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Collartomyia discaudata, spec. nov. from Ghana, with an emendation of the genus

(Insecta, Diptera, Chironomidae)

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Collartomyia discaudata, spec. nov. from the dry rain forest of Ghana is described as male and female imago. The presence of a well developed ventrolateral lobe and a distinct apodeme lobe of the female gonapophysis VIII together with normal, unreduced palpomeres reinforce the closeness of *Collartomyia* Goetghebuer to *Polypedilum* Kieffer.

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Introduction

The larvae of the hitherto monotypic Afrotropical genus *Collartomyia* Goetghebuer are found in pupal cases of Hydropsychidae feeding on the caddis fly pupae. Amakye & Sæther (1992) found that *Collartomyia* was closely related to *Polypedilum* Kieffer as, for instance, indicated by the anterior tapering of male tergite VIII. Perhaps the most significant autapomorphy was a conelike projecting scutum with a depression at the angular apex of the cone.

As part of an ongoing study of the chironomids of Ghana (Amakye & Sæther 1992) I collected a species of Chironomini from the dry rainforest of southeastern Ghana with the same combination of an anterior tapering tergite VIII and a conelike projecting scutum. The male and female imagines are described here and placed in *Collartomyia* Goetghebuer. *C. discaudata*, spec. nov., however, differs significantly in many aspects from *C. hirsuta* (Goetghebuer) and the placement will remain tentative until the immature stages have been discovered and described.

Methods

Specimens were mounted on slides following the procedure outlined by Sæther (1969: 1). Terminology follows Sæther (1980).

Collartomyia Goetghebuer

Collartomyia Goetghebuer, 1948: 15; Amakye & Sæther 1992: 434.

Collartiella Goetghebuer, 1936: 457 (preoccupied).

Imago. As in Amakye & Sæther (1992) with the following additions: Palpomere 3- or 5-segmented, reduced or normal. Mid and hind tibial combs fused or separate, each with 1–2 tibial spurs; sensilla chaetica few or absent, at apex of tarsomere 1 of all legs or apparently present on mid leg of female only. Legs densely or normally hairy with setae tending to be concentrated in tufts or normally distributed.

Abdomen more or less densely setose. Male laterosternite IX with few to numerous setae; anal tergite bands absent to well developed; anal point present or absent. Female gonapophysis VIII with well developed to vestigial or absent microtrichiose ventrolateral lobe, apodeme lobe distinct or indistinct, genital plate pointed or rounded.

Collartomyia discaudata, spec. nov.

Types. Holotype: ♂, Ghana: Volta region, Wli, river Agomatsa, Malaise trap marked as GH 140-1. – Para type: 1♀, as holotype, marked as GH 140-2 (Museum of Zoology, University of Bergen, Norway, ZMB, Type No. 190).

Diagnostic characters. The imagines are separable from *C. hirsuta* (Goetghebuer) by having normal palp, separate tibial combs with single spur, and pseudospurs present. The male imago differs by lacking an anal point and by having a strong, scythe-shaped, bilobed superior volsella with medial portion strongly curved and bare, and lateral portion with truncate and microtrichiose apex. The female imago differs by having a well developed ventrolateral lobe and a small and pointed postgenital plate.

Description

Male imago (n=1). Total length: 4.49 mm; wing length: 2.40 mm. Total length/wing length: 1.98; wing length/length of profemur: 1.74. Coloration pale yellow. Legs yellowish.

Head. AR 1.44. Ultimate flagellomere 1804 µm. Longest seta 680 µm. Temporal setae 17, including 6 inner verticals, 6 outer verticals and 5 postorbitals. Clypeus with 24 setae. Tentorium 160 µm long, 47 µm wide. Palpomere lengths (in µm): 54, 40, 214, 176, and lost.

Thorax (Fig. 1A). Anteprenotum bare. Dorsocentrals 45, in 2-3 rows, including 9 scattered humerals; acrostichals 23 in anterior half of strongly projecting scutum; prealars 11, in 2 rows. Scutellum with 24 setae in 2 transverse rows.

Wing (Fig. 1B). VR 1.20. Brachiolum with 7 setae, R with 32 setae, R₁ with 31 setae, R₄₊₅ with 45 setae. Squama with 19 setae.

Legs (Fig. 1C). Scale of fore tibia 24 µm long, without spine. Middle leg with 70 µm long separate combs, with single spur 80 µm long; hind legs with combs 48 µm and 84 µm long, separate with single spur 90 µm long. Sensilla chaeticae apparently absent, 2 pseudospurs on ta₁₋₃ on middle and hind legs. Lengths (in µm) and proportions of legs:

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR	BV	SV	BR
p ₁	1376	780	–	–	–	–	–	–	–	–	–
p ₂	1435	1138	584	400	277	164	82	0.51	3.42	4.40	4.4
p ₃	1517	1312	984	595	482	279	123	0.75	2.58	2.88	6.3

Hypopygium (Figs 1D, E). Anal point absent; anal tergite truncate and slightly depressed at apex, strongly microtrichiose with posterior, dorso-lateral margin bearing 58 strong, short setae arranged in 2-3 rows around indented apex, 20 long setae in oval median area enclosed by strong anal tergite bands. Laterosternite IX with 5 setae. Phalapodeme 74 µm long, transverse sternapodeme 74 µm long. Gonocoxite 200 µm long, gonostylus 152 µm long with many long setae. Superior volsella with distal portion bilobed; inner digitiform portion strongly curved, bare; outer portion curved, very large, apex truncate, microtrichiose, and with 1 long apical seta: bulbous base with 4 strong setae along inner margin. Inferior volsella 134 µm long, parallel-sided, with short, strong subapical setae and 1 long apical seta. HR 1.28; HV 2.77.

