

World Catalog and Conspectus on the Family Diastatidae (Diptera: Schizophora)

Wayne N. Mathis & David A. Barraclough

Introduction

The Diastatidae currently include less than 50 described species that are seldom collected and are largely unknown except to specialists. Although uncommon, the family is widespread in temperate zones where there is greater species diversity. Fewer species are known from the tropics, and these are usually collected at higher elevations. The family is noticeably absent from the Australasian Region. Our knowledge of the family's natural history and biology is meager, and no species is of any known economic importance. In recent decades, the primary interest in Diastatidae has largely been focused on discovering and elucidating the family's phylogenetic composition, i.e., which combination of genera form monophyletic clades, and the family's phylogenetic position in the superfamily Ephydroidea. Although both issues have been investigated and various hypotheses have been proposed and debated, the issues still remain somewhat inscrutable and have only been partially resolved. The basic taxonomy, however, has progressed notably well during the same time period, and some well-illustrated and comprehensive revisions have been published that have greatly facilitated species-level research and identification (Chandler 1987, 1998a, 1998b, Barraclough 1992, Sidorenko 1992). Major zoogeographic areas, however, such as the Nearctic Region, have not been comprehensively treated, and an objective of this catalog and conspectus is to promote and facilitate further research on these colorful (wings often with maculation pattern), enigmatic, challenging, and inviting flies.

Zoological catalogs, checklists, and equivalent databases are indispensable tools for anyone needing a reference to a currently accepted name and frequently to other information relating to that taxon, such as bibliographic and distributional data. This is possible because most information is filed under a species' scientific name, which is the key to retrieval of information from the literature. The system is dynamic, however, and subject to interpretation. The taxonomic literature is constantly changing to reflect recent work, and some species are known by more than one name. Thus

a complete listing of names, including synonyms, is an important starting point for locating information, whether as the basis for applied and basic research or simply to satisfy a curiosity.

The information included in a catalog is usually arranged in a logical and organized format that allows for its convenient and rapid conveyance†- in short, a quick and easy storage and retrieval system. The format and amount of information presented varies greatly, however. Our use of the term catalog is intended to convey a more comprehensive treatment, including information on all valid names, synonyms, type species, and the status and deposition of primary types. The bibliographic section includes complete references (author, date, original citation), and distributional and other biotic information are also provided. Not all citations that occur in the literature of Diastatidae are included in this catalog or the bibliographic section, especially where we suspect that the species being treated was misidentified, and inclusion would further promulgate inaccurate distributional data.

Regional catalogs, checklists, and faunal treatments have contributed significantly to the compilation of this catalog. The most recent of these for a given region or country are as follows:

Catalogs: McAlpine 1965 (Nearctic), Prado 1984 (Neotropical); McAlpine 1977 (Oriental); Cogan 1980a (Afrotropical); Papp 1984 (Palearctic).

Checklists: Hackman 1980 (Finland); Máca 1987 (Czech Republic, Slovakia); Morimoto 1989 (Japan); Nowakowski 1991 (Poland); Beuk 1991a, 1991b (Belgium), 2002a, 2002b (Netherlands); Papp 1995 (Italy), 2001a, 2001b (Hungary); Poole & Gentili 1996 (Nearctic Region); Chandler & Merz 1998a, 1998b (Switzerland); Chandler 1998c, 1998d (British Isles), 1999a, 1999b (Germany); Pakalniškis *et al.* 2000 (Lithuania); Chandler & Petersen 2001a, 2001b (Denmark); Carles-Tolrá 2002a, 2002b (Spain).

Faunal Treatments: Schiner 1863a, 1863b (Austria); Séguy 1934 (France); Duda 1934 (Palearctic); Cole 1969 (western North America); Stackelberg 1970 (European Russia); Papp 1973 (Hungary); Chandler 1986 (British Isles), 1987 (Palearctic); Greve & Solem 1990 (Norway); Barraclough 1992 (Afrotropical), 1994 (East Africa); Máca & Roháček 1994 (*Diastata* of Czech Republic and Slovakia); Merz & Chandler 1998 (Switzerland); Sidorenko 2001a, 2001b (Far East, Russia); Greve & Chandler 2003 (Norway).

Fossil species: Hennig 1965, 1967; Evenhuis 1994.

Acronyms used in this catalog

To economize on space we have used acronyms for museums where primary type(s) are deposited. These acronyms are as follows:

- BMNH former British Museum (Natural History), collection incorporated in the Natural History Museum, London, United Kingdom.
 CNC Canadian National Collection, Ottawa, Ontario, Canada.
 HNHM Hungarian Natural History Museum, Budapest, Hungary.
 HUS Entomological Institute, Hokkaido University, Sapporo, Japan.
 IBP Institute of Biology and Pedology, Vladivostok, Russia.
 MCZ Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA.
 MNHNP Muséum National d'Histoire Naturelle, Paris, France.
 NMI National Museum of Ireland, Dublin, Ireland.
 NMP Natal Museum, Pietermaritzburg, South Africa.
 NMW Naturhistorisches Museum, Wien, Austria.
 SMT Staatliches Museum für Tierkunde, Dresden, Germany.
 TAU Tel Aviv University, Tel Aviv, Israel.
 UKR Kaliningrad State University, Kaliningrad, Russia (formerly Universität Königsberg).
 USNM former United States National Museum, collection incorporated in the National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.
 UZMH Museum Zoological Helsinki, Helsinki, Finland.
 ZIL Zoological Institute, Lund University, Lund, Sweden.
 ZISP Zoological Institute, Academy of Sciences, St. Petersburg, Russia.
 ZMHU Zoologisches Museum, Humboldt Universität, Berlin, Germany.

Diagnosis. Small grayish brown drosophilid-like flies (body length 2.5-4.0 mm); usually with patterned wings and weakly spinose costa. *Head:* Postocellar setae convergent; both medial and lateral vertical setae present; ocellar and vibrissal seta well developed; 2 well-developed fronto-orbital setae, proclinate seta laterad of reclinate seta. Antenna decumbent; arista elongate, macropubescent or short plumose. *Thorax:* Anepisternum setose (*Diastata*) or bare (*Campichoeta*, *Euthychaeta*); katepisternum bearing 1-2 setae, if 2 then posterior seta stronger. Wing with costa extended to vein M; costa broken once (subcostal, *Campichoeta*, *Euthychaeta*) or twice (humeral and subcostal, *Diastata*); subcosta incomplete, not reaching costa, often fused with vein R₁ distally; vein R₁ bare; both veins CuA₂ and A₁ present; cell cup

closed, crossvein bm-cu present. Legs moderately elongate, slender. *Abdomen*: Segments 1-5 unmodified; male with segments 6-8 reduced, although tergite 7 well developed, sternite 7 lacking; abdominal spiracles (6 or 7) in membrane. Female with either well-sclerotized (*Diastata*) or membranous (*Campichoeta*, *Euthychaeta*) ventral receptacle.

Diastatidae are similar to Drosophilidae, especially the genus *Clastopterymyia* Malloch, and to Opomyzidae but are distinguished from either of these two families by having two large fronto-orbital setae (1 in Opomyzidae), by the dorsolateral position of the large proclinate fronto-orbital seta relative to the reclinate seta, and by the weakly spinose costal margin. In addition, *Diastata* has a setulose anepisternum and two costal breaks.

