Mydaea* species keyed in 1918, and also described a new species of *Graphomya* Robineau-Desvoidy and of *Pygophora* Schiner.

In 1920, in a paper on the fauna of Seram, Waigeo and Saonek, he described two of the *Mydaea* keyed in 1918, described an additional species (*dubia*), and described a new species of *Graphomya*, *Limnophora* and *Pygophora*.

The present paper thus deals with 19 species. Some of these were described

from material in the Hungarian Natural History Museum, Budapest, and the remarks in my previous paper concerning the fate of syntypes are also applicable here: holotypes have been destroyed, but parts of syntypic series have been found in STEIN's personal collection. The other species were based on material from the Amsterdam Museum: holotypes are in Amsterdam, and syntypes are divided between Amsterdam and STEIN's collection. In a few cases some syntypes could not be traced and are presumed lost. Three lectotypes are designated and seven new combinations are established. One new specific synonymy is proposed.

It is a pleasure to acknowledge the continual help given me by Mr. Willem N. ELLIS (Zoölogisch Museum der Universiteit van Amsterdam) and Dr. H. SCHUMANN (Zoologisches Museum der Humboldt-Universität zu Berlin), who have supplied me with all the material discussed in this paper and have most patiently searched it out.

The following abbreviations are used for museums where material is deposited: Amsterdam — Zoölogisch Museum der Universiteit van Amsterdam. Z.M.B. — Zoologisches Museum der Humboldt-Universität zu Berlin.

As in my previous papers, the species are listed in alphabetical order irrespective of the original generic combinations.

armata Stein

Mydaea armata Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 184.

Lectotype ♂, New Guinea: Zoutbron. Designated by PONT (1967: 632). In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Dichaetomyia* Malloch, in which it was first placed by MALLOCH (1924: 140).

I have recently designated a lectotype for this species and given a brief diagnosis (1967: 632). Both lectotype and paralectotype are in Amsterdam. The specific name was first published in STEIN's key (1918: 184) and described a year later (1919: 203).

aurantiaca Stein

Limnophora aurantiaca Stein, 1915, *Supplia ent.* 4: 38.

Syntypes, Deslacs Is. Destroyed; formerly in the Hungarian Natural History Museum, Budapest.

This species belongs to the genus *Heliographa* Malloch, in which it was first placed by MALLOCH (1925b: 508).

STEIN described this species from several males, in the Budapest Museum. These have been destroyed, and there are no syntypes in STEIN's personal collection in the Z.M.B.

The name was first published in STEIN's key (1915: 38) and was described three years later (1918: 174). MALLOCH (l.c.) stated that the species was never described.

bistriata Stein

Mydaea bistriata Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 168.

Holotype ♂, New Guinea: Huon-Golf. Destroyed; formerly in the Hungarian Natural History Museum, Budapest.

The holotype of this species has been destroyed, and I have been unable to identify the species.

confluens Stein

Graphomyia confluens Stein, 1920, *Tijdschr. Ent.* 62 (1919), Suppl.: 42.

Holotype ♂, Seram Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

See under *Graphomyia rufiventris* Stein.

cylindrica Stein

Limnophora cylindrica Stein, 1915, *Supplta ent.* 4: 39.

Holotype ♂, Waigeo Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Limnophora* Robineau-Desvoidy, and STEIN's original generic assignment is correct.

The holotype is in good condition. The labels include STEIN's determination label "*Limnophora cylindrica* sp.n."

L. cylindrica was included in STEIN's key to Indo-Australasian *Limnophora* (1915), and the description was published five years later (1920b: 81).

decipiens Stein

Mydaea decipiens Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 185.

Lectotype ♀, New Guinea: Noordrivier. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Papuaia* Malloch (comb. nov.). It was erroneously placed in *Dichaetomyia* Malloch by MALLOCH (1929: 172) and by BOHART and GRESSITT (1946: 420), but the lectotype possesses the characters of *Papuaia* and not those of *Dichaetomyia*.

STEIN first mentioned this species in his key to Indo-Australasian *Mydaea* (1918: 185) as "*decipiens* nov. sp. ♀", but subsequently described the species (1919: 204) from one male and three females from Bivakeiland, 25.II.1910, and Noordrivier, IX.1909. However, as the female sex only was mentioned in the original reference (1918), only females can be considered as syntypes.

Mr. ELLIS sent me all the available material from Amsterdam, consisting of three females, and an enquiry to Dr. SCHUMANN revealed that the species was not represented in STEIN's personal collection. Any male that might have been studied by STEIN is therefore lost.

One of the females is labelled Noordrivier, IX.09, and is in excellent condition. I have labelled it and designate it herewith as lectotype.