Female imago (n=1). Total length: 3.36 mm; wing length: 2.41 mm. Total length/wing length: 1.41; wing length/length of profemur: 1.78. Coloration as in male.

Head (Fig. 2A). Length (in µm) of flagellomeres: 158, 104, 86, 118, 80, 148. AR 0.27. Temporal setae 13, including 4 inner verticals, 6 outer verticals and 3 postorbitals. Palpomere lengths (in µm): 66, 50, 226, 186, 342. Clypeus with 13 setae.

Thorax. Anteprenotum bare. Dorsocentrals 42, biserial, including 6 humerals; acrostichals 19; prealars 10, biserial. Scutellum with 22 setae, biserial.

Wing. VR 1.19. Brachiolum with 5 setae, R with 32, R₁ with 39, R₄₊₅ with 79 setae. Squama with 17 setae.

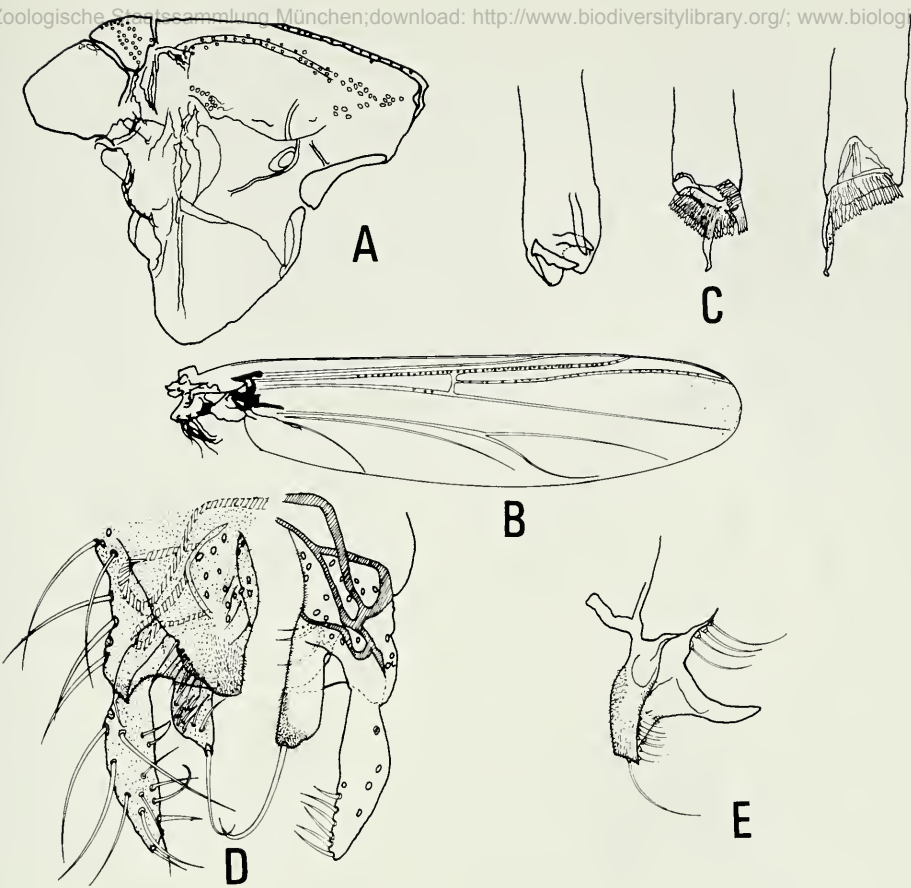


Fig. 1. *Collartomyia discaudata*, spec. nov., male imago. A. Thorax. B. Wing. C. Apices of tibiae. D. Hypopygium, dorsal view to the left, ventral view to the right. E. Superior volsella.

Legs. Scale of front tibia 18 μ m long. Combs of middle tibia 52 μ m long including 84 μ m long spur, of hind tibia 42 μ m and 74 μ m long including 90 μ m long spur. Width at apex of front tibia and middle tibia each 74 μ m, of hind tibia 82 μ m. Sensilla chaeticae 10, at apical $\frac{1}{5}$ of ta_1 of middle leg; 2 pseudospurs on each of ta_1 , to ta_3 of middle and hind legs. Lengths (in μ m) and proportions of legs.