Biology. The immature stages are unknown with the possible exception of a third-instar larva of *Campichoeta* (Hennig 1952, as *Thryptochaeta tristis* Fallén = *Campichoeta basalis* (Meigen)). Adults of *Diastata* usually occur on low deciduous shrubs along the margins of marshes, bogs, and damp woodlands, and other lush habitats. *Campichoeta* likewise frequents lush, low vegetation, especially where such habitats occur in otherwise dry to arid environments, such as found in the American Southwest or in Mediterranean countries.

Distribution. The species of Diastatidae occur primarily in temperate zones, where there is greater diversity. The few species that are known from tropical regions, such as Central America, have only been collected at higher elevations. There is greater species diversity in the Palearctic Region, which is probably reflective of the true species richness but also that this fauna is better known and more recent research is available. The northern temperate fauna includes several species that are widespread and have Holarctic distributions, although both the Palearctic and Nearctic Regions also have endemics. The family is noticeably absent from the Australasian Region, and the Oriental Region is represented by two species.

Table of genera

The following table lists the genera of Diastatidae in the order found in the catalog, with a summary of the number of species known from each zoogeographic region. The number in the total column is less than the sum of those in each region as species are known from more than one region.

TAXON	DISTRIBUTION						Total
	NE	NT	PA	AF	OR	AU	
Diastatinae Hendel							
<i>Diastata</i> Meigen	6	4	20	10	9		35
Campichoetinae Griffiths							
<i>Campichoeta</i> Macquart	2		6	2	2		11
<i>Euthychaeta</i> Loew			1				1
<i>Pareuthychaeta</i> Hennig (fossil)			2				2
TOTALS	8	4	29	12	11		49

Classification and nomenclature. The phylogenetic relationships among taxa here included in the Diastatidae remain unresolved and varying classifications have been advocated to account for these differences (Chandler 1998a, 1998b). The classifications differ primarily in whether *Diastata* alone is recognized as a family (Chandler 1987, 1998b) or as an included lineage within the Ephydriidae (Griffiths 1972), and thus with *Campichoeta* Macquart, *Euthychaeta* Loew, and *Pareuthychaeta* Hennig as a separate family, the Campichoetidae (Griffiths 1972, Chandler 1987, 1998a, 1998b). Another alternative is to recognize all four genera in a single family (Barraclough 1992, McAlpine 1987, 1989). The classification adopted here is deliberately conservative, with *Campichoeta*, *Euthychaeta*, *Diastata*, and *Pareuthychaeta* as a single family, awaiting more definitive resolution. Grimaldi's (1990) cladogram of the Ephydroidea places the family Camillidae as the sister group of the Ephydriidae (Risidae are included in the Ephydriidae) and then with the Diastatidae as the sister group to the combined clade of Camillidae+Ephydriidae.

Even nomenclatural issues are problematic, although stable. The type species of *Diastata*, for example, which is the type genus for the family-group name, is based on a misidentification (Sabrosky 1999; see resolution and fixation of type species under *Diastata* below).

Identification. Chandler's papers (1987, 1998a, 1998b) are essential for understanding the family and identifying the included genera. Most keys to the family are difficult as they do not recognize that the costa of *Diastata* is broken twice (humeral and subcostal), whereas that of *Campichoeta* is broken just once (subcostal). Moreover, McAlpine's key (1987) to genera is faulty in that the anepisternum, not the katapisternum, is either setulose or bare. The New World species of *Diastata* need revision. Adults are best

preserved dry, and given their relatively small size, they should be double mounted.

Key to extant subfamilies and genera of Diastatidae

1. Arista plumose with longer hairs dorsally. Large reclinate fronto-orbital seta inserted close to anterior margin of fronto-orbital plate, lacking a shorter reclinate fronto-orbital seta anterior to it. Anepisternum setulose. Costa broken twice, near humeral crossvein and apex of subcosta (Diastatinae) *Diastata* Meigen
- Arista with short pubescence only. Large reclinate fronto-orbital seta inserted well posterior from anterior margin of fronto-orbital plate, usually bearing a shorter reclinate fronto-orbital seta anterior to it. Anepisternum bare. Costa broken once, near apex of subcosta only (Campichoetinae) 2
2. Anterior reclinate fronto-orbital seta short, weak; posterior seta well developed, inserted behind level of lateral proclinate seta. First flagellomere elongate, extended almost to oral margin in male, slightly shorter in female. Crossvein dm-cu twice or more length of apical section of vein CuA₁ *Campichoeta* Macquart
- Anterior reclinate fronto-orbital seta well developed in female, more than 1/2 length of posterior seta, apparently absent in male where well developed reclinate seta inserted closer to level of proclinate seta and with a short, weak reclinate seta posterior to it. First flagellomere moderately elongate, not extended almost to oral margin in male, slightly shorter in female. Crossvein dm-cu subequal to length of apical section of vein CuA₁ *Euthychaeta* Loew

Family Diastatidae Hendel

Diastatinae Hendel, 1917: 43 [as the subfamily Diastatinae]. Type genus: *Diastata* Meigen, 1830.

Diastatidae. Frey 1921: 26 [status as a family]; Séguy 1934: 366 [France]; Duda 1934: 1 [Palearctic]; Hennig 1958: 667 [discussion, phylogeny], 1971: 56 [discussion, phylogeny], 1973: 62 [discussion]; McAlpine 1965: 772 [catalog, Nearctic], 1977: 320 [catalog, Orient], 1987: 1019 [Nearctic fauna and manual]; Cole 1969: 410

[western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 90 [Hungary], 1984: 182 [Palearctic], 1995: 5 [checklist, Italy], 2001a: 350 [checklist, Hungary], 2001b: 351 [checklist, Hungary]; Cogan 1980a: 670 [catalog, Afrotropics]; Hackman 1980: 127 [checklist, Finland]; Prado 1984: 1 [catalog, Neotropics]; Chandler 1987: 10 [revision], 1998a: 515 [Palearctic], 1998b: 523 [Palearctic], 1998c: 157 [checklist, British Isles], 1998d: 157 [checklist, British Isles], 1999a: 138 [checklist, Germany], 1999b: 147 [checklist, Germany]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; McAlpine 1989: 1490 [review, classification, phylogeny]; Morimoto 1989: 820 [checklist, Japan]; Nowakowski 1991: 224 [checklist, Poland]; Beuk 1991a: 163 [checklist, Belgium], 1991b: 164 [checklist, Belgium], 2002a: 299 [checklist, Netherlands], 2002b: 300 [checklist, Netherlands]; Barraclough 1992: 13 [revision, Afrotropics]; Evenhuis 1994: 446 [fossil fauna]; Merz & Chandler 1998: 495 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland], 1998b: 303 [checklist, Switzerland]; Pakalniškis *et al.* 2000: 43 [checklist, Lithuania]; Chandler & Petersen 2001a: 188 [checklist, Denmark], 2001b: 193 [checklist, Denmark]; Sidorenko 2001a: 180 [Russian Far East], 2001b: 181 [Russian Far East]; Carles-Tolrá 2002a: 148 [checklist, Spain], 2002b: 160 [checklist, Spain].

