

ON THE EXAMINATION OF SOME MEIGEN AND ZETTERSTEDT
SPECIMENS OF *CAMPICHAETA* MACQUART
(DIPTERA : DIASTATIDAE)

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IN connection with a study of old collections of Drosophilidae, especially concerning the identity of Fallén's specimen of *Drosophila tristis* Fln. (Basden, in press, *Ent. mon. Mag.*), it was considered necessary to examine original specimens of some species now placed in the genus *Campichaeta* Mcq., previously known as *Thryptochaeta* Rnd. (Diastatidae). Through the kind co-operation of the authorities of the Natural History Museums at Vienna, Lund and Stockholm this has been possible and an attempt at finality on the question of names by which they should be known is made here. Our best thanks are due to Dr. M. Beier of Vienna, Prof. C. H. Lindroth and Dr. P. Ardö of Lund, and Dr. R. Malaise of Stockholm for the trouble they have taken. A full list of the specimens we have been privileged to examine is given in the table at the end of this paper.

THE GENERIC NAME

Macquart's generic name of *Campichaeta* (1835 : 547, originally spelt *Campichæta*) was placed as a queried synonym of *Thryptochaeta* Rnd. (1856 : 134, originally spelt *Thryptocheta*) in Becker's *Katalog* (1905 : 227), and Duda in 1934 accepted the synonymy as correct. There is nothing in Macquart's description which can be considered contradictory to this synonymy, and the single originally included species, *rufipes* Mcq., the type of *Campichaeta*, is a synonym of the older *Diastata obscuripennis* Mg., which thus becomes the type of the genus, while *Diastata punctum* Mg., by original designation, remains the type of *Thryptochaeta*.

NOTES ON THE SPECIMENS EXAMINED

Geomyza griseola Zett., 1855, *Dipt. Scand.* 12 : 4799 ♂; and 1860, *Op. cit.* 14 : 6423 ♂.

The two original male specimens (the syntypes) sent to Zetterstedt by Boheman are present in Zetterstedt's Insecta Lapponica Collection, and we have seen specimens of the same species (11 ♂, 8 ♀) from Boheman's Collection at Stockholm. The above are *not* the same as *C. punctum*, but a closely allied species with obviously distinct male genitalia (figs. 1, 2). One of the males in Zetterstedt's Collection (Ztt "82" of our notes) has been selected and labelled as Lectotype.

The two males of *griseola* mentioned by *Zetterstedt* in 1860 as captured by *Roth* at *Lund* are also present in the Collections there (one in the *Ins. Lapp. Coll.*, and one in *Roth's Coll.*), but they are not the same as those taken by *Boheman*, and are males of *punctum* *Mg.*