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR	BV	SV	BR
p ₁	1368	840	1472	1040	776	652	244	1.75	1.36	1.50	2.7
p ₂	1440	1112	616	400	280	168	92	0.55	3.37	4.14	3.8
p ₃	1512	1272	992	576	472	264	108	0.78	2.66	2.81	4.1

Abdomen. Tergite VII with 77 setae, VIII with 60 setae. Sternite VII with 22 setae, VIII with 26 setae. Genitalia (Figs 2B, C). Gonocoxite 60 μ m long, with 4 setae. Tergite IX with about 70 setae. Segment X with 10-11 setae on each side. Postgenital plate large, triangular, pointed. Cercus broadly triangular, 161 μ m long. Seminal capsule oval, 98 μ m long, 84 μ m wide, with well developed wall, spermathecal duct bent. Notum 130 μ m long. Gonapophysis VIII with large dorsomesal lobe separated from well developed micritrichiose ventrolateral lobe. Apodeme lobe (Fig. 2C) well developed.

Systematics

Collartomyia has been shown to be closely related to *Polypedilum* by Amakye & Sæther (1992). The female of *C. discaudata*, spec. nov. has a well developed ventrolateral lobe and a distinct apodeme lobe

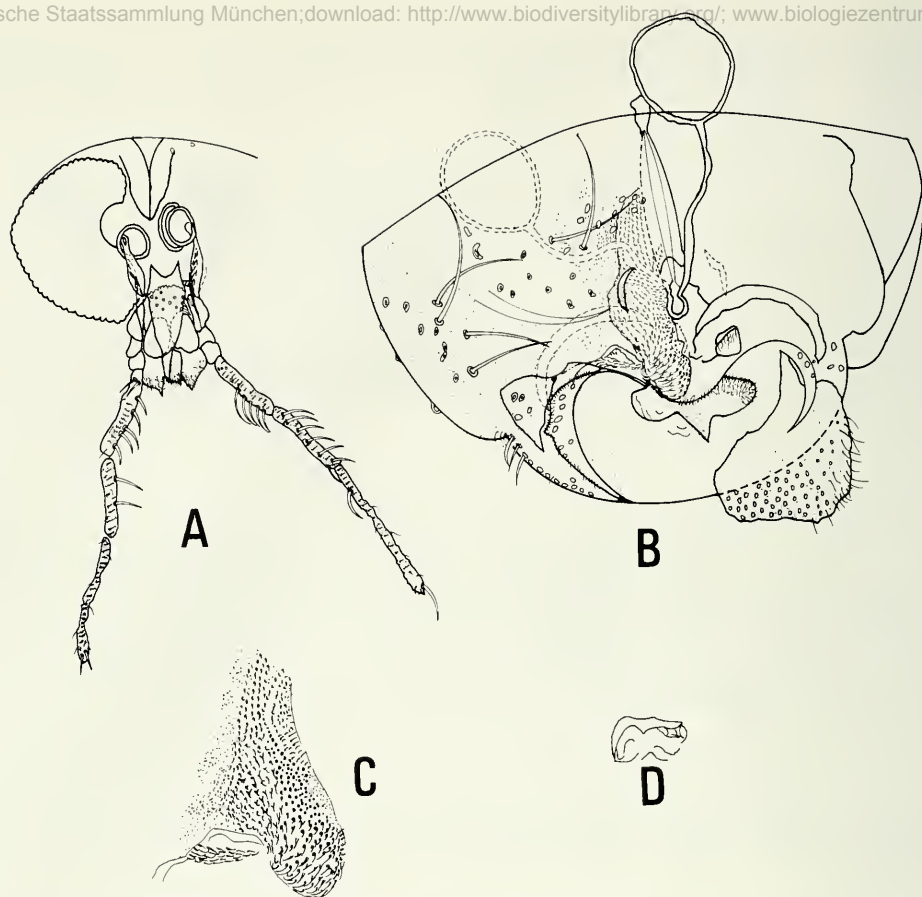


Fig. 2. *Collartomyia discaudata*, spec. nov., female imago. A. Head. B. Genitalia, ventral view. C. Lobes of gonapophyses VIII. D. Apodeme lobe.

similar to that described for *Polypedilum* by Sæther (1977). *C. discaudata* thus reinforces the nearness of *Collartomyia* to *Polypedilum*.

The peculiar thorax with a strongly projecting scutum with an apical notch combined with an unreduced antepronotum appear to be a unique synapomorphy for *C. hirsuta* and *C. discaudata*. The anterior tapering of tergite VIII, a synapomorphy for *Polypedilum* and *Collartomyia*, is distinct also in *C. discaudata*. There are, however, several significant differences between the two species. Some of these can be ascribed to reductions and are clear autapomorphies such as the reduced palp of *C. hirsuta*; others, such as the differences of the male hypopygia and the tibial combs, are likely to be of generic value. However, until the *Polypedilum* complex is revised and/or the immature stages of *C. discaudata* found and described, it is more prudent to keep the two species together in the same genus.

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