New synonyms and a key to species of
Plethysmochaeta Schmitz (Diptera, Phoridae)

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Abstract. Recognition of the species of Plethysmochaeta Schmitz, 1924 has been
hindered by most being only known in one sex and by considerable variations in the sizes
of species. P. molluscivora (Schmitz, 1916) is synonymised with P. trinervis (Schmitz, 1915);
P. semituta Schmitz, 1953 is synonymised with P. couvreuri Schmitz, 1953; P. fulgens
Beyer, 1965 is synonymised with P. vectabilis (Brues, 1913). A key to species is provided.
Key words. Diptera, Phoridae, Plethysmochaeta, synonyms, key.

Introduction
Mrs Mfon Ekanem (University of Uyo, Nigeria) asked me to identify some Phoridae
reared from fish baits exposed near Uyo in 1991. These represented three species, Megaselia scalaris (Loew), Puliciphora borinquenensis Wheeler and a species of
Plethysmochaeta Schmitz, 1924. However the two sexes of the latter appeared to
belong to two different species, when taken through the literature.

The distinctive genus Plethysmochaeta Schmitz is covered by the recent key to
world genera (Disney 1994). There is a marked sexual dimorphism in the genus.
However, most species of Plethysmochaeta have been described from one sex only.
Furthermore, the adults tend to exhibit a considerable variation in size, related to the
saprophone habits of the larvae. This variation in size is correlated with some
allometric affects. The consequence of these facts is that the taxonomy of the genus
is in a somewhat confused state.

In order to progress, type material was examined in the Museum Alexander
Koenig, Bonn, through the cooperation of Dr H. Ulrich, and further material was
borrowed from the Musée Royal de l'Afrique Centrale, Tervuren, through the
cooperation of Dr Eliane De Coninck.

The resolution of the identity of Mrs Ekanem's specimens has resulted in the
recognition of three new synonyms. These are proposed below, along with a new key
to species.

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College, Cambridge) and the Leverhulme Trust (London).

Notes on species

Plethysmochaeta couvreuri Schmitz, 1953

Hawa (Musée Royal de l'Afrique Centrale, Tervuren) [Examined].
Plethysmochaeta semituta Schmitz, 1953: 308. Holotype ♀, ZIMBABWE (SOUTH RHODESIA):
Harare (Salisbury) (Museum Alexander Koenig, Bonn) [Examined]. Syn. nov.
Schmitz (1953) did not indicate any obvious difference between the females of *P. couvreuri* and *P. semilutea*, apart from the larger size of the latter and shorter bristles on the fused abdominal tergites 5 & 6. However, a paratype of *P. couvreuri* is significantly larger than the holotype and the holotype of *P. semilutea* is only fractionally larger than this paratype; the wing length of the former being 2.2 mm and the latter 2.7 mm. A paratype of *P. semilutea*, however, is well within the size range of *P. couvreuri*. At the other extreme I have a female *P. couvreuri* from the Kruger National Park, Transvaal, South Africa (collected at an impala carcass in January 1979, by L. Braack) whose wing is only 1.7 mm long.

With regard to the supposed lack of long bristles on tergite 5/6 of *P. semilutea*, it is apparent in the paratype examined that these bristles are absent in the specimen, but their enlarged sockets are discernible with critical lighting. Evidently these bristles had been lost by the specimens in the type series, probably during capture or subsequent handling.

I conclude that *P. semilutea* is only the larger end of the spectrum of variation in size in *P. couvreuri*, the other minor differences being allometric effects. Accordingly *P. semilutea* is synonymised with *P. couvreuri*.

*Plathysmochaeta nobilis* Schmitz, 1933

*Plathysmochaeta nobilis* Schmitz, 1933: 44. Holotype ♀, JAVA, Bogor (Buitenzorg) (Museum Alexander Koenig, Bonn) [Examined].

The female of this species is close to *P. couvreuri*. The male is distinctive (see key below).

*Plathysmochaeta trinervis* (Schmitz, 1915)

*Hypocera trinervis* Schmitz, 1915: 498. Holotype ♂, ZAIRE (CONGO): Kisangani (Stanleyville) (Museum Alexander Koenig, Bonn) [Examined].


*Plathysmochaeta trinervis* (Schmitz, 1915) Schmitz, 1924: 150.