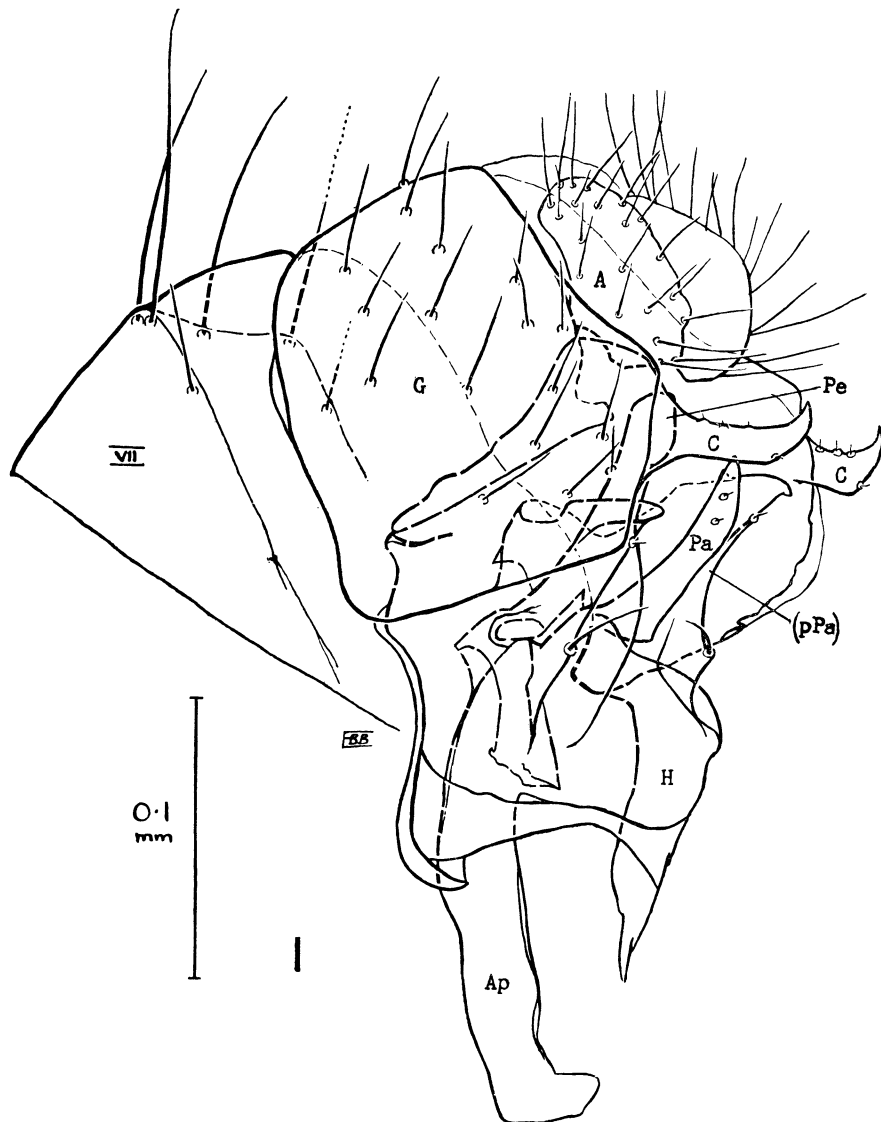


FIG. 1.—*Campichacta griseola* (Ztt.). Genitalia of Lectotype (Ztt "82").
(For explanation of lettering see page 144.)

A third specimen captured by *Roth* was evidently sent by him to *Boheman*, and is present in the latter's collection under the name *Geomyza griseola* *Zett.*, labelled "Sc" and "Roth". It is much damaged, having lost the arista of

its antennae and its abdomen, but is probably a female. This also is *punctum* Mg., and not true *griseola*. It was also the only specimen of the supposed *G. griseola* Zett. from Boheman's Collection seen by Czerny (1903, *Wien. ent. Ztg.* **22** : 125), and accepted as typical, causing him to sink incorrectly the name of *griseola* Zett. as a synonym of *punctum* Mg.

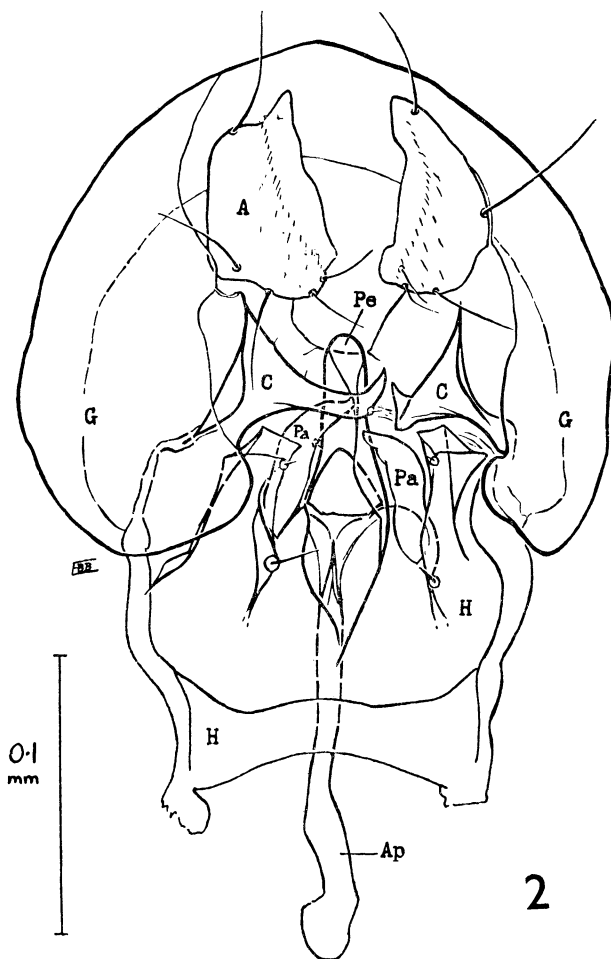


FIG. 2.—*C. griseola* (Ztt.). Genitalia of specimen Boh B. Hairs and bristles on genital arch and anal plates mostly omitted.

Diastata punctum Mg., 1830, *Syst. Besch.* **6** : 98, No. 10.