Subfamily DIASTATINAE Hendel

Diastatinae Hendel, 1917: 43. Type genus: *Diastata* Meigen, 1830. Séguy 1934: 366 [France]; Duda 1934: 1 [Palearctic]; McAlpine 1965: 772 [catalog, Nearctic], 1977: 320 [catalog, Orient], 1987: 1019 [Nearctic fauna and manual]; Cole 1969: 410 [western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 90 [Hungary], 1984: 182 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001a: 350 [checklist, Hungary]; Cogan 1980a: 670 [catalog, Afrotropics]; Hackman 1980: 127 [checklist, Finland]; Prado 1984: 1 [catalog, Neotropics]; Beuk 1991a: 163 [checklist, Belgium], 2002b: 300 [catalog, Netherlands]; Nowakowski 1991: 225 [checklist, Poland]; Barraclough 1992: 13 [Afrotropics]; Chandler 1998b: 523 [Palearctic], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Merz & Chandler 1998: 106 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Chandler & Petersen 2001b: 193 [checklist, Denmark];

Sidorenko 2001a: 180 [Russian Far East]; Carles-Tolrá 2002b: 160 [checklist, Spain].

Genus **DIASTATA** Meigen

Diastata Meigen, 1830: 94. Type species: *Geomyza obscurella* of Meigen, not Fallén, by designation of Thon (1833: 487) [misidentification = *Diastata vagans* Loew, see below]. Westwood 1840: 152 [type designation]; Loew 1864: 356 [revision]; Duda 1934: 4 [revision, Palearctic]; Hennig 1956: 150 [Neotropics]; McAlpine 1965: 772 [catalog, Nearctic], 1977: 320 [catalog, Orient]; Cole 1969: 411 [western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 92 [Hungary], 1984: 183 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001a: 350 [checklist, Hungary]; Cogan 1976: 85 [list, Britain], 1980a: 670 [catalog, Afrotropics], 1980b: 245 [key to Afrotropical species]; Hackman 1980: 127 [checklist, Finland]; Prado 1984: 1 [catalog, Neotropics]; Chandler 1986: 9 [Great Britain], 1987: 10 [revision], 1998b: 523 [Palearctic], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Morimoto 1989: 820 [checklist, Japan]; Greve & Solem 1990: 33 [Norway]; Beuk 1991a: 163 [checklist, Belgium], 2002b: 300 [catalog, Netherlands]; Nowakowski 1991: 224 [checklist, Poland]; Barraclough 1992: 17 [revision, Afrotropics], 1994: 111 [review, East African species]; Máca & Roháček 1994: 97 [Czech Republic, Slovakia, biology]; Poole & Gentili 1996: 136 [checklist, Nearctic]; Merz & Chandler 1998: 497 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Sabrosky 1999: 112 [discussion of nomenclature, "True *obscurella* Fallén is a *Trixoscelis*, and it is agreed that Meigen's identification of *obscurella* Fallén was an error for *D. vagans* Loew. [Thon's and] Westwood's designation confused the nomenclature of two families for years. However, for some years authors have recognized *vagans* as the type of *Diastata*, thus accepting what Meigen had before him rather than his identification of it. Thus the genera *Diastata* and *Trixoscelis* and the family-group taxa based on them, family or subfamily, have coexisted happily for over a half century without formal action by the Commission."]; Pakalniškis *et al.* 2000: 43 [checklist, Lithuania]; Chandler & Petersen 2001b: 193 [checklist, Denmark]; Sidorenko 2001a: 180 [Russian Far East]; Carles-Tolrá 2002b: 160 [Spain].

NB: As first noted by Loew (1854: 362), Meigen misidentified the species he called *obscurella* Fallén. That species was later selected as the type of the genus *Diastata* by Thon (1833: 487) and Westwood (1840: 152). *Geomyza obscurella* of Meigen was renamed *vagans* by Loew. Under the ICZN (Art. 70.3), when an author discovers that a type species was misidentified, the author should select and thereby fix as type species the species that will best preserve stability and universality. In this case, we here formally fix as the type species of *Diastata* Meigen the species Loew described years ago, *vagans* Loew.

Trichoptera Lioy, 1864: 1109. Preoccupied Meigen 1803. Type species: *Diastata adusta* Meigen, by subsequent designation [Coquillett 1910: 616].

Calopterella Coquillett, 1910: 517. Type species: *Diastata vagans* Loew, by original designation [as first revisers, we select this nomenclatural act (a new genus) over the replacement name on page 616 (ICZN Article 24)]. Syn. Duda 1934: 5.

Calopterella Coquillett, 1910: 616. Replacement name for *Trichoptera* Lioy, not Meigen. Type species: *Diastata adusta* Meigen, automatic. **NEW SYNONYMY**

adusta Meigen. **PA:** Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, Slovakia, Spain, Sweden.

Diastata adusta Meigen, 1830: 96. Europe (? former Germany). ST ♂ MNHNP, NMW. Becker 1905: 224 [catalog, Palearctic]; Séguy 1934: 366 [key, review, France]; Chandler 1986: 14 [Great Britain, Ireland], 1987: 21 [revision; synonymy with *unipunctata*], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Beuk 1991a: 163 [checklist, 2002b: 300 [catalog, Netherlands]; Máca & Roháček 1994: 101 [Czech Republic, Slovakia]; Papp 1995: 5 [checklist, Italy], 2001a: 351 [checklist, Hungary]; Chandler & Petersen 2001b: 193 [checklist, Denmark].

Trichoptera adusta. Lioy 1864: 1109 [generic combination].

Calopterella adusta. Coquillett 1910: 517 [generic combination].

Diastata unipunctata Zetterstedt, 1847: 2537. Sweden. Silfåkra. LT ♀ ZIL [designated by Chandler 1987: 22]. Loew 1864: 361 [revision]; Becker 1905: 225 [catalog, Palearctic]; Duda 1934: 7 [revision]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 93 [Hungary]; Hackman 1980: 127 [checklist, Finland]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]. Syn. Chandler 1987.

Diastata (Diastata) unipunctata. Loew 1864: 361 [revision]; Strobl 1910: 213 [list].

afrocuta Barraclough. **AF:** Kenya.

Diastata afrocuta Barraclough, 1994: 113. Kenya. Aberdare, 0°22'N, 35°17'E. HT ♂ TAU.

argentina (Malloch). **NT:** Argentina.

Calopteryella argentina Malloch, 1934: 439. Argentina. Buenos Aires: Buenos Aires. HT ♀ BMNH.

Diastata argentina. Hennig 1956: 150 [note, generic combination]; Prado 1984: 1 [catalog, Neotropics].

basdeni Okada. **OR:** Nepal.

Diastata basdeni Okada, 1966: 8. Nepal. Eastern Nepal: Taplejung, above Sangu (damp evergreen oak forest). HT ♀ BMNH. McAlpine 1977: 320 [catalog, Orient]; Papp 1984: 183 [catalog, Palearctic]; Chandler 1987: 32 [revision].

boreonigra Chandler. **NE:** Canada (Quebec, Yukon), USA (Alaska). **PA:** Finland, Sweden, Russia (Far East).

Diastata boreonigra Chandler, 1987: 22. Sweden. Norrbotten: Mes-saure, 3 km N, 66°42'N, 20°25'E. HT ♂ USNM. Sidorenko 2001a: 180 [Russian Far East].

carolinae Cogan. **AF:** South Africa (Cape Province).

Diastata carolinae Cogan, 1975: 487. South Africa. Cape Province: Cape Town, Kloof Nek. HT ♂ BMNH. Cogan 1980a: 670 [catalog, Afrotropics]; Barraclough 1992: 21 [revision].

cervinala Chandler. **PA:** Bulgaria, Czech Republic, Denmark, Germany, Hungary, Serbia, Slovakia, Sweden.

