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Cricotopus (Isocladius) polychaetus, spec. nov. and designations of some other type specimens of the genus *Cricotopus* v. d. Wulp

(Diptera, Chironomidae)

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The "greater form" of *C. trifasciatus* (Meig.) described earlier by Hirvenoja (1973) has been named as a new species, *Cricotopus (Isocladius) polychaetus*. The type specimens of *C. (I.) polychaetus* spec. nov., *C. (I.) limnanthemi* var. *scutellaris* Kieff., *Isocladius albipes* Kieff. and *Trichocladius cylindraceus* Kieff. have been designated as holo- or lectotypes.

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Cricotopus (Isocladius) trifasciatus (Meig.)

I 1973 (290–297) described two different forms of *Cricotopus (Isocladius) trifasciatus* (Meigen in Panzer 1810: 10). The "greater form" has a much higher number of tarsal sensilla chaetica than the "smaller form". The reasons for describing these as a single species appear on page 290 of that paper.

The name *Chironomus trifasciatus* was first published with an illustration (one adult female) by Panzer. Panzer, however, had perhaps never seen this species, because he mentions that Meigen had sent him the description.

According to Meigen (1818: 42) this specimen originates from the collection of a Mr. Baumhauer. The specimen labelled "*trifasciatus*" in Meigen's collection carries no mention of Baumhauer, but I assume that it is the specimen described, because Panzer has given the figure as "*Chironomus trifasciatus* Meig."

Meigen himself planned to illustrate dipterous insects. The figure of *C. trifasciatus* (Meigen 1830: fig. 10/7) is very similar to that published in Panzer, and both perhaps originated from the same drawing. Without these suggestions the identity of the species published in Panzer would be unknown.

It has recently been possible to study the type specimen of *Chironomus trifasciatus*, No. 82 from the Meigen collection (Museum National d'Histoire Naturelle, Paris). This has been prepared, mounted in euparal and labelled as the holotype by the present author.

This (holotype) female does not, however, agree very well with any of the descriptions made earlier by the present author. The coloration is like that illustrated in the papers of Panzer or Meigen. The specimen is as large as the few known specimens of the "greater form". The number of sensilla chaetica is, however, much lower (50–52 have been counted) than in the "greater form" but a little higher than in the known populations of the "smaller form"; legs in μm and LR:

P_I	980	1260	600	–	–	–	–	LR 0.48
P_{II}	1045	1110	435	240	185	130	110	LR 0.39
P_{III}	1000	1230	600	335	215	–	–	LR 0.49

I suggested (1973: 293) that the large pinned specimens seen in the museums in Vienna and London might belong to the "greater form" because of their measurements. These individuals were studied at a quite early stage in the study of the genus *Cricotopus,* before the discovery of the taxonomical importance of the tarsal sensilla. These specimens have also recently been studied anew. All agree quite well with the holotype of *C. trifasciatus,* the number of sensilla (39–49) being intermediate between the holotype and the hitherto known specimens of the "smaller form". In one studied male specimen from England the number of these sensilla is 23, which is far from the number 42–45 in the males of the "greater form". This specimen represents the largest known male individual of *C. trifasciatus* (legs in μm):

P_I	1020	1335	750	390	305	205	140	LR 0.56
P_{II}	1130	1130	500	265	205	145	130	LR 0.44
P_{III}	1110	1280	650	345	280	160	160	LR 0.51

This specimen thus has measurements quite similar to that of the holotype of the new species *C. polychaetus* described later in this paper.

Sometimes the males of *C. trifasciatus* and light coloured specimens of *C. sylvestris* (Fabr.) cannot be separated as single specimens without examination of the pupal skins. As for the female of *C. sylvestris,* the fourth abdominal tergite is not much lighter than the following two (5–6) tergites. Thus, as a population sample, the adults of *C. sylvestris* should be identifiable.

In the known populations of *C. tricinctus* (Meig.) the tarsal sensilla number is 41–64 in the female specimens. In *C. trifasciatus* and *C. tricinctus* the fourth tergite should always be clearly lighter than the fifth and the sixth. Additionally the pigmentation in *C. tricinctus,* if present in the fourth tergite, is to be found in the oral corners of this tergite. The intraspecific variability and the similarity of different species awaits, however, further studies of karyological features which already are known from some species of the *C. sylvestris* group (Michailova 1976, 1980).