The type of *punctum* is evidently in Meigen's Collection at Paris, and has not been seen by us, but was reported by Becker in 1902 (*Zt. syst. Hymen. Dipt.* **2** : 305) as being without head, and with thorax having only one wing and two legs, but was considered by him to be the same as the *D. basalis* in the Winthem Coll. The condition and identity of the specimen has kindly been confirmed by

Prof. E. Séguy (*in litt.* 19.iii.58), who also states that it is a male. The identification is accepted by us as correct, and as the two specimens of *punctum* in the Winthem Collection agree with the specimens of *basalis* in that Collection, they apparently therefore also agree with the type of *punctum* in Meigen's Collection. Our reasons for following Becker (1905 : 227) in the use of the name *punctum* for this species will be found below.

In Zetterstedt's Collections there are three specimens (1 ♂, 2 ♀) of *punctum*, so named from Staeger, and a female with a locality label "Sjórup", and there is also the female from Trawemünde apparently taken by Dahlbom.

Diastata basalis Mg., *loc. cit.*, No. 9.

Meigen described this species from *two* specimens in the Winthem Collection, but Becker reported *three* specimens, which latter are still in that Collection, each bearing a modern red "Type" label. This definitely raises doubts whether any specimen bearing such a label can always be accepted as being one actually described by Meigen. In the same Collection under *basalis* there are additional specimens, all being the species usually known as *punctum*. They all (except when obviously discoloured) have the genital segments yellow in both sexes, as described by Meigen for *punctum* but not so described by him for *basalis*. This latter description was otherwise misleading, because in all the supposed type specimens as well as in all the others the frons and thorax are not "braunlichgrau", the front of frons being distinctly yellowish, while the thorax has indications of the darker stripes mentioned in Meigen's description of *punctum*; moreover the scutellum is not "hellgelb" (though the border may be). As a consequence Meigen's *basalis* remained completely unrecognised until Becker in 1902 had examined these so-called types, while Meigen's *punctum* became easily recognised from his description. This is of considerable importance because both species were described on the same page, the name *basalis* coming first, and under the Rules of Nomenclature, "other things being equal", would have precedence over *punctum*. Becker who was the first to call attention to the synonymy of the two species, as indicated by the specimens of *basalis* in the Winthem Collection and by the type of *punctum* in Meigen's Collection, evidently considered that "other things" were very far from "equal", and exercised the option allowed by the Rules, by continuing (1905, *Katalog*) the use of the universally accepted name of *punctum* for the species, and we propose to follow him in doing the same. Under these circumstances we have not selected and labelled a lectotype for *basalis*.

Opomyza circumdata Mg., *op. cit.* 6 : 103.

The specimen of *Opomyza circumdata* in the Winthem Collection is a female of *punctum* Mg. and from the small pink label can safely be taken to have been in Meigen's hands. According to Becker the typical specimen (sex not stated) standing under this name in Meigen's Collection at Paris is also *punctum*. (Séguy, *in litt.* 19.iii.58, says the Meigen Collection does not now contain *O. circumdata*.) This synonymy has usually been accepted, though it should be noted that Meigen's description of the scutellum of *circumdata* as "halb kreisrund", and of the wings as having "die kleine Querader wie gewöhnlich auf der Mitte" are incorrect for a specimen of *punctum* or even of *Campichaeta*.

The next three species were described by Meigen from specimens from the Winthem Collection, and all are *C. obscuripennis*, the species described in 1864 by Loew as *Thryptochaeta nigricornis*.

Diastata obscuripennis Mg., 1830, *Op. cit.* 6 : 97, No. 5.

There has been some doubt as to whether *obscuripennis* Mg. was the same as *nigricornis* Lw. owing to Meigen's description of the arista as "kürzgefiedert" (as used for instance by him in describing the arista of *Diastata costata*). However in species of *Campichaeta* the arista of females is nearly always rather longer haired than in males, and two out of three Vienna types of *obscuripennis* are females. The male (Winth 187) has been labelled as Lectotype. Becker (1902, *op. cit.*) mentions a female at Paris and three specimens at Vienna.

Diastata fumipennis Mg., *loc. cit.*, No. 6.

One of the females (Winth 185) in the Winthem Collection that appears to answer better to Meigen's description in having a discoloured patch on thorax and left pleura, owing to an exudation of fluid from the aperture made by pinning, has been selected and labelled as Lectotype. Another one bearing a locality label "Lübeck Aug. 35" is obviously incorrectly labelled as "Type" because it was captured subsequent to the appearance of the description and therefore was not one of the syntypic series. Becker (1902) mentions only one specimen, a female, at Paris, it being the same as *obscuripennis*.

Diastata luctuosa Mg., *loc. cit.*, No. 7.