Diastata cervinala Chandler, 1987: 20. Bulgaria. Batlata Forest, near Kranevo. HT ♂ BMNH. Papp & Kaufman 1989: 115 [list, Hungary]; Máca & Roháček 1994: 100 [Czech Republic, Slovakia]; Papp 2001a: 351 [checklist, Hungary]; Chandler & Petersen 2001b: 193 [checklist, Denmark].

chandleri Sidorenko. **PA:** Russia (Far East, Primore).

Diastata chandleri Sidorenko, 1992: 106. Russia. Primore: Vysokaya Mountains, 1500 m. HT ♂ IBP. Sidorenko 2001a: 180 [Russian Far East].

costaricensis Hennig. **NT:** Costa Rica.

Diastata costaricensis Hennig, 1956: 150. Costa Rica. San José: Farm La Caja, 8 km W San José. HT ♀ DEI. Prado 1984: 1 [catalog, Neotropics].

costata Meigen. **NE:** Canada (Alberta, Nova Scotia), USA (California, Oregon, Washington). **PA:** Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland,

Italy, Netherlands, Norway, Romania, Russia (Far East, Kurile Islands), Slovakia, Sweden, Switzerland.

Diastata costata Meigen, 1830: 96. Europe (? Germany). LT ♀ MNHNP [designated by Chandler 1987: 27]. Schiner 1863b: 289 [Austria]; Loew 1864: 363 [revision synonymy of *marginella*]; Becker 1905: 225 [catalog, Palearctic]; Séguy 1934: 367 [key, review, France]; Chandler 1986: 14 [Great Britain, Ireland], 1987: 27 [revision, synonymy of *modesta*], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Papp & Kaufman 1989: 115 [list, Hungary]; Greve & Solem 1990: 34 [list, Norway]; Beuk 1991a: 163 [checklist, Belgium], 2002b: 300 [catalog, Netherlands]; Máca & Roháček 1994: 103 [Czech Republic, Slovakia]; Papp 1995: 5 [checklist, Italy], 2001a: 351 [checklist, Hungary]; Merz & Chandler 1998: 497 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Chandler & Petersen 2001b: 193 [checklist, Denmark]; Carles-Tolrá 2002b: 160 [Spain]; Sidorenko 2001a: 180 [Russian Far East].

Drosophila marginella Zetterstedt, 1838: 777. Sweden. Lapland: Stensele. LT ♂ [designated by Bächli 1990: 845; probably ♀ - see Chandler 1987: 27] ZIL. Papp 1984: 183 [catalog, Palearctic; as synonym of *D. fuscula* (Fallén)]. Syn. Loew 1864.

Diastata costata variety a Zetterstedt 1847: 2539 [Scandinavia, Denmark, Sweden].

Diastata (Diastata) costata. Loew 1864: 363 [revision]; Strobl 1910: 213 [list].

Diastata modesta Melander, 1913: 290. USA. Washington. San Juan: Orcas Island, Mount Constitution. HT ♀ USNM. McAlpine 1965: 772 [catalog, Nearctic]; Cole 1969: 411 [western North America]; Chandler 1987: 27 [discussion]; Poole & Gentili 1996: 136 [checklist, Nearctic]. Syn. Chandler 1987.

dimidiata (Hendel). NT: Bolivia, Peru.

Trixoscelis dimidiata Hendel, 1913: 617. Bolivia. Sorata, 2300 m; Peru. Cuzco, 3700 m. ST 4♂♀ SMT.

Diastata dimidiata. Prado 1984: 1 [catalog, Neotropics, generic combination].

dolorosa Chandler. OR: Nepal.

Diastata dolorosa Chandler 1987: 34. Nepal, 27°56'N, 85°00'E, 9900 ft. HT ♂ CNC.

eluta Loew. NE: Canada (British Columbia), USA (Alaska, California, Colorado, Idaho, Oregon, Utah, Washington, Wyoming).

Diastata eluta Loew, 1863: 31. USA. Alaska. Sitka. ST ♀ MCZ [MCZ type number 13424]. Osten Sacken 1878: 204 [catalog, Nearctic]; Aldrich 1905: 644 [catalog, Nearctic]; Melander 1913: 290 [key]; Cole & Lovett 1921: 339 [list, Oregon]; McAlpine 1965: 772 [catalog, Nearctic]; Cole 1969: 411 [western North America]; Poole & Gentili 1996: 136 [checklist, Nearctic].

falcata Barraclough. **AF:** South Africa (KwaZulu-Natal).

Diastata falcata Barraclough, 1992: 21. South Africa. KwaZulu-Natal: Itala Game Reserve, Craig Adam Dam, 27°28'S, 31°25'E. HT ♂ NMP [NMP type number 466].

flavicosta Chandler. **PA:** Czech Republic, Finland, Norway, Slovakia, Sweden, Switzerland.

Diastata flavicosta Chandler, 1987: 29. Sweden. Norrbotten: Torne Lappmark, Abisko, Abiskojokk NE Turiststation. HT ♂ BMNH. Greve & Solem 1990: 34 [list, Norway]; Máca & Roháček 1994: 105 [Czech Republic, Slovakia]; Merz & Chandler 1998: 497 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland].

flavipes Chandler. **OR:** Nepal.

Diastata flavipes Chandler, 1987: 37. Nepal. Katmandu, Pulchauki, 7300 ft. HT ♂ CNC.

freidbergi Barraclough. **AF:** Tanzania.

Diastata freidbergi Barraclough, 1994: 114. Tanzania. Ngorongoro Reserve, 03E00'S, 35E25'E, 1500 m. HT ♂ TAU.

fuscula (Fallén). **PA:** Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Lithuania, Macedonia, Netherlands, Slovakia, Slovenia, Sweden, Switzerland, Tunisia.

Drosophila fuscula Fallén, 1823: 7. Sweden. "Esperöd" [Although the lectotype does not bear a locality label, Fallén noted "Esperöd, & in Ostrogothia" (= Östergötland) in the original description, and the former, Esperöd, which is where Fallén lived, is here restricted as the type locality.]. LT ♂ NRS [designated by Chandler 1987: 29].

Diastata fulvifrons Haliday, 1837: 151. Ireland. Down: Holywood; LT ♂ NMI [designated by Chandler 1987: 30]. Becker 1905: 225 [catalog, Palearctic]; Chandler 1987: 29 [discussion]. Syn. Chandler 1987.

Diastata (Diastata) inornata Loew, 1864: 364. Poland. Near Poznan, Silesia [= "im Posenschen und in Schlesien"]. LT ♀ ZMHU [designated by Chandler 1987: 30]. Strobl 1910: 213 [list]; Duda 1934: 6 [revision]; Papp 1973: 93 [Hungary]; 1984: 183 [catalog,

Palaearctic]; Cogan 1976: 85 [list, Great Britain]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; Chandler 1987: 29 [discussion]. Syn. Chandler 1987.

Diastata fuscula. Becker 1905: 225 [catalog, Palaearctic, generic combination as synonym of *D. costata*]; Collin 1911: 231 [Great Britain]; Duda 1934: 5 [revision]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 94 [Hungary], 1984: 183 [catalog, Palaearctic], 1995: 5 [checklist, Italy], 2001a: 351 [checklist, Hungary]; Cogan 1976: 85 [list, Great Britain]; Hackman 1980: 127 [checklist, Finland]; Chandler 1986: 14 [Great Britain, Ireland], 1987: 29 [revision, synonymy of *fulvifrons* and *inornata*], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; Papp & Kaufman 1989: 115 [list, Hungary]; Beuk 1991a: 163 [checklist, Belgium], 2002b: 300 [catalog, Netherlands]; Carles-Tolrá 1992: 23 [list, Spain], 2002b: 160 [Spain]; Máca & Roháček 1994: 106 [Czech Republic, Slovakia]; Merz & Chandler 1998: 498 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Pakalniškis *et al.* 2000: 43 [checklist, Lithuania]; Chandler & Petersen 2001b: 193 [checklist, Denmark].

hirsuta Chandler. **OR:** Nepal.