Because of the colouration and the quite small number of tarsal sensilla chaetica it has been understood here that the name *C. trifasciatus* must be limited to the "smaller form" described in Hirvenoja (1973: 293–297). If this is not correct, the synonyms listed in that paper are available for use with the "smaller form". Use of this name or the names of the suggested synonyms for the "smaller form" should not cause any confusion regarding the existing literature.

It is possible to designate here (cf. Opinion 1147, 1980) a pupal skin (in a slide) of *Cricotopus limnanthemi* var. *scutellaris* Kieff. (Kieffer 1913: 280) from Holzmaar, Eifel, Germany as a lectotype. [In Gripekoven (1914: 216–217) the name *C. willemi* Kieff. (nomen nudum) was obviously used as a "working name" instead of *C. limnanthemi.]*

This and all other specimens from the original Coll. Thienemann, Plön, which according to Hirvenoja (1973) are located in the Zoological Museum of Helsinki, recently have been deposited in the collections of the Zoologische Staatssammlung, Munich, Federal Republic Germany, where also the other parts of this collection and the original handschrifts of Professor Thienemann concerning the original discoveries of the specimens are deposited.

One question is, however, whether the author of the name *Chironomus trifasciatus* should be Panzer and not Meigen. In older papers on the chironomids the use is very often not consistent. One example is for instance *Trichocladius cylindraceus* Kieff., the description of which has been published by Kieffer & Thienemann (1908). Meigen (1818 or later) himself omits from his papers Panzer as an author of *C. trifasciatus.*

Holotypus, male and paratypes, 3 females from Riihimäki, VI.–VII. 1953, M. H. leg., and paratypes male and female from Muonio, Lapland, 12.11.1911 R. Frey leg., in the collections of the Zoological Museum of Helsinki.

The description and other information about this species appears in Hirvenoja (1973: 290–293) as the "greater form" of *C. trifasciatus* (Meig.). To this some corrections have been made here.

The new species differs from *C. trifasciatus* in having 42–45 sensilla chaetica in the first tarsal joint of the hind leg in the known male specimens (instead of 9–23 in *C. trifasciatus)* and 67–90 sensilla in the first tarsal joint of the middle and hind leg in the known female specimens (instead of 31–52 in *C. trifasciatus).* These numbers should be revised in the keys of Hirvenoja (1973: 258–259). The immature stages of the new species are unknown, but the variability in the number of sensilla from 31 to 90 in one species is very questionable. One female specimen (paratype) studied from Muonio has somewhat larger measurements than the specimens measured earlier; legs in μm and LR:

P_I	1085	1455	705	370	265	215	–	LR 0.49
P_{II}	980	1195	520	270	195	130	130	LR 0.44
P_{III}	1110	1345	695	335	260	150	150	LR 0.52

C. polychaetus is known only from Finland. The few type specimens from Riihimäki are in part found in the small Punkanjoki (or Punkanoja) River, which already in 1953, on the basis of the species combination (cf. Sládeček 1973) was obviously a β-mesosaprobic biotope still dominated by the krenophilous *Micropsectra apposita* (Walk.). Later, in 1956, *C. polychaetus* and also several other species from different groups (cf. Hirvenoja 1962, 1964), were not found (cage trap method) probably because of the increasing pollution. The BOD_5 values were not measured in 1953–1956, but 1961 the values varied at the same Punkanjoki station from 8.0 to 13.0 mg/l.

One female of *C. polychaetus* was found in a 10-year-old clay pond (about 2500 m^2) on the Hirvenoja farm, less than 1 km from the river, together, among others, with *Cricotopus cylindraceus* Kieff. Among fish, the pike *(Esox lucius* L.) was 1953 still able to survive the winter and breed in this pond. These species disappeared later probably because of the increasing amount of organic matter. A quite dark form of *Cricotopus intersectus* (Staeg.) was one new species which appeared abundantly in the beginning of the 1960's (cf. Brundin 1949: 729–730).

Specimens from Lapland collected by R. Frey in 1911 in Muonio (near the river at the boundary between Finland and Sweden) rise the possibility that the species prefers to live in running water with quite good water quality.

Designation of some other type specimens (cf. Opinion 1147, 1980)

One pupa from the Thienemann collection from Schondelle, Westfalen, Germany, labelled as "*Isocladius* n. g. *albipes* n. sp. is designated here as lectotype of *Isocladius albipes* Kieff. The adults were described from Schondelle by Kiefer (1909: 44).

The pupal and larval skin of a single female *Trichocladius cylindraceus* Kieff. (Kieffer & Thienemann, 1908: 8) are parts of the single female originally described from Greifswald, Germany and thus parts of the holotype of this species.

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