Meigen described the femora of *luctuosa* as "nigricantibus", and though in mature specimens of *obscuripennis* at least the hind femora are somewhat darkened except at base and tip, they may often be entirely pale and indeed are not now darkened in the two specimens of *luctuosa* in the Winthem Collection. Becker in 1902 appears to have seen only one of the two specimens in the Winthem Collection, a male without antennae, and did not recognise that it was (as both specimens certainly are) the same species as that described by Meigen as *obscuripennis*. The more complete specimen (Winth 184, with head) has now been selected and labelled as Lectotype. The specimen of *luctuosa* at Paris was found by Haliday and Becker to be an Ephydrid.

The species we have considered of the genus *Campichaeta*, and their synonymy, would therefore appear to be as follows :

1. *C. griseola* (Zett.) (1855 nec 1860), (*Geomyza*).
2. *C. punctum* (Mg.) (1830), (*Diastata*).
basalis (Mg.) (1830), (*Diastata*).
circumdata (Mg.) (1830), (*Opomyza*).
griseola (Zett.) (1860 nec 1855), (*Geomyza*).
3. *C. obscuripennis* (Mg.) (1830), (*Diastata*).
fumipennis (Mg.) (1830), (*Diastata*).
luctuosa (Mg.) (1830), (*Diastata*).
rufipes (Mcq.) (1835), (*Campichaeta*).
nigricornis (Lw.) (1864), (*Thryptochaeta*).

The chief characteristics of the three species are discussed below.

Campichaeta punctum (Mg.)

Front of frons and antennae at base usually yellowish. Thorax greyish with 4 brownish-grey stripes. Abdomen usually pale about base and with genital and sixth and seventh segments whitish. Genitalia (figs. 3, 4) with distinct claspers. In male sixth tergite bare and usually hidden below fifth (in female slightly hairy and more evident), and seventh with 6-8 marginal hairs (not spines) that are definitely weaker than marginal hairs on fifth segment. Legs yellow. Wings especially darkened along costal margin, less so on

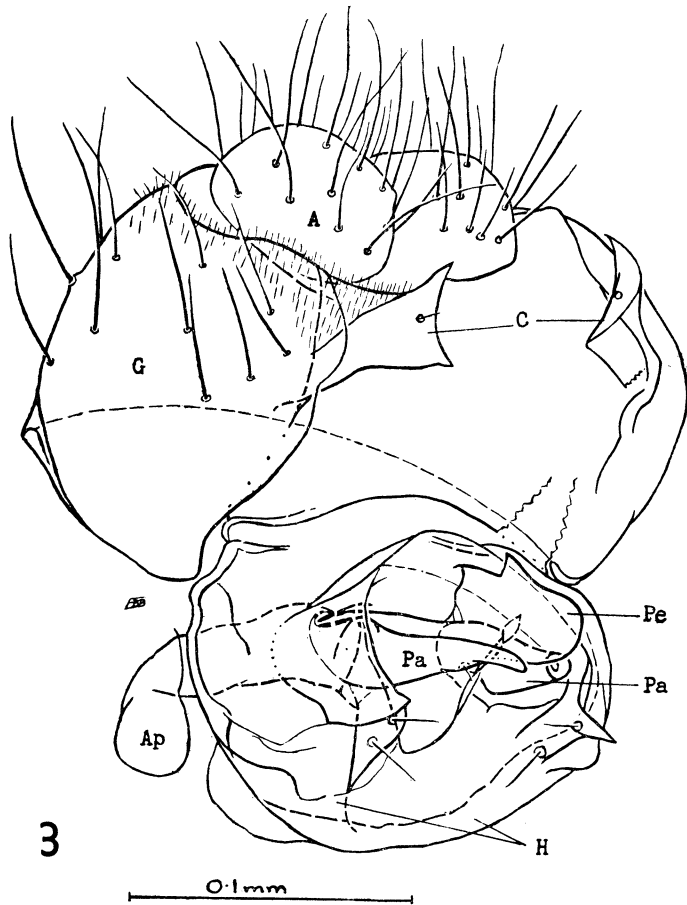


FIG. 3.—*C. punctum* (Mg.). Genitalia of specimen Winth 189. The genital arch is slightly damaged.

lower half of wing and beyond outer cross-vein, where the pale fleck mentioned by Meigen can clearly be seen with the naked eye; costa practically without small spines in male, but more present among lower row in female.

It is a widely distributed autumn and early spring species, sometimes found on windows.

Campichaeta griseola (Zett.)