Diastata hirsuta Chandler, 1987: 36. Nepal. 27°57'N, 84°59'E, 10100 ft. HT ♂ CNC.

interrupta Barraclough. **AF:** South Africa (KwaZulu-Natal).

Diastata interrupta Barraclough, 1992: 23. South Africa. KwaZulu-Natal: Howick, 29°28'40"S, 30°13'20"E. HT ♂ NMP [NMP type number 467].

lugubris Chandler. **OR:** Nepal.

Diastata lugubris Chandler, 1987: 36. Nepal. 27°E56'N, 85°00'E, 10100 ft. HT ♂ CNC.

macula Chandler. **OR:** Nepal.

Diastata macula Chandler, 1987: 37. Nepal. 28°00'N, 85°00'E, 9900 ft. HT ♂ CNC.

mirabilis Chandler. **OR:** Nepal.

Diastata mirabilis Chandler, 1987: 34. Nepal. 27°58'N, 85°00'E, 11400 ft. HT ♂ CNC.

montana Cogan. **AF:** Cameroon.

Diastata montana Cogan, 1975: 485. Cameroon. Mt. Cameroon, Onyanga, 2469 m. HT ♂ BMNH. Cogan 1980a: 670 [catalog, Afro-tropics]; Barraclough 1992: 25 [revision].

nebulosa (Fallén). **PA:** Belgium, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Lithuania, Norway, Slovakia, Sweden, Switzerland.

Geomyza nebulosa Fallén, 1823: 3. Sweden. “Esperöd” (the only locality noted in Fallén). LT ♂ NRS [designated by Chandler 1987: 18].

Diastata nebulosa. Meigen 1830: 99 [generic combination]; Schiner 1863b: 289 [Austria]; Loew 1864: 359 [revision]; Becker 1905: 225 [catalog, Palearctic]; Duda 1934: 6 [revision, synonymy of *D. maculipennis* Gimmerthal 1846]; Séguy 1934: 366 [key, review, France]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 93 [Hungary], 1981: 227 [Hungary], 1984: 183 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001a: 351 [checklist, Hungary]; Cogan 1976: 85 [list, Great Britain]; Hackman 1980: 127 [checklist, Finland]; Chandler 1986: 13 [Great Britain, Ireland, includes *Ephindra maculipennis* as junior synonym but incorectly cites Gimmerthal 1846 as author], 1987: 18 [revision], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; Greve & Solem 1990: 34 [list, Norway]; Beuk 1991a: 163 [checklist, Belgium]; Máca & Roháček 1994: 98 [Czech Republic, Slovakia]; Merz & Chandler 1998: 498 [Switzerland]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Pakalniškis *et al.* 2000: 43 [checklist, Lithuania]; Chandler & Petersen 2001b: 193 [checklist, Denmark].

Diastata ornata of Macquart [not Meigen]. Misidentification. Macquart 1835: 553 [list].

Geomyza obscurella of authors [not Fallén]. Misidentification. Zetterstedt 1838: 774 [*partim*, see also *D. ornata*], 1847: 2540 [*partim*, see also *D. ornata*].

Drosophila maculipennis Gimmerthal, 1846: 105. Latvia. “Kurland.” ST ♂ MNLR ?. Schiner 1863a: 280 [questionably *Diastata*]; Oldenberg 1914: 14 [discussion]. Syn. Duda 1934.

Ephindra maculipennis Gimmerthal, 1847a: 12. Latvia. “Kurland.” ST ♂♀ MNLR ?. Duda 1934: 6 [synonymy]. Syn. Chandler 1987 [cited as *Ephindra maculipennis* Gimmerthal 1846: 105].

Ephindra maculipennis Gimmerthal 1847b: 201. Latvia. “Kurland.” ST ♂♀ MNLR ? [preoccupied Gimmerthal 1847a].

Diastata (Diastata) nebulosa. Loew 1864: 359 [revision]; Strobl 1910: 213 [list].

okadai Chandler. **OR:** India, Nepal.

Diastata ussurica of Okada [not Duda]. Misidentification. Okada 1966: 8 [partim].

Diastata okadai Chandler, 1987: 32. Nepal. Eastern Nepal: Taplejung, Sagu, 4000 m. HT ♂ BMNH.

ornata Meigen. **NE:** Canada (Labrador), USA (Massachusetts, New Jersey). **NT:** Panama. **PA:** Czech Republic, Denmark, Finland, Germany, Great Britain, Italy, Netherlands, Norway, Slovakia, Sweden, Russia (Amur, Far East, Yakutia), Ukraine.

Diastata ornata Meigen, 1830: 98. Europe (? Germany). ST ? MNHNP [? Wiedemann's collection, "may be lost" according to Chandler 1987: 20]. Becker 1905: 225 [catalog, Palearctic; as a synonym of *D. nebulosa*]; Chandler 1986: 13 [Great Britain], 1987: 20 [revision], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Greve & Solem 1990: 34 [list, Norway]; Sidorenko 1992: 107 [list, Russia], 2001a: 180 [Russian Far East]; Máca & Roháček 1994: 100 [Czech Republic, Slovakia]; Papp 1995: 5 [checklist, Italy]; Chandler & Petersen 2001b: 193 [checklist, Denmark]; Beuk 2002b: 300 [catalog, Netherlands].

Geomyza obscurella of authors [not Fallén]. Misidentification. Zetterstedt 1838: 774 [partim, see also *D. nebulosa*]; 1847: 2540 [partim, see also *D. nebulosa*]; Becker 1905: 226 [catalog, Palearctic].

paramontana Cogan. **AF:** Cameroon.

Diastata paramontana Cogan, 1980b: 247. Cameroon. Vallée de la Haute Nguemba, Bafut Nguemba, 2100 m. HT ♂ MNHNP. Barraclough 1992: 25 [revision].

repleta (Walker). **NE:** Canada (Ontario, Manitoba, Quebec), USA (Maryland, Massachusetts, Michigan, New York, North Carolina, Ohio, Pennsylvania).

Notiphila repleta Walker, 1849: 1099. Canada. Ontario. Hudson Bay, Albany River, St. Martin's Falls. ST ? BMNH. Osten Sacken 1858: 83 [catalog, Nearctic], 1878: 201 [catalog, Nearctic]; Cresson 1917: 62 [list].

Drosophila decemguttata Walker, 1853: 411. "USA." ST [type apparently lost, Sturtevant 1923: 5] BMNH. Syn. Sturtevant 1923.

Diastata pulchra Loew, 1861: 359. USA. Pennsylvania. ST 3♂ 3♀ MCZ (13425). Aldrich 1905: 644 [catalog, Nearctic]. Syn. Sturtevant 1923.

Scatella repleta. Aldrich 1905: 630 [catalog, Nearctic, generic combination].

Diastata repleta. Sturtevant 1923: 4 [generic combination, synonymy of *decemguttata* and *pulchra*]; Malloch 1934: 440 [Patagonia]; McAlpine 1965: 772 [catalog, Nearctic]; Poole & Gentili 1996: 136 [checklist, Nearctic].

rustica Chandler. **OR:** Nepal.