The remaining two females are from Bivakeiland, but the date reads "I.10" and not "25.II.10" as stated by STEIN (1919: 204). It is possible that he recorded the date erroneously, but in view of this discrepancy and the fact that the name *decipiens* has already been fixed to a specimen in excellent condition, I am not designating these females as paralectotypes. They are conspecific with the lectotype, and I have labelled them "Papuaia decipiens Stein".

demens Stein

Mydaea demens Stein, 1918, *Annls hist.-nat. Mus. natn. bung.* 16: 184.

Holotype ♂, Waigeo Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Dichaetomyia* Malloch (comb. nov.).

The holotype lacks the last four right hind tarsal segments, but is otherwise in excellent condition. The labels include STEIN's determination label "Mydaea demens sp.n."

The species was included in STEIN's key (1918: 184) and was described two years later (1920b: 78). SÉGUY (1937: 281) included *demens* in a list of species that STEIN never described, but nevertheless subsequently gave the correct reference to the description (op. cit.: 284).

distincta Stein

Mydaea distincta Stein, 1918, *Annls hist.-nat. Mus. natn. bung.* 16: 182.

Holotype ♀, New Guinea: Heuvelbivak. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Dichaetomyia* Malloch (comb. nov.).

The holotype lacks all the left legs, the right mid leg, segments two to five of the right fore tarsi, and the right antenna, but is otherwise in good condition. The labels include STEIN's determination label "Mydaea distincta ♀ sp.n."

The first mention of this species was in STEIN's key to Indo-Australasian *Mydaea* (1918: 182), and the name must date from this paper. The description was subsequently published a year later (1919: 205).

dubia Stein

Mydaea dubia Stein, 1920, *Tijdschr. Ent.* 62 (1919), Suppl.: 77.

Holotype ♀, Seram Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Eumyiospila* Malloch (comb. nov.).

The holotype is slightly dirty but is otherwise in good condition. The labels include STEIN's determination label "Mydaea dubia sp.n."

MALLOCH (1925a: 328) described a *Dichaetomyia dubia* from the Philippines, but subsequently (1928: 323) renamed his species *dubitalis* as he thought that STEIN's *dubia* would prove to be a *Dichaetomyia* and that his own species would therefore be a junior homonym. Examination of STEIN's holotype however does not shew this to be the case: STEIN's *dubia* is a *Eumyiospila*, and thus MALLOCH's species from the Philippines should be known as *dubia* Malloch, with *dubitalis* Malloch as a junior objective synonym.

eximia Stein

Graphomyia eximia Stein, 1919, *Nova Guinea* 13 (Zoologie): 199.

Lectotype ♂, New Guinea: Regeneiland. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Graphomyia* Robineau-Desvoidy.

STEIN described this species from "einige Männchen und sehr zahlreiche Weibchen Bivakeiland I, 10, Alkmaar XII, 09 und Regeneiland 20, XII, 09". From the Z.M.B. I received four female syntypes, from Bivakeiland. From Amsterdam I received syntypes from Regeneiland, Alkmaar and Bivakeiland. There were one male and one female from Regeneiland: I have labelled the male, and designate it herewith, as lectotype, and have labelled the female as paralectotype. There was one female from Alkmaar, which I have labelled as paralectotype. One male and 69 females from Bivakeiland (four in Z.M.B., 65 in Amsterdam) have been labelled as paralectotypes.

The lectotype is in good condition. None of the specimens bears STEIN's determination label except for one of the Z.M.B. females.

In Amsterdam there are a number of specimens from Bivakeiland but with dates other than the "I.10" cited by STEIN, and also a female from Rivierkamp. None of these has been treated as a syntype.

frontalis Stein

Mydaea frontalis Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 182.

Lectotype ♂, New Guinea: Regeneiland. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Dichaetomyia* Malloch (comb. nov.).

STEIN described this species (1919: 206) from two males from Regeneiland (9.X.1909 and 16.II.1910) and one female from Noordrivier (IX.1909). Only a single male is now in Amsterdam (Regeneiland, 16.II.1910), and there is no material in the Z.M.B. I have labelled this male, and designate it herewith, as lectotype.

The antennae and right mid leg are missing, and the frons is rubbed above, otherwise the lectotype is in good condition. The labels include STEIN's determination label.

The name was first published in STEIN's key (1918: 182) and was described a year later (1919: 206).

longipila Stein

Coenosia longipila Stein, 1910, *Annls hist.-nat. Mus. natn. hung.* 8: 565.

Lectotype ♂, New Guinea: Simbang. Designated by CROSSKEY (1962: 490). In the Zoölogisches Museum der Humboldt-Universität zu Berlin.

This species belongs to the genus *Pygophora* Schiner, and has recently been redescribed by CROSSKEY (1962: 490).

STEIN described this species from three males and two females from Simbang, Huon Gulf. Only one male is now extant, and this was designated lectotype by CROSSKEY (1962: 490). The right mid leg is missing, and the abdomen has been mounted on a separate slide by CROSSKEY; otherwise it is in good condition.

maculigera Stein

Coenosia maculigera Stein, 1920, *Tijdschr. Ent.* 62 (1919), Suppl.: 85.