Closely resembles, and consequently easily confused with, *punctum*; wings, however, less darkened about costal margin, and consequently more uniformly, and more faintly, darkened; costa in both sexes with small, spaced spines among hairs of lower row of second section, sometimes for two-thirds its length. Arisital hairs rather longer, even in male. Male genitalia obviously distinct, especially in the shape of claspers or paralobes (figs. 1, 2). Size about the same as other species. All specimens examined have been old and perhaps faded; in freshly caught specimens other distinctions from *punctum* will probably become available.

The only specimens known at present are those taken by Boheman in Central Sweden.

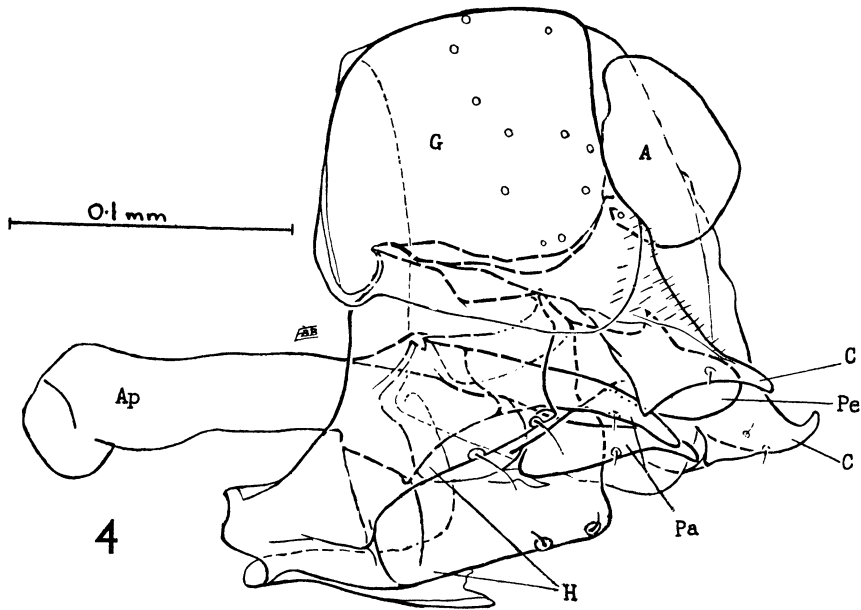


FIG. 4.—*C. punctum* (Mg.). Genitalia of specimen Wien 202.

Campichaeta obscuripennis (Mg.)

An easily recognised species, belonging to a different group in the genus from the two previous species. Head and antennae, including even their basal segments, dark. Thorax uniformly darker than in other species, without indications of stripes. Abdomen all dark, except second tergite usually pale at sides. Prehypopygial (seventh visible) segment of male with about 4 strong spines, which are decidedly stronger than marginal bristles on fifth segment; sixth segment hairy in both sexes. Legs pale, or with femora (especially hind pair) more or less darkened about middle. Wings more uniformly darkened, as in *griseola*, and costa in both sexes with distinct, spaced spines nearly to end of second section. Male genitalia as in figure 5, the claspers appearing to be closely fused, at their tips, with the genital arch, which is produced either side coextensively with the clasper as a broad lobe.

This appears to be a mid-European species. In Britain it is not uncommon in southern England, but without records from Scotland.