Diastata rustica Chandler, 1987: 36. Nepal. 27°58'N, 85°00'E, 11100 ft. HT ♂ CNC.

stuckenbergi Cogan. **AF:** South Africa (Cape Province).

Diastata stuckenbergi Cogan, 1975: 488. South Africa. Cape Province: Ceres. HT ♂ BMNH. Cogan 1980a: 670 [catalog, Afrotropics]; Barraclough 1992: 27 [revision].

tsacasi Cogan. **AF:** South Africa (Cape Province, KwaZulu-Natal, Transvaal).

Diastata tsacasi Cogan, 1980b: 245. South Africa. KwaZulu-Natal: Karkloof. HT ♂ NMP. Barraclough 1992: 27 [revision].

ussurica Duda. **PA:** Japan (Hokkaido, Honshu, Kyushu), Russia (Far East, Kurile Islands, Primore).

Diastata ussurica Duda, 1934: 8. Russia. East Siberia: Ussuri, Spassk District, Jaklovlevka. HT ♀ ZISP. Okada 1956: 12 [Japan], 1960: 165 [Japan], 1966: 8 [partim, Japan]; McAlpine 1977: 320 [catalog, Orient]; Papp 1984: 184 [catalog, Palearctic]; Chandler 1987: 30 [revision]; Morimoto 1989: 820 [checklist, Japan]; Sidorenko 1992: 107 [list, Russia], 2001a: 180 [Russian Far East].

vagans Loew. **NE:** Canada (Ontario, Quebec), USA (Idaho, Massachusetts, Michigan, New Hampshire, North Carolina, North Dakota, Vermont, Washington). **PA:** Austria, Czech Republic, Denmark, Finland, Germany, Great Britain, Hungary, Italy, Japan (Hokkaido, Honshu), Netherlands, Romania, Russia (Amur, European Part, Far East, Primore), Slovakia, Sweden, Switzerland.

Geomyza obscurella of Meigen [not Fallén]. Misidentification. Meigen 1830: 96 [review].

Diastata costata variety b Zetterstedt 1847: 2540 [Scandinavia, Denmark], 1849: 3360 [list, Scandinavia], Chandler 1987: 24 [discussion]. Syn. Chandler 1987.

Diastata (Diastata) vagans Loew, 1864: 362. Russia. "Sibiria (Sodarkof)." LT ♂ ZMHU [designated by Chandler 1987: 25].

Diastata vagans. Osten Sacken 1878: 204 [catalog, Nearctic]; Aldrich 1905: 644 [catalog, Nearctic]; Becker 1905: 225 [catalog, Palearctic]; Strobl 1910: 213 [list]; Collin 1911: 231 [Great Britain]; Melander 1913: 290 [key]; Duda 1934: 8 [revision]; Séguy 1934: 367

[key, review, France]; Okada 1956: 12 [Japan]; 1960: 165 [Japan]; McAlpine 1965: 772 [catalog, Nearctic]; Cole 1969: 411 [western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 94 ["expected fauna," Hungary], 1981: 227 [Hungary], 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001a: 351 [checklist, Hungary]; Hackman 1980: 127 [checklist, Finland]; Cogan 1976: 85 [list, Great Britain]; Chandler 1986: 15 [Great Britain,], 1987: 24 [revision, synonymy of *costata* variety b], 1998d: 157 [checklist, British Isles], 1999b: 147 [checklist, Germany]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; Morimoto 1989: 820 [checklist, Japan]; Sidorenko 1992: 107 [list, Russia], 2001a: 180 [Russian Far East]; Máca & Roháček 1994: 102 [Czech Republic, Slovakia]; Poole & Gentili 1996: 136 [checklist, Nearctic]; Chandler & Merz 1998a: 302 [checklist, Switzerland]; Chandler & Petersen 2001b: 193 [checklist, Denmark]; Beuk 2002b: 300 [catalog, Netherlands].

Calopteryella vagans. Coquillett 1910: 517 [generic combination].

whittingtoni Barraclough. **AF**: South Africa (KwaZulu-Natal).

Diastata whittingtoni Barraclough, 1992: 28. South Africa. KwaZulu-Natal: Howick, 29°29'S, 30°13'E, 1060 m. HT ♂ NMP [NMP type number 468].

Nomina dubia

capitata Robert. **PA**: Belgium.

Diastata capitata Robert, 1834: 460. Belgium. near Liege. ST ? [depository unknown]. Chandler 1987: 39 [suggested as probable synonym of *Diastata fuscula* (Fallén)].

frontalis Meigen. **PA**: Belgium.

Diastata frontalis Meigen, 1838: 378. Belgium. near Liege [=Lütticher Gegend]. ST ? [depository unknown]. Chandler 1987: 39 [suggested as probable synonym of *Diastata fuscula* (Fallén)].

Subfamily CAMPICHOETINAE Griffiths

Campichoetinae Griffiths, 1972: 109 [as the family Campichoetidae].

Type genus *Campichoeta* Macquart, 1835. Duda 1934: 1 [Palearctic]; McAlpine 1965: 772 [catalog, Nearctic], 1987: 1019 [Nearctic fauna and manual]; Cole 1969: 410 [western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 90 [Hun-

gary], 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001b: 351 [checklist, Hungary]; Hackman 1980: 127 [checklist, Finland]; Beuk 1991b: 164 [checklist, Belgium], 2002a: 299 [catalog, Netherlands]; Nowakowski 1991: 225 [checklist, Poland]; Barraclough 1992: 13 [Afrotropics]; Chandler 1998a: 515 [Palearctic], 1998c: 157 [checklist, British Isles], 1999a: 138 [checklist, Germany]; Chandler & Merz 1998b: 303 [checklist, Switzerland]; Merz & Chandler 1998: 106 [Switzerland]; Chandler & Petersen 2001a: 188 [checklist, Denmark]; Sidorenko 2001b: 181 [Russian Far East]; Carles-Tolrá 2002a: 148 [Spain].

Genus **CAMPICHOETA** Macquart

Campichoeta Macquart, 1835: 547. Type species: *rufipes* Macquart [= *Diastata obscuripennis* Meigen], by monotypy. Duda 1934: 13 [revision, Palearctic, synonymy of *Thryptocheta*]; McAlpine 1962: 1 [world revision], 1965: 772 [catalog, Nearctic], 1977: 320 [catalog, Orient]; Cole 1969: 411 [western North America]; Stackelberg 1970: 389 [European Russia]; Papp 1973: 95 [Hungary], 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy]; Hackman 1980: 127 [checklist, Finland]; Chandler 1986: 9 [Great Britain], 1987: 44 [revision, Europe], 1998a: 522 [key, discussion], 1998c: 157 [checklist, British Isles], 1999a: 138 [checklist, Germany]; Beuk 1991b: 164 [checklist, Belgium], 2002a: 299 [catalog, Netherlands]; Nowakowski 1991: 225 [checklist, Poland]; Barraclough 1992: 29 [revision, South Africa]; Poole & Gentili 1996: 135 [checklist, Nearctic]; Chandler & Merz 1998b: 303 [checklist, Switzerland]; Merz & Chandler 1998: 106 [Switzerland]; Chandler & Petersen 2001a: 188 [checklist, Denmark]; Sidorenko 2001b: 181 [Russian Far East]; Carles-Tolrá 2002a: 148 [Spain]; Greve & Chandler 2003: 44 [Norway].