The series reared in Nigeria by Mrs Ekanem allows the correct association of the males and females of this species. The result is that *P. molluscivora* becomes a synonym of *P. trinervis*.

*Plathysmochaeta vectabilis* (Brues, 1913)

*Hypocera vectabilis* Brues, 1913: 336. Type series ♂♀, ETHIOPIA (ABYSSINIA): Harrar. [Holotype destroyed. ♂ & ♀ paratypes in Museum Alexander Koenig, Bonn, examined].

*Plathysmochaeta vectabilis* (Brues, 1913) Schmitz, 1924: 150.


Most specimens of the type series were destroyed in a fire in 1956, in the Hungarian National Museum. Fortunately a few paratypes had been deposited in the Schmitz collection. The latter were redescribed by Schmitz (1958a), who emphasised the strongly shining frons. This seems to have been overlooked by Beyer (1965), who singled out this feature as being unique to *P. fulgens*, in this genus. Beyer also failed
to indicate the variation in size in the type series of this species, and only gives the wing measurements for one of the largest of his specimens. I have no hesitation in synonymising *P. fulgens* with *P. vectabilis*.

Figs 1—2: *Plethysmochaeta* females, bases of aristas. 1, *P. nobilis*, 2, *P. couvreuri* (Scale bars = 0.1 mm).

A provisional key to *Plethysmochaeta* species

1. Females ......................................................... 2
   — Males ..................................................... 7

2. Hind femur dark brown, as hind tibia ................................. 3
   — Hind femur mainly yellowish brown or largely dusky yellow. When yellowish brown the femur is generally paler than hind tibia ............. 5

3. No cheek bristles. (Malaysia) ................................... *bicolor* (Brues, 1905)
   — At least three bristles on each cheek .......................... 4

4. Basal, swollen, section of third segment of arista more densely haired (Fig. 1).
   (Java) .................................................................... *nobilis* Schmitz, 1933
   — Basal section of third segment of arista more sparsely haired (Fig. 2).
   (S. Africa, Zaire, Zimbabwe) ........................................... *couvreuri* Schmitz, 1953

5. Frons devoid of microtrichia (i.e. shining). (Ethiopia, Zaire). *vectabilis* (Brues, 1913)
   — Frons with dense microtrichia (i.e. dull), at least in upper half and antero-laterally ................................................. 6

6. Hind femur narrowly brown along dorsal edge and more broadly so along ventral edge. Hind tibia dark brown. (Kenya, Liberia, Nigeria, Zaire)
   ........................................................................... *trinervis* (Schmitz, 1915)
   — Hind femur not brown along ventral edge in basal half and in distal half a brown transverse band links the dorsal and ventral bands. Hind tibia pale brown. (Liberia) ................................................... *marmorata* Schmitz, 1929

7. Hind femur and tibia dark brown ............... *bicolor* (Brues)] and *couvreuri* Schmitz
   Note: The male of *P. bicolor* is not known, but probably keys out here. The rear margin of abdominal tergite 5/6 of *P. couvreuri* has only two weak bristles in the middle.
— Hind femur mainly dusky yellow, but with brown pigment along dorsal edge in apical third or more. Hind tibia dusky yellow. (With four or more strong bristles at rear of abdominal tergite 5/6 in middle) .................. 8

8. Frons devoid of microtrichia (i. e. shining). (Hypopygium figured by Schmitz, 1958a) ................................................................. vectabilis (Brues)
— Frons with dense microtrichia (i. e. dull) at least in upper half and antero-laterally ................................................................. 9

9. Haltere knob largely brown or greyish brown. Epandrium brown. Rear of abdominal tergite 5/6 with four bristles (the outer pair being clearly shorter than inner pair) ................................................................. 10

Figs 3–4: Plethysmochaeta males, left faces of hypopygia. 3, P. trinervis, 4, P. tripartita. (Scale bars = 0.1 mm).
— Haltere knob pale yellow. Epandrium pale yellowish brown. Rear of abdominal tergite 5/6 with six bristles ...................... nobilis Schmitz

10. Hypopygium as Fig. 3 ........................................... trinervis (Schmitz)
— Hypopygium as Fig. 4. (Angola, Kenya) .................. tripartita Schmitz, 1958b

Note: This is probably the “missing” male of P. marmorata.

Zusammenfassung


References


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