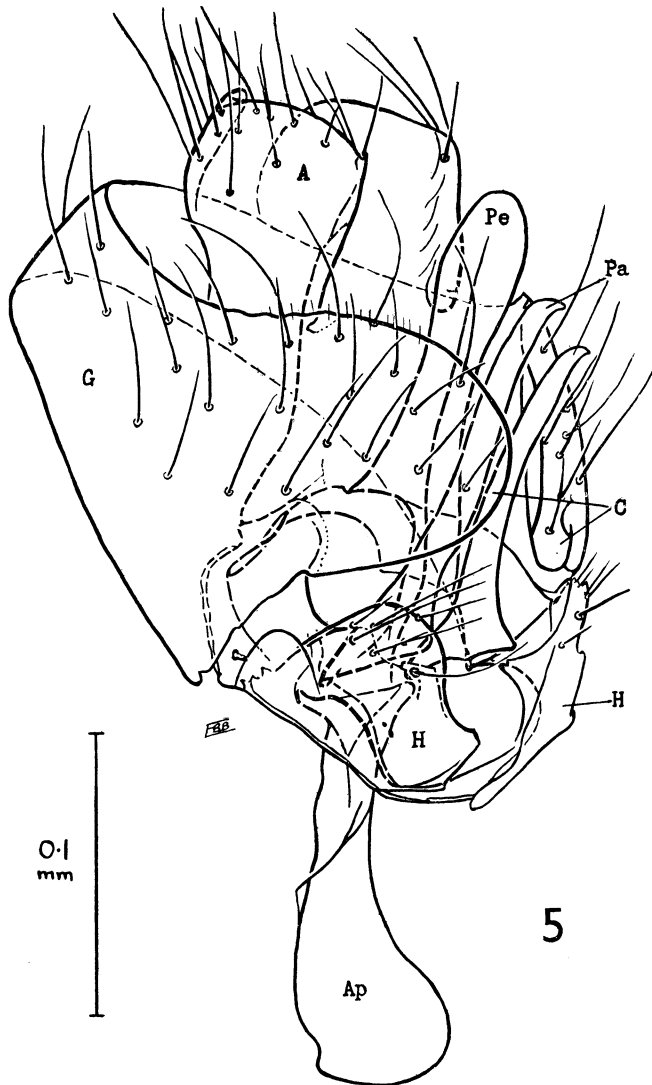


FIG. 5.—*C. obscuripennis* (Mg.). Genitalia of specimen Winth 183.

ADDENDUM.

Thryptochaeta nigricornis Lw., 1864, *Berl. ent. Z.* 8 : 367.

Prof. Fritz Peus, Zoological Museum, Berlin, has since found 9 specimens (4 ♂, 5 ♀) of *T. nigricornis* in Loew's collection. All are *C. obscuripennis*. They are mostly in good condition and each has two recent, printed labels, "Coll. H. Loew" and "Type" (red label). Six bear a handwritten Loew label, viz.—♀, *Diast. 11.6. nigricorn. m.*; ♂, *var. obscuripes*; ♀, 17:5:57; ♂, *Partink 8.67*; ♂ (no arista), 12/9 49; ♀ (no head), 2/10 49. It is obvious that the one

collected in 1867 cannot be one of the types, and that the one, "var. obscuripes" (a *nom. nud.*), was not considered as typical and should not be selected as lectotype.

The male of 12.9.49, although somewhat immature and wings not darkened and without arista, is selected and labelled by us as Lectotype of *nigricornis*. Its genitalia are now on a balsam pin-mount. The fourth male, without a Loew label, has no abdomen. We are grateful to Professor Peus for the loan of these specimens.

Old *Campichaeta* Specimens Examined

* = Genitalia on balsam pin-mount.

Specimen Ref. No.	Exact details of original labels (top one first). / = separate labels. Handwriting in <i>italics</i> . [With condition of specimens as received by us]	Present identification
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ex Fallén Collection

Sent as *Drosophila tristis*.

*Fln 33	. <u><i>D. tristis</i></u> ♀ (Fallén's writing) [Antennæ gone, R. wing torn.]	. <i>Campichaeta punctum</i> , ♂
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ex Zetterstedt Ins. Lappon. Coll.

Sent as *Geomyza griseola*.

*Ztt " 82 "	. <i>O.G.</i> / <i>Bhn.</i> (Both Boheman's writing) / <i>Geomyza griseola</i> Zett. n. sp. ♂ <i>Ostr. 1852 a Boheman</i> (Zetterstedt's writing) / <i>Önskas få. veta. nammet på denna. flug-art. Exemplaren. kunna. behållas. Boh</i> (Boheman's writing) (Translation—(I) should like to know the name of this fly-species. The specimen could be kept. Boheman). [Good. Ptilinum slightly extruded.]	{ <i>C. griseola</i> , ♂ Lectotype of <i>griseola</i> .
*Ztt " 83 "	. <i>O.G.</i> / <i>Bhn.</i> (Both Boheman's writing) / <i>a Bohem 1852</i> (Zett. writing) (82, 83 are typical of Boheman specimens, being near top of pin and with his very small square labels.) [Good.]	{ <i>C. griseola</i> , ♂ Syntype of <i>griseola</i> .
*Ztt " 84 "	. <i>L-d 8/9</i> (Lund. Roth's writing. One label only). [Dirty and verdigrisy.]	. <i>C. punctum</i> , ♂

ex Roth Coll.

Sent as *Geomyza griseola*.

Roth " 85 "	. <i>Ld</i> (Roth's writing) / <i>Geomyz. gris=eola</i> ♂. <i>rar.</i> (sic) (Zetterstedt's writing). [No abdomen. Some legs broken.]	. <i>C. punctum</i> , ♂
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ex Zetterstedt Dipt. Scand. Coll.

Sent as *Diastata costata*.