Campochaeta. Unjustified emendation. Agassiz 1846: 62.

Thryptocheta Rondani, 1856: 134. Type species: *Diastata punctum* Meigen, by original designation. Loew 1864: 366 [revision]. Syn. Duda 1934.

Tryptocheta. Misspelling. Schiner 1868: 227 [list, synonymy with *Diastata*].

Tryptochoeta. Misspelling. Becker 1905: 227 [catalog, Palearctic, synonymy]; Czerny 1903: 125 [note]; Melander 1913: 289 [key]; Curran 1934: 327 [key].

Campichaeta. Misspelling. Neave 1939: 561; Basden & Collin 1958: 139.

Campichacta. Misspelling. Takada & Momma 1975: 12.

aurascutellata Takada & Momma. **OR:** Malaysia.

Campichacta aurascutellata Takada & Momma, 1975: 12. Malaysia. Gombak, near Kuala Lumpur. HT ♂ HUS.

edwardsi Barraclough. **AF:** Kenya.

Campichoeta edwardsi Barraclough, 1992: 31. Kenya. Cedar forest, Mt. Kinangop, 00°37'S, 36°42'E, 8000 ft. HT ♀ BMNH.

flavicauda Papp. **OR:** Thailand.

Campichaeta (Thryptocheta) flavicauda Papp in Papp *et al.*, 2006: 204. Thailand. Mae Fang National Park. HT ♂ HNHM.

fumigata Duda. **PA:** Canary Islands.

Campichoeta basalis variety *fumigata* Duda, 1934: 13. Spain. Canary Islands: Los Lagunetas. LT ♂ UZMH [designated by McAlpine 1962: 6; UZMH type number 3237].

Campichoeta basalis fumigata. Frey 1935: 105 [list, Canary Islands].

Campichoeta fumigata. McAlpine 1962: 6 [revision]; Papp 1973: 98 ["expected fauna," Hungary], 1984: 184 [catalog, Palearctic]; Báez & Garcia 2001: 254 [list, Canary Islands]; Carles-Tolrá 2002a: 148 [Canary Islands].

grandiloba McAlpine. **PA:** Greece, Hungary, Italy, Spain, Tajikistan, Yugoslavia.

Campichoeta grandiloba McAlpine, 1962: 6. Spain. Granada: Maitena, 900 m. HT ♂ CNC [CNC type number 7547]. Papp 1973: 97 [Hungary], 1984: 184 [catalog, Palearctic], 2001b: 351 [checklist, Hungary]; Chandler 1987: 48 [review]; Máca 1992: 7 [list, Tajikistan]; Carles-Tolrá 1992: 23 [list, Spain], 2002a: 148 [Spain].

griseola (Zetterstedt). **NE:** Canada (Alberta, British Columbia, Ontario, Quebec, Saskatchewan), USA (Alaska, Arizona, California, Connecticut, Michigan, New Mexico, Utah, Virginia, Washington, Wyoming). **PA:** Austria, Denmark, Finland, Hungary, Italy, Korea, Mongolia, Norway, Russia (Amur, Caucasus, European Part, Habarovsk, Primore, West Siberia), Sweden, Switzerland.

Geomyza griseola Zetterstedt, 1855: 4799. Sweden. Östergötland [= Ostrogothia]. LT ♂ ZIL [designated by Basden & Collin 1958: 133].

Thryptocheta micans Hendel, 1911: 44. USA. Washington: Skagit, Guemes Island. HT ♂ NMW. Syn. McAlpine 1962.

Tryptochaeta [sic] *micans*. Melander 1913: 289.

Campichaeta [sic] *griseola*. Basden & Collin 1958: 139 [generic combination].

Campichoeta griseola. McAlpine 1962: 3 [revision, synonymy of *micans*], 1965: 773 [catalog, Nearctic]; Cole 1969: 411 [west-

ern North America]; Stackelberg 1970: 390 [European Russia]; Papp 1973: 96 [Hungary], 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001b: 351 [checklist, Hungary]; Okada 1973: 271 [Mongolia]; Hackman 1980: 127 [checklist, Finland]; Chandler 1987: 47 [revision]; Papp & Kaufman 1989: 115 [list, Hungary]; Sidorenko 1992: 106 [list, Russia], 2001b: 181 [Russian Far East]; Poole & Gentili 1996: 136 [checklist, Nearctic]; Chandler & Merz 1998b: 303 [checklist, Switzerland]; Merz & Chandler 1998: 106 [Switzerland]; Chandler & Petersen 2001a: 188 [checklist, Denmark]; Greve & Chandler 2003: 44 [Norway].

latigena McAlpine. **NE:** USA (Arizona, California).

Campichoeta latigena McAlpine, 1962: 4. USA. California. Riverside: Thousand Palms. HT ♂ CNC [CNC type number 7546]. McAlpine 1965: 773 [catalog, Nearctic]; Poole & Gentili 1996: 136 [checklist, Nearctic].

natalensis Barraclough. **AF:** South Africa (KwaZulu-Natal).

Campichoeta natalensis Barraclough, 1992: 33. South Africa. KwaZulu-Natal: Drakensberg Mountains, 28°41'S, 28°59'E. HT ♀ NMP [NMP type number 469].

obscuripennis (Meigen). **PA:** Belgium, Czech Republic, Denmark, Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, Russia (European Part, Far East, Siberia), Slovakia, Spain, Sweden, Switzerland.

Diastata obscuripennis Meigen, 1830: 97. Europe (? Germany). LT ♂ NMW [designated by Basden & Collin 1958: 137].

Diastata fumipennis Meigen, 1830: 97. Europe (? Germany). LT ♀ NMW [designated by Basden & Collin 1958: 137]. Schiner 1863b: 289 [Austria]; Becker 1902: 304 [synonymy], 1905: 227 [catalog, Palearctic, synonymy]; McAlpine 1962: 7 [revision]; Papp 1984: 184 [catalog, Palearctic]. Syn. Becker 1902.

Diastata luctuosa Meigen, 1830: 97. Europe (? Germany). LT ♂ NMW [designated by Basden & Collin 1958: 137]. Becker 1902: 304 [synonymy]; Mathis & Zatwarnicki 1995: 167 [synonymy with *Discocerina obscurella* (Fallén)]. Syn. Basden & Collin 1958.

Campichoeta rufipes Macquart, 1835: 547. France. "Nord de la France." ST ? MNHNP. Basden & Collin 1958: 137 [synonymy]. Syn. Duda 1934.

Diastata (Thryptocheta) nigricornis Loew, 1864: 367. Germany. LT ♂ ZMHU [designated by Basden & Collin 1958: 141]. Syn. Czerny 1903.

Diastata nigripennis Misspelling of *nigricornis*. Verrall 1901: 33.