Holotype ♂, Saonek Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Pygophora* Schiner, and has been redescribed by CROSSKEY (1962: 440).

The holotype is in good condition, with the left fore leg mounted separately. The labels include STEIN's determination label "*Coenosia maculigera* sp.n."

quadristriata Stein

Mydaea quadristriata Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 185.

Holotype ♀, New Guinea: Hellwiggeb. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Papuaia* Malloch (comb. nov.).

The holotype lacks left antenna and right mid leg, but is otherwise in good condition.

The species was first mentioned by STEIN in his key to Indo-Australasian *Mydaea* (1918: 185), and was described a year later (1919: 208) from a single female. SÉGUY overlooked this description, and included the name in a list of *Mydaea*-species that he thought had never been described and should therefore be treated as *nomina nuda* (1937: 281).

rufiventris Stein

Graphomyia rufiventris Stein, 1919, *Nova Guinea* 13 (Zoologie): 201.

Holotype ♂, Seram Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Graphomyia* Robineau-Desvoidy.

There appears to be some confusion over the status of the two names *rufiventris* Stein and *confluens* Stein and their type-specimens, on account of STEIN's various conflicting statements. So far as I am able to ascertain, the facts are as follows:

(1) STEIN included the species "*rufiventris* sp. nov." in a key to *Graphomyia* (1919: 201). In a footnote he stated that it was a Seram species that he was describing in another paper: "Diese aus Ceram stammende Art wird an anderer Stelle beschrieben".

(2) A year later (1920a: 41) he published a description of "*rufiventris* sp. nov. ♀" and gave his type-material as a single female from Sinabang on Simalur Is. He then (op. cit.: 42) referred to a variety, a male from Seram Is., which could be *rufiventris* but which differed in a number of characters that he listed and which, if a different species, should be called *confluens*.

(3) Later in the same journal (1920b: 76) he again published a description of "*rufiventris* sp. nov. ♂" based on a male from Seram Is. He referred to a female that was probably the same species that he had already described from Simalur.

I conclude from this that the male from Ceram is the holotype of *rufiventris*, based on STEIN's statement (1919: 201, footnote) when he originally published the name. As the name *confluens* is also based on the same specimen, the male from Seram is the holotype of both names, and *confluens* is a junior objective synonym of *rufiventris* (syn. nov.).

The holotype, the male from Seram, is in the Zoölogisch Museum der Universiteit van Amsterdam, but the female from Simalur has apparently been lost: it is in neither Amsterdam nor the Z.M.B.

The holotype is in good condition. It bears STEIN's determination label "Graphomyia rufiventris sp.n." and I have labelled it "Holotype ♂ of Gr. rufiventris Stein and Gr. confluens Stein".

rufiventris Stein

Mydaea rufiventris Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 171.

Holotype ♂, New Guinea: Friedrich Wilhelmshafen (= Madang). Destroyed; formerly in the Hungarian Natural History Museum, Budapest.

The holotype of this species has been destroyed, and I have been unable to recognize this species.

semidiaphana Stein

Mydaea semidiaphana Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 185.

Holotype ♂, Seram Is. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Eumyiospila* Malloch (comb. nov.).

The holotype is in excellent condition. The labels include STEIN's determination label, "Mydaea semidiaphana sp.n."

The species was originally included by STEIN in his key (1918: 185), and a formal description was not published until two years later (1920b: 80).

setitarsis Stein

Pygophora setitarsis Stein, 1919, *Nova Guinea* 13 (Zoologie): 211.

Holotype ♂, New Guinea: Bivakeiland. In the Zoölogisch Museum der Universiteit van Amsterdam.

This species belongs to the genus *Pygophora* Schiner, and has been redescribed by CROSSKEY (1962: 423).

The holotype is in poor condition; it is rather dirty and battered; the head is squashed, the left fore leg and both mid legs are missing. It bears STEIN's determination label, "Pygophora setitarsis ♂ sp.n."

spinipes Stein

Mydaea spinipes Stein, 1918, *Annls hist.-nat. Mus. natn. hung.* 16: 184.

The only mention of this name by STEIN is in his key to Indo-Australasian *Mydaea* (l.c.), where he refers to "*spinipes* nov. sp. (*contraria* Wlk. coll.)". This is evidently a name he is proposing for specimens standing under *contraria* Walker in the British Museum (Natural History) collection which he studied many years previously (1901: 193—194) but which were not true *contraria*. For discussion of this problem, see my paper on WALKER types (PONT, 1966: 91—92 and 96—97).

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Afdeling Noord-Holland en Utrecht. Voor het seizoen 1968—1969 zijn de vergaderingen vastgesteld op de volgende data: woensdag 25 september, 20 november, 29 januari en 12 maart, telkens des avonds om 8 uur in Hotel Krasnapolsky, Warmoesstraat.

W. J. KABOS, Secretaris.