Ztt " 494 "	. (Two letters, probably <i>Os.</i> or <i>Gs.</i> ? Staeger's writing) / <i>D. costata</i> ♂ / <i>Geom. griseola</i> Zett. <i>obscurella</i> Meig. non Fall. ♂ <i>a Staeg.</i> (Both Zetterstedt's writing). [Good. Head restuck]	. <i>Diastata fuscata</i> (Fln.) sens Collin, 1911 (= <i>inornata</i> Lw. sens Duda, 1934), ♂
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ex Boheman Coll.

Sent as *Geomyza* n. sp. Zett., teste Malaise.

- *Boh 129 . 19 specimens (11 ♂ 8 ♀). All with Boheman's labels, . *C. griseola*
 56 the lower label *Bhn*, the top label being *Hlm*,
Sm., or *O.G.* All typical of Boheman's speci-
 mens. Genitalia of 2 specimens, *Boh A*, *Boh B*,
 mounted. [Good.]

ex Boheman Coll.

Sent as *Geomyza griseola* Zett, teste Malaise.

- Boh 160 . *Sc.* / *Roth* (Pinned by Roth, labelled by Boheman) . *C. punctum*, ♀
 56 [No abdomen. Antennae now damaged.]

ex Zetterstedt Dipt. Scand. Coll.

Sent as *Diastata punctum*.

- *Ztt "485" . 246 (? Staeger's writing) / *D. Punctum* ♂. *Hafnia* . *C. punctum*, ♂
Stæg. (Zetterstedt's writing.)
 [R. arista, R. legs broken.]
 Ztt "486" . *Stæg* (Zetterstedt's writing) . *C. punctum*, ♀
 [Dirty. Some legs broken. No abdomen.]
 Ztt "487" . 74 (? Staeger's writing. 7 not crossed). / *D. Punc-* . *C. punctum*, ♀
tum. ♀. *Hafnia Stæg.* (Zetterstedt's writing.)
 [Good.]
 Ztt "488" . Dark maroon small square / *Sjórup* (? Zett's writ- . *C. punctum*, ♀
 ing)
 [Good. Abdomen and L. wing were lost
 by us and thorax and legs damaged.]

ex Zetterstedt Dipt. Exotica Coll.

Sent as *Diastata punctum*.

- Ztt "212" . Small pale green square / 38id (Pink writing ? Dahl- . *C. punctum*, ♀
 466J.
 bom's) / *D. Punctum.* ♀ *Trawemän de Dahlb.* 38.
 (Zetterstedt's writing) [Good but dusty.]

ex Winthem Coll.

Nos. 183-184 sent as *Diastata luctuosa*; 185-6 as *D. fumipennis*; 187-8 as *D. obscuripennis*; 189-190 as *D. basalis*; 191-2 as *D. punctum*; 193 as *Opomyza (Diastata) circumdata*.

- Winth 183 . *luctuosa* Coll. Winth. / Type (Printed on red . *C. obscuripennis*, ♂
 label) [No head.]
 Winth 184 . *luctuosa* Coll. Winth. / *luctuosa* (Old-looking label) . { *C. obscuripennis*, ♂
 Type (Red label) } Lectotype of
 [3rd jts. ant. missing. Head gummy.] } *luctuosa*.
 Winth 185 . *fumipennis* (sic) Coll. Winth. / Type (Red label) . { *C. obscuripennis*, ♀
 [3rd jts. ant. missing. Dorsum with hole and } Lectotype of
 discoloured.] } *fumipennis*.
 Winth 186 . *Lübeck Aug. 35* (? Winthem's writing) / *fumipennis* . *C. obscuripennis*, ♀
 (sic) Coll. Winth. / Type (Red label) [Good.]
 *Winth 187 . *obscuripennis* Coll. Winth. / Type (Red label) . { *C. obscuripennis*, ♂
 [Eyes sunken. Only 1 leg.] } Lectotype of
obscuripennis.

- Winth 188 . *obscuripennis* (sic) Coll. Winth. / *obscuripennis* (Old- . *C. obscuripennis*. ♀
looking label) / Type (Red label)
[End of abdomen after 4th seg. gone.]
- *Winth 189 . *basalis* Coll. Winth. / *basalis* (Old-looking label) . *C. punctum*, ♂
/ Type (Red label) [Ant. shrunken.]
- Winth 190 . *Versaill.* (Not long s) / *basalis* Coll. Winth. / Type . *C. punctum*, ♂
(Red label) [Arista gone.]
- Winth 191 . *punctum* Coll. Winth. / *punctum* (Old-looking . *C. punctum*, ♀
label) [Good.]
- Winth 192 . *punctum* Coll. Winth. [No head or L. wing.] *C. punctum*, ♀
- Winth 193 . Small pink square / *circumdata* Coll. Winth. / *Opo-* . *C. punctum*, ♀
myza circumdata M (? Winthem's writing) / Type
(Red label) [Good.]

ex Various old Vienna Collections

194-5 sent as *Diast. obscuripennis*; 196-7 sent as *D. fumipennis*; 198-204
sent as *D. punctum*.