- Thryptocheta luctuosa*. Becker 1902: 304 [generic combination], 1905: 227 [catalog, Palearctic].
- Thryptocheta obscuripennis*. Becker 1902: 304 [generic combination, synonymy of *fumipennis*], 1905: 227 [catalog, Palearctic]; Czerny 1909: 282 [list, Spain]; Strobl 1910: 213 [list].
- Thryptochaeta* [sic] *obscuripennis*. Czerny 1903: 125 [synonymy of *nigricornis*].
- Thryptocheta rufipes*. Becker 1905: 227 [generic combination, catalog, Palearctic].
- Campichoeta obscuripennis*. Duda 1934: 14 [revision, generic combination, synonymy of *rufipes*]; Basden & Collin 1958: 137 [synonymy of *luctuosa*]; McAlpine 1962: 7 [revision], 1977: 320 [catalog, Orient]; Okada 1966: 10 [Chandler (1987: 44) questioned the identity of this species]; Stackelberg 1970: 390 [European Russia]; Papp 1973: 96 [Hungary], 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001b: 351 [checklist, Hungary]; Cogan 1976: 85 [list, Great Britain]; Chandler 1986: 11 [Great Britain, Ireland], 1987: 46 [revision], 1998c: 157 [checklist, British Isles]; Máca 1987: 223 [checklist, Czech Republic, Slovakia]; Papp & Kaufman 1989: 115 [list, Hungary]; Beuk 1991b: 164 [checklist, Belgium], 2002a: 299 [catalog, Netherlands]; Carles-Tolrá 1992: 23 [list, Spain], 2002a: 148 [Spain]; Chandler & Merz 1998b: 303 [checklist, Switzerland]; Merz & Chandler 1998: 106 [Switzerland]; Sidorenko 2001b: 181 [Russian Far East]; Chandler & Petersen 2001a: 188 [checklist, Denmark]; Carles-Tolrá 2002a: 148 [Spain].
- Campichaeta* [sic] *obscuripennis*. Basden & Collin 1958: 139 [revision].
- Thryptocheta nigricornis*. Basden & Collin 1958: 140 [generic combination].
- punctum** (Meigen). **PA:** Austria, Belgium, Czech Republic, Denmark, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Russia (European Part), Slovakia, Spain, Switzerland, Tajikistan.
- Diastata punctum* Meigen, 1830: 98. Europe (? Germany). LT ♂ MNHNP [designated by Chandler 1987: 47]. Zetterstedt 1847: 2538 [Scandinavia]; Schiner 1863b: 289 [Austria].
- Diastata basalis* Meigen, 1830: 98. Europe (? Germany). ST 2 ? NMW. Roser 1840: 62 [list]; Schiner 1863b: 289 [Austria]; Cogan 1976: 85 [list, Great Britain]. Syn. Becker 1905.

Opomyza circumdata Meigen, 1830: 103. Europe (? Germany). ST ♀ MNHNP, NMW. Syn. Becker 1905.

Geomyza griseola of authors [not Zetterstedt 1855]. Misidentification. Zetterstedt 1860: 6423 [list, Sweden]; Becker 1905: 227 [catalog, Palearctic, as *Tryptochaeta griseola*].

Geomyza circumdata. Schiner 1863a: 288 [generic combination, discussion].

Diastata (Thryptocheta) punctum. Loew 1864: 366 [revision].

Thryptocheta punctum. Becker 1902: 305 [generic combination], 1905: 227 [catalog, Palearctic, synonymy of *basalis* and *circumdata*].

Diastata circumdata. Becker 1902: 306 [generic combination, discussion].

Thryptocheta basalis. Becker 1902: 304 [generic combination].

Drosophila tristis of authors [not Fallén]. Misidentification. Czerny 1909: 279 [discussion].

Tryptochaeta tristis of authors [not Fallén]. Misidentification. Strobl 1910: 213 [list]; Séguy 1934: 368 [review, France].

Campichoeta basalis. Duda 1934: 13 [revision, generic combination].

Campichoeta punctum. Basden & Collin 1958: 138 [generic combination (as *Campichaeta*)]; McAlpine 1962: 7 [revision]; Stackelberg 1970: 390 [European Russia]; Papp 1973: 96 [Hungary], 1984: 185 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001b: 351 [checklist, Hungary]; Chandler 1986: 11 [Great Britain, Ireland], 1987: 46 [revision], 1998c: 157 [checklist, British Isles]; Máca 1987: 223 [checklist, Czech Republic, Slovakia], 1992: 7 [list, Tajikistan]; Papp & Kaufman 1989: 115 [list, Hungary]; Beuk 1991b: 164 [checklist, Belgium], 2002a: 299 [catalog, Netherlands]; Carles-Tolrá 1992: 23 [list, Spain], 2002a: 148 [Spain]; Chandler & Merz 1998b: 303 [checklist, Switzerland]; Merz & Chandler 1998: 107 [Switzerland]; Chandler & Petersen 2001a: 188 [checklist, Denmark]; Greve & Chandler 2003: 44 [Norway].

spinicauda Papp. **OR:** Taiwan.

Campichoeta (Campichoeta) spinicauda Papp, 2005: 207. Taiwan. Taipei Hsien: Fu-Shan LTER Site (lake shore). HT ♂ HNHM.

zernyi Duda. **PA:** Cyprus, Lebanon, Tajikistan.

Campichoeta zernyi Duda, 1934: 16. Lebanon. Northern Lebanon: Becharré, 1400 m. LT ♂ NMW [designated by McAlpine 1962: 9]. McAlpine 1962: 8 [revision]; Papp 1984: 185 [catalog, Palearctic]; Chandler 1987: 48 [revision]; Máca 1992: 7 [list, Tajikistan].

Genus EUTHYCHAETA Loew

Euthychaeta Loew, 1864: 358 [as a subgenus of *Diastata*]. Type species: *Diastata (Euthychaeta) spectabilis* Loew 1864, by monotypy. Duda 1934: 12 [revision]; Papp 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy]; Chandler 1987: 42 [revision]; 1998a: 522 [key, discussion]; Nowakowski 1991: 225 [checklist, Poland]; Carles-Tolrá 2002a: 148 [checklist, Spain].

Euthycheta. Misspelling. Schiner 1868: 227 [list, synonymy with *Diastata*]; Becker 1905: 232 [catalog, Palearctic].

spectabilis (Loew). PA: Albania, Austria, Bosnia-Herzegovina, Bulgaria, France, Italy, Poland, Romania, Spain.

Diastata (Euthychaeta) spectabilis Loew, 1864: 365. Poland. Kotlina Kodzka, Długopole [= "Langenau"]. LT ♂ ZMHU [designated by Chandler 1987: 42]. Strobl 1910: 213 [list].

Euthycheta [sic] *spectabilis*. Becker 1905: 232 [catalog, Palearctic, generic combination].

Euthychaeta spectabilis. Duda 1934: 12 [revision]; Papp 1984: 184 [catalog, Palearctic], 1995: 5 [checklist, Italy], 2001b: 351 ["expected fauna," Hungary]; Chandler 1987: 42 [revision], 1998b: 522 [discussion]; Nowakowski 1991: 225 [checklist, Poland]; Carles-Tolrá 2002a: 148 [checklist, Spain].

Genus PAREUTHYCHAETA Hennig

Pareuthychaeta Hennig, 1965: 191. Type species: *electrica* Hennig, by original designation. Hennig 1969: 34 [listing]; Evenhuis 1994: 446 [review].

electrica Hennig. PA: Baltic Region (amber).

Pareuthychaeta electrica Hennig, 1965: 191. Fossil; Baltic Region. HT ♂ UKR. Hennig 1967: 26 [discussion], 1969: 34 [list]; Evenhuis 1994: 446 [review].

minuta (Meunier). PA: Baltic Region (amber).

Helomyza minuta Meunier, 1904: 24. Fossil; Baltic Region. LT ♀ UKR [designated by Hennig 1965: 192, type number 9942].

Pareuthychaeta minuta. Hennig 1965: 191 [revision, generic combination], 1969: 34 [list]; Evenhuis 1994: 446 [review].

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Literature

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