- Winth 194 . *obscuripennis* (sic) Coll. Winth. / Type (Red label) . *C. obscuripennis*, ♀
[Good, thorax dented.]
- Wien 195 . *Pfarr-kirchen 27/7-* / *Thryptochaeta (Diastata) ob-* . *C. obscuripennis*, ♀
scuripennis Mg. = *nigricornis* Lw. [Good.]
- Wien 196 . Austria Alte Sammlung / *fumipennis* (sic) det . *C. obscuripennis*, ♀
Schiner [No R. wing.]
- Winth 197 . *fumipennis* (sic) Coll. Winth. / *fumipennis* (Probably . *C. obscuripennis*, ♀
Meigen's label) / Type (Red label)
[R. arista broken. Hole in dorsum.]
- Wien 198 . *punctum* det. Frauenf. [Good.] . *C. punctum*, ♂
- *Wien 199 . Austria Alte Sammlung / *punctum* det. Schiner . *C. punctum*, ♂
[Good.]
- Wien 200 . Small bright red square / Austria Alte Sammlung . *C. punctum*, ♀
/ *punctum* det. Schiner [Rather dirty.]
- Wien 201 . *Losoner 1867 7* / *Kowarz Losons 1872* / *punctum* . *C. punctum*, ♂
Alte Sammlung
[Head shrunken. Pinned upside down.]
- *Wien 202 . *Losoner 1867 7* / *Kowarz Losons 1872* / *punctum* . *C. punctum*, ♂
Alte Sammlung. [Good.]
- Wien 203 . *Losoner 1867 7* / *Kowarz Losons 1872* / *punctum* . *C. punctum*, ♀
det. Schiner
[Abdomen twisted. Pinned through pleura.]
- Egg 204 . Austria, Coll. Egger. / *punctum* det. Egger. / *Dia-* . *C. punctum*, ♀
stata punctum (Grey-blue label ? Egger's writing)
[Head shrunken. Pinned in the Continental
manner through R. humerus.]

[All 7's on the above labels are crossed.]

ex Winthem Collection

Sent as *Diastata basalis*.

- Winth 205 . *basalis* Coll. Winth. / Type (Red label) [Good.] . *C. punctum*, ♂
- *Winth 206 . Coll. Winth. [Good.] . *C. punctum*, ♂
- Winth 207 . Coll. Winth. . *C. punctum*, ♂
[Abdomen gummy at end. Head shrunken.]
- Winth 208 . Coll. Winthem. . *C. punctum*, ♂
[Good. Ptilinum slightly protruding.]
- Winth 209 . Coll. Winth. . *C. punctum*, ♂
[Thorax with gash. Fly loose on pin so gummed
on to the label.]

Winth 210	. Coll. Winth.	[Thorax split. Ptilinum well protruding.]	. <i>C. punctum</i> , ♀
Winth 211	. Coll. Winth.	[Thorax badly split.]	. <i>C. punctum</i> , ♀
Winth 212	. Coll. Winth.	[Thorax badly split.]	. <i>C. punctum</i> , ♀

The handwriting on the printed Winthem and Vienna labels resembles that of Olga Müller, as shown on Pl. 18, figures 51–52 of Horn and Kahle's *Über entomologische Sammlungen*, 1936. The old-looking labels noted for Winth. 184, 188, 189, 191 are all by one hand, with no long "s" and with the ink black and shiny, but do not agree with Meigen's writing. The old label on Winth 197 does appear to be in Meigen's hand and has the ink faded brown and dull.

We have not yet located Macquart's specimen(s) of *Campichaeta rufipes*.

KEY TO LETTERING OF FIGURES

A, anal plate (or mesolobe).

Ap, apodome of penis.

C, clasper (or paralobe, inferior forceps).

G, genital arch (or genital shell).

H, hypandrium (or novasternum with ventral phragma, genital sternite).

Pa, paramere (or penial process).

(*pPa*). In *griseola* and *punctum* the posterior prolongations of hypandrium may represent posterior parameres (*pPa*), each with two hairs ventrally, which hairs are twice as far apart in *griseola* as in *punctum*.

Pe, penis

VII, 7^M tergite